



## Evidence Based Library and Information Practice

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### Feature

### *Abstracts of papers and poster sessions of the 3<sup>rd</sup> International Evidence Based Librarianship Conference - Evolution of Evidence: Global Perspectives on Linking Research with Practice*

Brisbane, Australia  
16 – 19 October 2005

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### Presentation types

**Research Papers** are full length papers (not to exceed 10 pages) that critically discuss completed work demonstrating the application of research in practice. Discussion papers critically exploring issues in the application of evidence based practice to inform professional practice were also welcome. Accepted Research Papers are published on the conference website at: <http://conferences.alia.org.au/eb12005/>

**Hot Topics** are shorter papers (1000 words) that critically outline research-in-progress. Hot Topics provide an opportunity to discuss, and receive constructive feedback on an ongoing research project. Practical papers that identify and facilitate professional dialogue on key issues within EBL were also welcome. Accepted Hot Topics are published on the conference website at: <http://conferences.alia.org.au/eb12005/>

**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 Posters abstracts are available on the conference website at: <http://conferences.alia.org.au/eb12005/>

### Speaker abstracts

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#### Legend:

-  Research Paper
  -  Hot Topic
  -  Keynote
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#### **Persuasive evidence: improving customer service through evidence-based librarianship**

Wendy Abbott  
*Bond University, Australia*

As a key service provider within a small private tertiary institution, the Library at Bond University excels in customer service. This has been achieved through the dedication and professionalism of staff and by developing good relationships with the students and staff of the University (our customers). It also relies on a range of quality processes including the use of surveys, benchmarking and performance indicators. There has been a natural progression from using quality processes towards adopting the much broader approach of evidence-based library practice as a means of finding ways to improve customer service.

This paper will use case studies to illustrate how evidence-based practice has contributed to informing decisions and resolving issues of concern in service delivery at Bond University Library. One case study involves research to assist in deciding the most appropriate opening hours for the Library. A second example is a project to research and implement best practice for managing collections of feature films on DVD and video in a university setting. Both these projects were initiated in response to concerns raised by customer groups. A third case study will report on progress of a collaborative project between the Library and academic staff to expand the teaching of Endnote for undergraduate students.

Drawing on the experience of these research projects the discussion will highlight the benefits of evidence-based information practice in finding solutions to problems and maximising the value of library services. The need for practitioners to develop the tools and methods for undertaking research will also be discussed.



### **Where there's a way there's a will!**

#### **The Royal College of Nursing's information needs survey of nurses and health professionals**

Ros Bertulis, Jackie Lord  
*Royal College of Nursing, UK*

In 2004 the Royal College of Nursing Library and Information Services carried out a survey into the information needs of nurses and other allied health professionals in the UK. We wanted a good evidence base in order to develop our services and play an influencing role to improve nurses' access to information. The survey focussed on:

- information or knowledge to improve practice in the clinical area
- information needed to support lifelong learning and formal study.

The research was carried out by means of a hard copy questionnaire which was distributed by RCN activists and health librarians. This methodology was selected to ensure that we got a good response from all our target audience, not just those health care professionals with good access to information technology. We managed to get a total of 1715 completed questionnaires and a good cross-section of our target audience,

making this exercise one of the largest and most robust ever undertaken in the UK. The data was analysed using SPSS.

The results of the survey were encouraging both for nursing and information professionals. Having good access to information – via the Internet and via a physical library and via information skills – appears to have a direct effect on putting evidence into practice. Those with the best access to information were more likely to both search for evidence and to change their practice as a result of research. And respondents who search for evidence or report changing their practice as a result of research are much more likely to find a range of information resources useful for both improving practice and lifelong learning. This paper will discuss the research methodology and the key findings of the survey which has national and international implications.



### **Evidence based information**

#### **practice: an ABC and Y?**

Andrew Booth<sup>1</sup> and Anne Brice<sup>2</sup>

1. *University of Sheffield, UK*
2. *University of Oxford, UK*

This keynote will endeavour to provide an overview of the most significant developments within Evidence Based Information Practice to date. It will also attempt a brief circumspection of parallel initiatives within related fields of evidence based practice (such as education, social care and management) – what can we learn and what pitfalls should we avoid? Rather than uncritically adopt a paradigm that has been developed in response to other professions' acknowledged difficulties with information retrieval and knowledge management the information profession has the opportunity to stamp its own distinctive contribution on evidence based practice. At the same time there are particular challenges for a profession that does not itself have a tradition of research interpretation and utilisation. Key to the development of Evidence Based Information Practice is the need to stimulate a new generation of reflective practitioner who responds to the external environment – whether the actual stimulus be their own observations, feedback from users or the more formal contribution of research findings.



**Evidence to support strategic decision making for health care information services: the Effective Methods of Providing Information for patient Care (EMPIRIC) project**

Alison Brettle, Claire Hulme, Paula Ormandy  
*Health Care Practice R&D Unit, University of Salford, UK*

Background and aim

Throughout the North West (and the UK) the services provided to health professionals who need information for patient care are varied. Some libraries provide mediated searches, some provide information skills training, some employ dedicated library trainers and others provide a range of services. With limited resources, should libraries be investing in some services rather than others? In order to provide evidence for strategic decision making for North West UK health library services, the EMPIRIC project aims to investigate the effectiveness and cost effectiveness of these approaches.

Methods

A baseline data collection survey to all health libraries in the region (n=102) and literature review were undertaken to contextualise the research. Following this a questionnaire survey was carried out on 115 library staff and 15 library trainers at 26 sites who agreed to participate and a random sample of health professionals (n=780) who had received services from the participating sites. The questionnaires presented both quantitative and qualitative data and these were analysed using SPSS software, thematic analysis and economic analysis. The findings from the questionnaires were drafted into a report and confirmed via two expert workshops and a range of telephone interviews before presentation in the final report.

Findings

Initial findings indicate that there is evidence to demonstrate that information skills training improves health professional's ability to find information for patient care, however mediated searches are also effective in providing evidence for patient care, research and professional development. Dedicated library trainers are as effective as other library staff in providing information skills training but time and lack of confidence prevent health professionals from using their information skills.

Conclusions

The final results, conclusions and how these can be used for strategic decision making will be presented.



**Evidence and practice: evolving a post-graduate program for teacher-librarians**

Raylee Elliott Burns  
*Queensland University of Technology*

This session charts and appraises the designing and implementation of a post-graduate program stimulated by research evidence. The 'Performing Hybridity' project provides research evidence to support the designing and design of the Master of Learning Innovation (Teacher Librarianship). The MLI (TL) is a foundation course for teachers entering the profession and also offers masters level professional development options for graduated teacher-librarian practitioners.



**Exploring evidence-based information literacy**

Catherine Clark  
*University of Western Australia, Australia*

Significant resources are spent in higher education libraries on designing and implementing programmes to ensure that graduates are information literate. An emerging challenge for libraries is to determine how effective these programmes are, and to assess whether the resources supporting them are being well used.

The recent publication of the Information Skills Survey (Catts, 2003) has provided an evidence-based test instrument for evaluating law, education and social science students' information literacy skills. However, there is currently no equivalent instrument for the sciences, including medicine.

This paper reports on research conducted with medical students at The University of Western Australia that aimed to validate the Information Skills Survey for medical information literacy programmes. Discussion includes the research process and how the implications of the research will affect information literacy programmes in the future.



## **Adding SPICE to our library intranet site: a recipe to enhance usability**

Lisa Cotter, Larnich Harije, Suzanne Lewis,  
Ingrid Tonnison  
*Central Coast Health, Australia*

Gosford Hospital (Northern Sydney Central Coast Health), in New South Wales, is a teaching hospital of The University of Newcastle, Australia. This partnership in health education and training has been particularly successful in the area of library services, with a strong, mutually beneficial relationship maintained between Central Coast Health Library Services and The University of Newcastle libraries.

In 2004 the Central Coast Health (CCH) Library Services staff decided that their section of the CCH intranet had outgrown its original structure and purpose, and a thorough revision of both architecture and content was required. The library's intranet site also needed to reflect more strongly the close relationship with The University of Newcastle's library service, evidenced by a recent migration of the CCH library holdings onto the University's catalogue, NEWCAT.

The goals of the project were to produce a highly usable library intranet site; to undertake the project according to evidence-based librarianship principles; and to present the project to the library community. Accordingly, we reframed the problem – a user-unfriendly intranet site – in terms of the following research question:

How can the usability of the Central Coast Health Library Services' intranet site be improved to enhance to site's effectiveness as a gateway to the library's services and resources, for the staff and students of the organisation?

A four-stage project plan was developed:

- Stage One – bring the site up to an acceptable level to be used as a starting point from which further evidence-based improvements can be made;
- Stage Two - locate, retrieve and examine the evidence to identify what development is required. The evidence was derived from a number of sources including research-based web design and usability guidelines; and locally based research carried out at Central Coast Health employing both

qualitative (interviews) and quantitative (usability testing and analysis) methods;

- Stage Three – redevelopment of the intranet site, a review of content and creation of guidelines for ongoing maintenance; and
- Stage Four – establishment of an Internet site for the CCH Library Services, based upon findings of the intranet site study.

This paper will outline the progress and findings of this research project.



## **Four dimensional evidence based management: calculating, comparing, contrasting and containing**

J. Eric Davies

*Library and Statistics Information Unit, Department of Information Science, Loughborough University, UK*

Managers face increasing pressures to develop and deliver appropriate services of quality in a world of limited resources. Innovation and change go hand in hand with the quest for efficiency gains and continuous improvement. There is a range of performance evidence – local and global - at the manager's disposal, but it has to be used appropriately and intelligently. This paper explores the various dimensions, or applications, of Evidence Based Management (EBM) in library and information services.

Four aspects are identified:

- [Calculating] local performance data on a system and its individual service points
- [Comparing] pooled data gathered and benchmarking against similar systems
- [Contrasting] performance against published standards and national examples of best practice
- [Containing] and assimilating research based intelligence and macro data that informs service design and decisions.

Each aspect is briefly discussed with examples drawn from the various sectors of library and information services provision. They are chiefly based on LISU's experience in consulting for library and information services, collaborating with various interest groups, and undertaking applicable research into service related topics.

The future is promising as EBM gains prominence in the professional agenda. In the UK, LISU has a long history of developing appropriate tools and skills; LIRG, now assimilated into CILIP, has consistently championed the cause of practice-based research; and CILIP's 'new' policy and strategy for R&D exemplifies its commitment to this area.

The author concludes that there is still some way to go both in the acquisition, interpretation and application of evidence in the real situation. The link between theory and practice has to be strengthened and the competencies of managers (at all levels) in EBM has to be enhanced.



### **Evidence-based public health informatics training for public health practitioners**

Jonathan D. Eldredge, Richard Carr  
*The University of New Mexico Health Sciences Library and Informatics Center, USA*

#### Question

Does Evidence-Based Public Health training increase the frequency and sophistication of practice-related questions among public health professionals?

#### Background

This training program includes a needs assessment of professional-level Department of Health employees, the development of Evidence-Based Public Health training for these predominantly rural practitioners, implementation of the training itself, followed by both immediate and two-week post-training evaluation instruments.

#### Methods

Randomised Controlled Trial. The intervention group will receive the training early in the program whereas the control group will receive identical training at a later date. The frequency and sophistication of the questions generated by both intervention and control groups will be the basis for the comparison.

#### Results

We hypothesize that the intervention group will articulate a statistically significant greater number of practice-based questions and that these questions will be far more sophisticated following the EBPH training session than the

questions generated by the still untrained control group.

#### Conclusions

At the time of the EBL Conference during October 2005 we will be able to report preliminary results based upon our having trained and compared the questions articulated by 90 of the 120 participants scheduled for training in this program



### **Decisions, decisions – libraries, bandwagons and clinical decision support systems (CDSSs)**

Cheryl Hamill<sup>1</sup>, Cecily Gilbert<sup>2</sup>

1. Fremantle Hospital and Health Service, Australia
2. Sir Charles Gairdner Hospital, Australia

Can a collection of electronic library resources and services constitute a decision support system? Should health librarians hitch their value wagon to the star of clinical decision support?

In recent years, many health libraries have bought bundles of electronic resources, as a way of providing online access to clinical information throughout their health service. Such collections may include citation databases, drug resources, fulltext journals and textbooks.

With networked access to these products often available throughout a health service, clinicians are encouraged to integrate quick searches into their process of deciding a patient's care. Projects in clinical librarianship are also fostering active use of electronic resources to resolve uncertainties in patient care. The clinical librarian researches questions of specific patient care and prepares a summary of findings for the medical team, often within a 24-hour time frame.

Computerised clinical decision support systems (CDSS) are also becoming mainstream applications in many health services. These programs are designed to flag an individual medical record when the patient passes a critical boundary, such as falling due for a routine test, or registering a raised blood pressure reading. The treating physician is prompted to initiate preventive or early interventions to avert a likely problem, or alerted when incompatible drugs or unsuitable tests are ordered.

The attraction of a CDSS is that – if followed – it saves treatment dollars and may improve patient

health. There are suggestions that serving up online information resources will give some of the same benefits. As more knowledge emerges about the impact of library resources on patient care, recent systematic reviews of decision support systems are highlighting the features which are key to their effectiveness. In this paper, we examine the evidence for the relative value of electronically delivered library resources and truly integrated decision support systems, and make a case for a broader definition of the value library resources and services add to clinical care.



### Transaction log analysis @ State

#### Library of Queensland

Scott Hamilton<sup>1</sup>, Helen Thurlow<sup>2</sup>

1. Queensland University of Technology, Australia

2. State Library of Queensland, Australia

The State Library of Queensland's Voyager online catalogue (OPAC) is a key service in our agenda to develop a Smart Library Network. The OPAC receives the highest number of hits on the State Library's website and the logs recorded over 1.6 million hits in 2004. In 2004, an industry project undertaken by a Queensland University of Technology (QUT) student analysed the OPAC transaction logs. The project's objectives were to review the log files for the following:

- most common search terms used by patrons
- most common search strategies used by patrons
- success or failure rate relating to searches undertaken.

The log files comprised the following:

- 2002 : 19/8 to 30/12 80MB 368k rows
- 2003 : 1/1 to 11/10 172MB 795k rows
- 2004 : 20/4 to 20/8 40MB 185k rows

This paper, co-presented by QUT and the State Library, details the research process and findings. Data was analysed using QlikView, a Business Intelligence application. The results detailed who was searching (based on IP address), when they were searching (by hour, day, week), which search options were selected and what search terms were entered. A literature review provided discussion about what constitutes a successful search and, according to some criteria, approximately two thirds of the State Library's Voyager OPAC searches would be considered 'unsuccessful'. The State Library is now using

this research to inform decision making, specifically in the following areas:

- collection development – most/least popular subject areas in the collection; collection gaps identified by unsuccessful searches
- help screen content
- staff training – assess staff understanding of OPAC search options and develop appropriate training
- cataloguing – practices that may improve search success rates; relationship between keywords and subject headings
- OPAC design – search options presented on search screens and terminology used.

The QUT Industry Project provided the State Library with significant research analysis and results which are being used to support changes to OPAC design and content – evidence of a successful collaboration between researchers and practitioners.



### Measuring value: a comparison of performance quality measures and outcomes identified by Australian and North American libraries

Steve Hiller<sup>1</sup>, Cathie Jilovsky<sup>2</sup>,

1. Library Assessment Coordinator University of Washington, USA

2. Caval Collaborative Solutions, Australia

Nearly ten years ago, Stoffle and her colleagues at the University of Arizona stressed that "Librarians must be sure that their work, activities and tasks add value to the customer." To accomplish this, libraries should "collect data and use them as the basis for decision making rather than rely on subjective impressions and opinions." In other words, libraries needed evidence to plan and manage their resources and services in ways that added effective value to the customer. However, many libraries while recognizing the need to use data as good management practice, are unsure what evidence was needed, how to collect and analyze it, and finally how to use it to improve libraries. The Association of Research Libraries (ARL) in North America and CAVAL Collaborative Solutions in Australia have worked to address these issues by developing programs and training to assist libraries in identifying and measuring what is of



value to customers and the outcomes of library activities.

How alike are American and Australian libraries in their perception of what data is critical for library performance? This paper compares evidence and outcomes identified by Australian and North American librarians as important to measure for library service quality. Data for this study comes from information provided by participants in programs and workshops run separately by ARL and CAVAL in 2004-05. The ARL program, "Making Library Assessment Work: Practical Approaches for Developing and Sustaining Effective Assessment" evaluates measurement and assessment activities in academic research libraries. Seven libraries are participating during 2004-05, and another twelve in 2005-06. CAVAL sponsored six half-day seminars on "Practical Approaches to Effective Library Assessment in 2004 and has a number of measurement and assessment related workshops scheduled for 2005 including six full-day workshops on "Statistics, Measurement and Performance Indicators".



### **Effective methods for teaching information literacy skills to undergraduate students: what does the library research literature reveal?**

Denise Koufogiannakis  
*University of Alberta Libraries, Canada*

The objective of this study is to assess which library instruction methods are most effective for improving the information skills of students at an introductory, undergraduate level. A systematic review of the library research literature was conducted. 15 databases were searched, and more than 4000 potentially relevant articles were retrieved. Included studies met the following criteria: instruction had to be librarian or library assistant led as part of a class or stand-alone session (any method), the population had to be undergraduate students at a post-secondary academic institution, and the research studies had to have an evaluative component that measured the cognitive outcome effect on student learning via some test of information literacy. More than 100 articles met the inclusion requirements, went through the data extraction process and were critically appraised. Results will be presented according to the analysis of various data extraction components, including: quality of the research, standards from the

Association of College & Research Libraries' Information Literacy Competency Standards for Higher Education addressed by research outcomes, the level of cognitive learning assessed (based upon Bloom's taxonomy), instructional topic, the various modes of instructional delivery used, and the teaching methods shown to be most effective based upon research results. This systematic review will aid academic librarians who teach information literacy skills to undergraduate students make more informed decisions regarding their teaching methods. This study entails one piece of the complex puzzle relating to information literacy, based upon cognitive outcomes.



### **Why don't mental health staff use library services? A qualitative and quantitative investigation**

John Loy  
*Avon & Wiltshire Mental Health Partnership NHS Trust, UK*

While the importance of making practice evidence-based has become firmly established within healthcare, the research literature identifies a gap in information provision for mental health staff<sup>1</sup>. The dispersed nature of mental health services means that electronic resources are becoming increasingly important as a means of delivery of information to staff. However, not everyone has the skills, support, desire, or in some cases even the hardware to make effective use of these new services<sup>2</sup>

This paper will present the results of a two-part research project conducted within the Avon & Wiltshire Mental Health Partnership NHS Trust (AWP) during the Summer of 2004. The first stage takes the form of semi-structured interviews with a purposeful sample of staff. Thematic analysis of the interviews feeds into the design of the questionnaire, distributed to a representative sample of 500 staff and forming the second stage of the study.

The combination of qualitative and quantitative data provides a rich picture of how staff within a mental health trust interact with library services. Do staff working within a hospital setting, and with access to library services on site, make more use of services than their community colleagues? Which professional group are the keenest users? Have the National Core Content services

provided across England made access to the healthcare literature a reality?

When preliminary results from this study were presented at the UK's Health Libraries Group Conference in Belfast, September 2004 they were cited on LIS-MEDICAL as "the highlight....that sticks in my mind"<sup>3</sup>. Now that a more detailed analysis of results has been possible we are able to view a more complete picture. We will consider how the research results are shaping the delivery of library services within AWP and the challenges of promoting and integrating nationally procured services with locally delivered resources.

1. Blackburn, N. 2001 *Building bridges: towards integrated library and information services for mental health and social care*. *Health Information and Libraries Journal* 18 pp 203-212
2. Adams, A. and Blandford, A. 2002. *Acceptability of medical digital libraries*. *Health Informatics Journal* 8 pp 58-66
3. Glover, Stuart. *LIS-Medical* 20 September 2004



## The doctoring of evidence based

### librarianship

Peter Macauley

*Deakin University, Australia*

In librarianship we often lend things to others, but when it comes to research we tend to borrow more than we lend. We borrow theory, we borrow pedagogic and management practices and, of course, we have borrowed evidence based practice and turned it into evidence based librarianship. In a multidisciplinary, trans-disciplinary and global world, this is understandable and acceptable. However, originality and creativity are positive traits which can demonstrate the progressiveness and maturity of a profession. When those from other professions and disciplines borrow our practices and evidence—based on our research—such recognition acknowledges we are making original and innovative contributions to the knowledge economy. While our profession has an abundance of highly educated and trained practitioners, our formal training doesn't normally include higher order skills such as research methodologies or theoretical frameworks. We often espouse the deficiency of our users' information literacy yet we too have deficiencies and particularly with regard to research. These deficiencies can be overcome by research training. The universally accepted form

of research training is the doctorate; either the PhD or a professional doctorate.

Doctoral qualifications provide training in theory, methods, ethics, writing, scholarly communication, information literacy, project management and in-depth subject knowledge. They also establish credibility within our community of practice and in communities external to our own. To pass, a doctorate must be adjudged as an original and substantial contribution to knowledge. To move forward as a profession we should be creating new knowledge—original knowledge—which reinforces the integrity of the profession and us as individual practitioners. In other words, we should create the evidence rather than basing our practice on the evidence of others. This presentation critiques the role of doctoral research in creating an evidence base for our professional practice and challenges librarians to become credentialed by undertaking a PhD or a professional doctorate. Becoming a credentialed researcher is not without problems however. For instance, you will question and critique the status quo; you will relate theoretical constructs to practice which may frustrate some colleagues; and you may query bureaucratic mechanisms within your working environment. Your research will inform practice and vice versa. You will base decision making on substantiated evidence and not just the opinions of others.

Whose role is it to undertake research in librarianship? Where does the creativity come from within our profession? What is good research and what is not? Do library practitioners have a voice and an audience when it comes to research and what does the doctorate provide for you—the practitioner—and the profession as a whole? These questions will be addressed, and this presentation will debunk many, if not most, of the myths about the irrelevance of the doctorate to the professional practice of librarians. We cannot rely on practice alone; rather, our practice should also be based on research: research that we create. Should we follow, or should we lead?



## Information seeking behaviours of business students and the development of an academic business digital library

Joyline Makani, Kelli WooShue

*Dalhousie University Libraries, Canada*



There is a wealth of research on the development of digital libraries, particularly regarding information retrieval and technical considerations. However, little has focussed on how information is sought and transformed into knowledge and how this should influence digital library design. Digital libraries are not simply collections of digital versions of existing resources. Covi and Kling (1996) observed that just building a digital library would not be enough; the digital collections, storage, and transmission should be useful to people who use them. In other words, effective digital library design requires an understanding of how users do their work, how they use information, how they create knowledge, and how digital libraries support these processes. Research on undergraduate students indicates that they are increasingly able to use digital resources even though they are not necessarily information literate (Lombardo and Miree, 2003). It is critically important that digital libraries help improve the transferable information literacy of students. This research project will examine and analyse how business students learn, gather, and use information individually and collectively, and how they share their work across geographic boundaries and time zones. The students studied will be drawn from the School of Business at Dalhousie University. The study will be based on qualitative data collected through in-depth semi-structured interviews, task-analysis and observational study of business students at Dalhousie University as they perform group research tasks. As the students will be involved in a highly interactive and contextually sensitive decision-making process, qualitative techniques are appropriate for highlighting the themes, processes, and cognitive behaviours of the students. (Hepworth, 1998) The recommendations emerging from this study will form the basis for best practice guidelines for effective business digital library design in the academic environment.



### **Evidence-based librarianship: linking research to practice in the North American context**

Joanne Gard Marshall

*School of Information and Library Science, University of  
North Carolina at Chapel Hill, USA*

EBL has emerged as a truly international endeavour mirroring the adoption of evidence-based practice by health professionals around the

globe. This paper will review the evolution of EBL with an emphasis on the U.S. and Canada. Particular attention will be paid to the role of professional associations in diffusing EBL as an innovation in practice and as a tool for transforming the profession. The Medical Library Association and the Special Library Association have both had research statements in place for some time. SLA has revised their research policy within the last three years, retitling it "Putting OUR Knowledge to Work". MLA currently has a task force reviewing their policy statement, "Using Scientific Evidence to Improve Information Practice". Other professional associations such as the American Library Association and the Association of College and Research Libraries, have included the ability to understand and conduct research as one of the competencies expected of professional librarians. Challenges and barriers to the full implementation of EBL will be reviewed and strategies suggested for ongoing development.



### **Employing evidence: does it have a job in vocational libraries?**

Cecily Martina, Brad Jones

*Southbank Institute of TAFE, Australia*

Given that librarians are tertiary educated – occasionally with supplementary qualifications covering research and statistics – it is not surprising Evidence Based Librarianship, albeit a relatively recent development, has an academic appeal.

In the vocational sector past energies have been occupied with a greater librarian / clientele disparity and matters pragmatic rather than research. Nevertheless, as several commentators have pointed out, such a distinction may be considered harsh, as librarians generally have been doing research integral to their everyday role. This also applies in the vocational setting.

In more recent times the vocational librarian has been functioning within the most evidence based sector in the educational environment: national, transportable, prescriptive, competency based and outcome driven Training Packages. The vocational librarian is now well embedded within the educational process due to developments such as a more varied clientele, online learning, evolving pedagogical styles, and changing liaison and collaborative roles. Measurement and evidence have become

increasingly significant in an environment that requires accountability, quality assurance, and return on investment.

This paper examines some of these developments together with some tentative examples, with a focus on information literacy from the Southbank Institute library experience. We suggest that vocational and other librarians have been doing research but need to be more systematic about design and analysis, librarians need to develop 'evidence literacy' as one of their professional evaluation skills, and that Evidence Based Librarianship will need to deliver practical outcomes to establish credibility in a vocational context.



### **The just-in-time librarian consultation service**

J. McGowan, J. W. Hogg, C. Campbell, D. Salzwedel, D. Worster, T. Rader, E. Soto  
*Institute of Population Health, University of Ottawa, Canada.*

#### Objective

The purpose of this study is to investigate if collaboration between librarians and family physicians, nurses and nurse practitioners improves access to information for high-quality decision making in primary care. It will investigate whether or not a librarian consultation service reduces the workload of clinicians and/or saves them time. As well, it will examine whether or not a librarian consultation service is cost-effective.

#### Study Intervention/Implementation

This project provides a librarian service to Family Health Networks (FHNs) to answer short reference questions. Family physicians, nurses and other members of the primary care team are taught how to use this service, including how to create a clinical question and which types of questions they may request from the librarian. The questions are asked using a hand-held device or a web-based form. The questions are answered by the librarians within twenty minutes to provide "just-in-time" information.

A detailed librarian flow chart was developed to assist librarians in selecting electronic evidence-based sources for answering questions. Evidence-based sources were appraised using a validated assessment tool. Physicians and a research librarian in the Department of Family Medicine

provided training in evidence-based medicine for the project librarians and support staff. As well, the project librarians received detailed training about the information needs and resources in the family medicine discipline.

#### Research Design

This project conducts an outcome and process evaluation of the service using an RCT design and a mixed methods approach (survey, interviews).

#### Early findings

The project has been introduced into several primary care practices. Qualitative results from small group discussions will be shared. Examples of participant questions and librarian answers will also be discussed.

#### Implications

It is anticipated that the results of this project can be applied widely to other FHNs, including urban and rural FHNs, either locally, provincially or nationally.



### **Can the quality of literature searches be measured and improved? The EHTAS project**

J. McGowan<sup>1</sup>, Margaret Sampson<sup>2</sup>, Carol Lefebvre<sup>3</sup>

- 1. Institute of Population Health, University of Ottawa, Canada,*
- 2. Children's Hospital of Eastern Ontario Research Institute, Canada*
- 3. UK Cochrane Centre, UK.*

#### Objective

The quality of a Health Technology Assessment (HTA) report is dependent on the accuracy and completeness of the evidence base and this is dependent on the quality of the search. However, a validated process for evaluating the quality and completeness of the evidence base for systematic reviews does not exist. This project will see the development of a validated checklist to verify the methodological quality of the electronic search strategy used in the process of HTA development.

#### Methods

A search of the literature to identify the evidence base for the importance of checklist items to the validity of the search will be conducted. A draft checklist has been created based on the review of 105 Cochrane Reviews. Stakeholders will be

involved in the development and validation of this checklist through a consensus-building forum. From this forum we will develop criteria and guidelines for rating the items on the checklist. These will then be tested based on a test collection of published search strategies from HTA, the Cochrane Collaboration and specific journal articles. This process will be refined and retested with a senior librarian and less experienced searchers.

#### Outcomes

The major project deliverables from this include a peer review checklist and rating guide, a consensus-building forum, journal publications and knowledge translation initiatives.

#### Implications

Taking an identified a gap in the quality of published searches, we propose a cost-effective mechanism for ensuring and protecting the evidence on which policy formulation and decision-making rests. This project will advance the methods for undertaking health technology assessments and systematic reviews.



#### **Evidence-based morsels – a taster of strategic decisions based on operational data**

Marian Morgan-Bindon, Leona Jennings  
*Gold Coast City Council, Australia*

This paper discusses a trio of case studies where evidence-based practice, using data from a variety of Council systems and sources, was used in the planning and evaluation of library services at Gold Coast City Council's 18 service points.

In the first example population density mapping from data derived from Council's GIS was correlated with residential population estimates and analysis of library membership data to assist planning and reviewing the locations of library facilities and broader infrastructure planning.

The second case study outlines how patterns of use, observation and customer consultation was utilised in the review of general access to library facilities, and in particular, library opening hours.

Finally the paper discusses ways in which data from the library management system is being used on almost a daily basis daily to plan and evaluate library programming, benefits

realisation, strategic planning, the impact of new services or changes to library policy.



#### **But does it work? – Building the evidence base for information literacy development**

Gill Needham

*The Open University Library and Learning Resources Centre, UK*

While the last ten years have seen exciting developments in Information Literacy (IL) worldwide, this is still a relatively new area for research with consequent gaps in our knowledge about what works best for which groups of learners. The stronger the available evidence base on the effectiveness of IL interventions the easier it will be to

1. compete for resources in an increasingly cash-strapped environment
2. persuade our Further and Higher Education institutions to integrate IL into policy and the curriculum, and
3. convince our students that IL development is a worthwhile use of their precious study time.

The majority of people carrying out innovative work in IL are busy practitioners with little time to pursue research opportunities. Collaborative initiatives sharing resources and expertise across national and domain boundaries could benefit the entire IL community.

Although the Open University's Information Literacy Unit has been successful in developing a range of materials and programmes, these have been largely based on informal and anecdotal evidence of both the needs of our students and the most effective approaches. Like many of our colleagues in other institutions, we collect both demographic and survey data on our students, as well as records of their performance, and we are interested in the extent to which this data might be usefully pooled to inform future development. We have recently concluded a project to develop a robust online diagnostic tool to measure the level of skills of our learners, and to ascertain the effectiveness of our interventions. We are keen to explore the potential of this tool for use in cross-sectoral research and we would like to discuss possibilities with interested colleagues.

In summary this paper presents an opportunity to open dialogue about the following:

- the research questions which the IL community would like to address and possible models of collaboration
- the availability of routinely collected data which could inform the research agenda
- the possible use of diagnostic tools in partnership research



## Teaching information skills for evidence based practice in occupational therapy – what is effective?

Anne Parkhill

*Monash Institute of Health Services Research and Aptly Information Design, Australia*

### Overview

The author, in her role as information specialist at the Monash Institute of Health Services Research, will report on a program to teach information management skills for evidence based practice to the Southern Health hospital's Occupational therapy department.

### Introduction

The research is being conducted following an EBIP (Evidence Based Information practice) mnemonic known as SPICE:

Setting – Southern Health and St Vincent's hospitals (Melbourne)

Perspective - Occupational therapy staff uptake and use of evidence based practice in their work

Intervention – Involvement of an information professional in training, preparation and attendance at monthly journal clubs for six months

Comparison – Current practice

Evaluation – Information skills in evidence based practice after 6 months

A review of the literature in education, librarianship and allied health is being conducted to identify current practice for programs such as the study session under review. Questions to be considered include;

- In relation to evidence based practice, how is it applied in the discipline of Occupational therapy and what is current best practice?
- In relation to evidence based information practice, how is such teaching undertaken in the information profession?

### Program Description

The author is designing an EBP training program for the hospital OT department whereby staff will be offered face-to-face sessions to teach search strategy formulation and retrieval of evidence from relevant online databases. The author is also helping with preparation for and attending monthly journal club meetings.

### Discussion and Outcomes

OT staff will be assessed for information skills before and after the teaching sessions and after a 6 month period to test their search and retrieval knowledge. The research in this topic will be compared with best evidence based practice for both the Information practice (EBIP) and occupational therapy fields (EBOT). Results from the study will lead to a hospital guideline for future teaching programs.



## Issues and problems for librarians' conducting research - an example of a randomised controlled trial comparing the effect of e-learning, with a taught workshop, on the knowledge and search skills of health professionals.

Nicola Pearce-Smith

*Department of Knowledge and Information Sciences, Supporting Public Health (NHS), UK.*

### Objectives

To establish whether there is a difference in terms of knowledge and skills, between self-directed learning using a web-based resource, compared with a classroom based interactive workshop directed by librarians, for teaching health professionals how to search.

### Background

Training health professionals to search databases is thought to improve their skills and knowledge, but there is little evidence in the literature to back this up. Health librarians regularly teach searching workshops, but do not know whether these social cognitive learning methods are effective for health professionals. Self-directed online, or e-learning, is becoming more widespread, but again there is little evidence to show whether this is an effective training method. Librarians need to be confident that group sessions to teach search skills are worthwhile, and developing e-learning resources for search skills training is justified.

### Methods

The study design is a randomised controlled trial, involving health professionals working for the Oxfordshire Radcliffe Trust. Participants will be randomised into two groups – one group will receive access to a search skills web resource (e-group) and the other group will receive a search workshop taught by a librarian (workshop group). The e-group will be shown a demonstration of the e-learning resource and asked to complete as much of the module as they can over the next week; the workshop group will receive a 1.5 hour taught workshop. Participants will complete pre- and post-intervention tests involving multiple choice questions and practical searching using clinical scenarios. A follow up test will be sent 4 weeks later. The test results will be evaluated using a score chart/checklist.

### Results and conclusion

The main hypothesis for this trial is that the two educational interventions will be equally effective in transferring knowledge and skills. When results are obtained and analysed in the summer, it will be possible to assess the validity of this hypothesis.



### **Can evidenced based research methods assist library managers in becoming better managers?**

Bob Pymm, Damian Lodge  
*Charles Sturt University, Australia*

Evidenced based librarianship (EBL) has tended to focus on how effectively librarians deliver information to their clients. One area less developed, is the use by library managers of evidenced based research methods to improve their own management skills and abilities. This paper will focus on a case study, undertaken in 2005, that assesses how effective library managers believe themselves to be, compared to how they actually rate against a series of measures, using a number of objective and subjective evaluation techniques such as questionnaires, performance evaluation and 360 degree feedback. This work is based, in part, on the research of psychologists Kruger and Dunning (1999), indicating the gap that exists between people's perceptions of their skills and their actual skill level. It is anticipated that the evidence drawn from this case study will provide a preliminary basis for identifying gaps in management education and training and form

the basis for a broader study of management competency in libraries.



### **Evidence based instruction and development the Daubert approach**

Alan T. Schroeder, Jr  
*California State University, USA.*

In 1993 the United States Supreme Court handed down the Daubert decision (Daubert v. Merrill-Dow Pharmaceuticals, 509 U.S. 579, 113 S. Ct. 2786, 125 L.Ed.2d 469 (1993)). The author proposes using the scientific and non-scientific criteria elucidated in Daubert for successful teaching and learning: whether a particular theory has been tested; peer review; error rate; verified standards; and acceptance within the larger library community. Librarians must be aware of the need to properly document their findings and present them in a logical, systematic and scientifically valid manner to avoid a Daubert type challenge. The criteria put forth in Daubert offer a conceptual framework for the future and an analysis of the evidence base which underpins practice. Examining evidentiary findings through the Daubert lens offer a new instrument in proposing new information services.



### **What's the point of it all if no one uses your library? Using and creating evidence to promote a library service – ongoing research**

Jane Shelling  
*National Resource Centre, Alcohol and other Drugs Council of Australia, Australia*

### Aim

Library promotion, as part of an overall library marketing strategy is an essential part of library survival. Research into this topic began with the question; "What is the most effective promotional method<sup>1</sup> for the National Resource Centre<sup>2</sup> to undertake, in order to achieve a positive, promotional outcome<sup>3</sup>". To answer this question I decided to gather evidence, integrate my own acquired knowledge, increase my local knowledge, apply the results, measure the outcome and attempt to create further evidence.

### Method

- I conducted literature searches in health, library and marketing databases and

websites to gather, initially, background knowledge and then foreground evidence to specifically answer the question on;

- Promotional ideas and methods, and their successfulness with libraries similar to the National Resource Centre (NRC).
- I attended relevant workshops/conferences to network, gather ideas and learn more about promotional methods.
  - The initial research allowed me to get the best from these workshops.
- I organized a **telephone** survey of the Resource Centre's clients. This was to gather quantitative data and also qualitative data (gathered from speaking directly to clients). I wanted to find out;
  - who they were,
  - what, if any, problems they were having with the present service,
  - what they liked best about us,
  - what they wanted from us and
  - what their biggest information problems were.
- I devised an individual "success" measurement tool to apply to all promotional activities for future use.
  - This allowed me to define the "successfulness" of promotional activities in a number of positive ways.

### Results

I have a number of planned, promotional activities at various stages at present and as they are completed I am measuring their impact. At the end of this year I want to evaluate the whole process I have undertaken, assess the range of promotional activities completed, write up my results and recommendations for the future, and write a paper which I hope will add evidence to the knowledge base of library promotion.

1. What promotional activities are there and how have other libraries ranked their effectiveness.
2. Evidence needs to be specific to my service, and have applicability to what makes my library unique so evidence needs to apply to either a drug and alcohol library or a small health library or at least a special library.
3. What is a positive outcome, this needs to be measured. A quantitative measurement could be an increase in; membership, enquiries/contacts, loans. How could increases in; awareness of service, profile of organization, educational benefits, credibility be measured.



### **Virtual evidence: analyze the footsteps of your users**

Win Shih

*University of Colorado Health Sciences Center, USA.*

This paper will discuss a practice of utilizing Web logs and usage statistics to maximize library resource and improve services at the University of Colorado Health Sciences Center Library. Like many of its peers, in 2004 the Library switched most of its print journals to online subscription. In this transformational process, the Library was faced with unique issues related to digital resources and services. Questions concerning reliable usage measurements, proficient access management and control, adequacy of user licenses, robust system performance and IT infrastructure, strong compliance of copyright laws and contractual agreements lead to the development of a decision-support mechanism based on system-based usage logs, combined with data collected from qualitative measurements.

By systematically and periodically mining the data collected from library servers, click-through tracking script, and electronic resource vendors, usage patterns are identified and studied. Statistical reports provide evidence for collection development, resource allocation, budget and funding requests, system performance, and IT capacity planning. In addition, log analysis can also reveal unusual activities and potential threats to network security. From the log entries, we have observed our Website was cloaked by massive and exploitative Web crawlers from Google and other search engines. At times, we are alerted by attempts of unauthorized access and excessive downloading. The warnings lead us to take corrective actions before problems further escalate. Such practice further fosters a culture of evidence-based assessment on services and resources in the Library.

In a networked academy, libraries, together with their parent organizations, are striving to serve their less-visible, but more diverse customers with ever-growing virtual resources. Methodically monitoring and studying network traffic and usage statistics lay a foundation to better serve our users with adequate digital resources and reliable IT infrastructure.





## Developing and validating a palliative care subject search filter

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1. Flinders University, Australia

2. Southern Adelaide Palliative Services, Repatriation General Hospital, Australia

3. Duke University Medical Center, USA

### Background

Efficient access to relevant information underpins efforts to translate research evidence into practice. Palliative care clinicians and researchers face many informational challenges including the diverse areas in which palliative care information may be published and a lack of descriptiveness and consistent terminology to support searching.

### Objective

To formulate and evaluate palliative care search filters for use in the general medical literature.

### Methods

Four general medical journals (BMJ, Lancet, Annals of Internal Medicine, and JAMA from 1999 to 2001) were handsearched by palliative clinicians and researchers to identify articles and items relevant to palliative care, forming a "gold standard" reference set (GS). A series of search strategies comprising MeSH terms and textwords were created for use in Ovid Medline (OM) by an expert librarian and palliative clinicians and researchers.

Retrieved references from the OM searches were compared to the GS references using a specially written computer program that automatically calculated the sensitivity, specificity, accuracy and precision of the OM searches.

### Results and conclusions

773/20501 (3.8%) relevant articles were identified by hand-searching. A master search combining nine MeSH descriptors with three textwords achieved 45.4% sensitivity, 99.3% specificity, 73% precision and 97.3% accuracy. Efforts to increase the sensitivity by modifying three relevant published but unvalidated searches did not improve the yield, except in one case which resulted in an improved sensitivity of 56.9%, but offset by reduced specificity (92.1%), precision (22%) and accuracy (90.8%). We confirmed that palliative care literature is difficult to identify in the general literature. Whilst our filter represents the best trade-off between sensitivity, specificity, accuracy and precision, the sensitivity is unacceptably low. Further research, such as

frequency analysis of textwords and MeSH terms, is required to increase the sensitivity of searching.



## Developing library marketing strategies based on statistics

Yoo-Seong Song

University of Illinois at Urbana-Champaign, USA

The University Library at the University of Illinois at Urbana-Champaign consists of over 40 departmental libraries with more than 10 million volumes, making it the largest public university library and the third largest among all university libraries in North America. As a departmental library within the University Library, the Business & Economics Library (BEL) primarily serves over 3,500 students and faculty at the College of Business for their research needs.

Starting 2002, the BEL sought to reshape its image from a "house of books" to an electronic business information center. The author conducted extensive research to collect data on user experiences and expectations of library services and developed marketing strategies to promote the BEL's services. The author sought to assess the effectiveness of information literacy and different patterns of information seeking behavior among business students. In 2003 and 2004, two surveys were taken to study how business students perceived library services in terms of electronic library services and library instruction. Based on the results, the author formulated marketing strategies to promote a new image of the BEL through partnership with other campus units and relationship marketing to faculty members. This study illustrates how data and statistics on library services can be applied to formulating and implementing marketing strategies. Methods of evaluating the impact of those strategies will also be discussed



## E-learning versus workshops to teach critical appraisal to health professionals: a randomised controlled equivalence study

Linda Ward

University Hospitals of Leicester NHS Trust, UK

Health professionals need skills in critical appraisal to interpret the research evidence base and implement results. Research studies have

made explicit links between evidence based practice (EBP) and EBP education, although it is unknown which educational methods best promote EBP. Since 2000 University Hospitals of Leicester (UHL) NHS Trust Libraries have offered critical appraisal workshops to practicing health professionals. These packages are also provided in an interactive elearning format, using the Trust Virtual Learning Environment (VLE).

This presentation will illustrate the content of the modules and the approach that has been taken to evaluating the effectiveness of elearning to teach research methods and critical appraisal to health professionals. The methodology of the research will be presented and the opportunity for contributions from the delegates will be welcomed.

#### Study design

Randomised controlled equivalence study.

#### Objectives

To test

- The null hypothesis of non-equivalence i.e. that there are educationally significant differences in learning between groups
- Change from baseline knowledge, skills or behaviour
- Relationships between learner characteristics and learning outcomes

#### Intervention

Three on-line elearning lessons cover research methods, critical appraisal and introductory level statistics. The package includes graphics, interactive features and self-tests. Access is via the Trust VLE. Comparison: Six face to face group workshops offer practical experience in understanding research methods and critical appraisal techniques; interpreting the methodology and results of typical published research studies

#### Outcomes

Analysis of pre- and post-test validated questionnaires testing knowledge, skills and behaviour will inform the development of the teaching packages in the most effective way. This might be exclusively on-line, exclusively via group workshops, or a combination of both. For the libraries, for the trust and for future course participants this will be a major benefit.



### **Evidence based librarianship in the humanities: an application for second language learners**

Glenna Westwood

*University of Lethbridge, Canada*

In this presentation Glenna Westwood will discuss the practice of Evidence Based Librarianship (EBL) from the perspective of a Humanities librarian. She will present the results of the first phases of a research program investigating the information needs of second language learners. While the research was originally designed to answer questions arising from her own professional practice, the findings contribute to the scholarship of EBL and challenge some of our basic perceptions of academic libraries.

Ms. Westwood will talk about her current research experience applying an EBL model to investigate the information needs of second language learners. Her hypothesis is that academic libraries fail to adequately meet the information needs of second language students enrolled in academic institutions and in particular, the needs of students in 'lower level' or foundation courses. Beginning with a study of her own institutional history and practice, Ms. Westwood continued her research during a year's study leave at the Language School of the University of Guanajuato, Guanajuato, Mexico from July 2004 to July 2005. She will discuss her work in Mexico and share the results of a follow up user survey conducted at the Language School Self Access Centre in March 2005. The presentation will conclude with some ideas for further research and their implications for academic libraries in the 21st century.



### **eScholarship as socio-technical change: theory, practice and praxis**

Susan P. Williams<sup>1</sup>, Fides Datu Lawton<sup>2</sup>

*1. School of Business, University of Sydney, Australia*

*2. The Library, University of Technology, Sydney, Australia*

Developments in electronic publishing in higher education are leading to significant changes in the information supply chain and institutional arrangements for the creation, organisation, dissemination and preservation of scholarly communications such as journal papers, conference papers, working papers and other scholarly information products. Despite the rich

and growing literatures about scholarly ePublishing there is still much uncertainty about its impact on the social dynamics of learning, on universities and on the providers and consumers of scholarly publications.

Much of the current literature focuses on technical issues such as: the design of systems for storage and retrieval; the development of tools for resource discovery, user authorisation and authentication; the development and selection of standards for resource description, encoding, interoperability and digital preservation as well as on publishing issues such as the changes to the peer review process. Whilst this provides important technical guidance to the designers of ePublishing systems it is less helpful in translating these systems into useful services. Further, there are few longitudinal studies assessing how these systems are being adopted and accepted by content providers and consumers.

In this paper we present a program of critical and evaluative research to investigate scholarly ePublishing systems in use and over time. The aim of the research is to investigate the impact of ePublishing on the work practices of individuals, the responsibilities of professional groups and institutional structures, policies and practices.

The paper is structured as follows. First we argue for socio-technical theoretical perspectives that make the work of scholarly ePublishing visible. Second, to assist us in understanding the interplay of theory and practice, we discuss the need for longitudinal studies and participatory research designs involving academic and practitioner researchers. These support the development of evidence-based policies and practices and our understanding of scholarly ePublishing praxis.



### **What can students' bibliographies tell us? - Evidence based information skills teaching for engineering students**

Fei Yu, Jan Sullivan, Leith Woodall  
*University of Queensland, Australia.*

In order to target the needs of the students, and to deliver the information skills workshop more effectively, bibliographies submitted from 1st year engineering, and 2nd year and 4th year chemical engineering students' project report

were analysed. By examining and comparing bibliographies, evidence of the students' strengths and weaknesses in locating, retrieving and citing information would be found. The bibliographies were analysed for: the number of items cited; the variety of items cited and the citation style. The topic of the project report was also looked at to see the relationship between the topic and the items cited. The results showed that there was a clear pattern that higher year students cited more items in total than lower year students did in their bibliographies. Second and 4th year engineering students cited more books and journal articles than 1st year students, but websites were still used extensively by all three groups of students. Some 1st year design project topics students used the Internet resources more than other sources of information. Students from all year groups had difficulties with citation style.

## **Poster abstracts**

### **Contribution of checking reference lists to systematic reviews**

T. Armour, O. Dingwall, M. Sampson  
*Chalmers Research Group, Children's Hospital of Eastern Ontario Research Institute, Canada*

#### Background

Handbooks advise systematic reviewers to check reference lists (CRL) of primary and/or secondary studies to identify additional material for systematic reviews. Evidence-based practice would weigh the sensitivity and specificity of this approach against the resource implications and the evidence regarding the potential to protect against or introduce bias into the review.

#### Objectives

To systematically review the research evidence regarding CRL, examining these key questions: What is the marginal yield of CRL? Is it most productive to focus the CRL search on certain publication types? Does CRL a) help protect the review against bias? or b) potentially introduce bias? What is the evidence regarding cost-benefit of CRL? What is the utility of using reference lists for developing electronic searches, or validating their recall?

#### Methods

We searched The Cochrane Methodology Register, Medline, Library Literature and LISA to identify published or unpublished primary

research examining CRL. Case reports of the yield from CRL in a single systematic review were excluded. We also determined the prevalence of CRL in a sample of 105 Cochrane reviews.

### Results

CRL was reported by 86.7% of Cochrane reviews and was the most common search technique, after searching electronic databases.

Initial screening has identified three eligible studies. Preliminary findings suggest CRL may identify novel unpublished material.<sup>1,2</sup> One study observed positive bias within reference lists (citation bias).<sup>3</sup>

### Discussion

Recommendations to check reference lists are not evidence-based. The practice has not been studied systematically and evidence is largely from expert opinion and case reports (Grade D).<sup>4</sup>

<sup>1</sup> Vickers AJ, Smith C. Incorporating data from dissertations in systematic reviews. *Int J Technol Assess Health Care* 2000; 16(2):711-713.

<sup>2</sup> Royle P, Waugh N. Literature searching for clinical and cost-effectiveness studies used in health technology assessment reports carried out for the National Institute for Clinical Excellence appraisal system. *Health Technol Assess* 2003; 7(34):1-64.

<sup>3</sup> Gotzsche PC. Reference bias in reports of drug trials. *Br Med J (Clin Res Ed)* 1987; 295(6599):654-656.

<sup>4</sup> Phillips B, Ball C, Sackett D, Badenoch D, Straus S, Haynes RB, and Dawes M. Oxford Centre for Evidence-based Medicine Levels of Evidence. Available at: [http://www.cebm.net/levels\\_of\\_evidence.asp](http://www.cebm.net/levels_of_evidence.asp)

## **Working with what works**

Janine Chandler

*Australian Institute of Criminology, Australia*

Criminology is turning to the evidence base in an effort to inform policy about “what works” in criminal justice interventions. A feature of this evolution is the Campbell Collaboration, a sister group to the Cochrane Collaboration, which aims to make systematic research reviews widely available. This poster examines the growth of evaluation and evidence-based research over time; raises awareness of the Campbell Collaboration; gives examples of the application of evidence-based policy from a practitioner’s view; and discusses how this shift in practice is affecting the work of the JV Barry Library at the Australian Institute of Criminology

## **Rehabilitating the stroke collection**

Mary Grimmond, Sharna Carter

*Central Coast Health, Australia*

Does the Central Coast Health Library Service monograph collection adequately support the health service’s specialist area of stroke as identified by the NSW Health Greater Metropolitan Clinical Taskforce? This is the question library staff set out to answer by designing and applying a collection analysis methodology.

Stroke patients treated in the Central Coast Health specialist stroke units are seen by a multidisciplinary team of clinicians including doctors, nurses, physiotherapists, nutritionists, speech pathologists, occupational therapists, etc. A hospital library collection should provide adequate resources to support all these specialist areas.

One of the challenges in completing a collection analysis on a specific subject area was determining a means of locating relevant resources within the collection, prior to determining factors such as coverage and age of these items. Focus on DDC call numbers as a starting point was soon found to be superficial, with risk of overlooking relevant resources dispersed throughout the collection. Use of LC and MeSH subject heading tree searches was expected to encapsulate a broader range of resources. However, how could library staff be confident that ‘relevant’ resources were still not being overlooked?

It was decided that interaction with the multidisciplinary stroke team members was an essential part of the process. A questionnaire was developed and dispersed amongst staff representing different specialties on the stroke team. This questionnaire listed the subject headings identified by library staff as relevant to treatment of stroke. Team members were asked to add their own ideas of relevant subject headings, with consideration of broader skills/knowledge required for the treatment of stroke. The questionnaire also allowed for team members to comment on types of materials and specific titles they felt were useful / essential in a basic collection on stroke management. Use of the questionnaire had several benefits – education of the recipients about subject searching, promotion of the library as a valuable resource; and confirmation at a primary level of the broad or narrower focus of subject searching

and resource use within the library collection by the stroke team.

Results of the questionnaire will be used to assess the collection of stroke resources and identify titles for purchase to enhance the collection. It is expected that use of this methodology can be repeated amongst other specialty groups using the library, to facilitate further planning and decision making for effective collection management.

**Today's student is the registered nurse of tomorrow: the University of Queensland Library's role in preparing nurses to apply evidence in clinical decision making.**

Jenny Hall, Stephanie Nunan, Ruth Foxlee, Lisa Kruesi

*University of Queensland Library, Australia*

In recent years senior management have driven the need to establish a culture of evidence based practice (EBP) in Queensland hospitals. EBP was first established in the medical arena. Now in 2005 there is a growing emphasis for nurses to use the evidence to support clinical decision making.

Information literacy is seen as a critical prerequisite for evidence based practice. In the past, assumptions have been made about the base level of nurses' information literacy skills. It has been identified that without at least moderate information literacy skills the ability to practice using the evidence based model is severely hampered. This paper discusses a study which examined the information literacy skills of students entering the Bachelor of Nursing, a newly offered program at the University of Queensland and those of graduate registered nurses entering employment at the Princess Alexandra Hospital located in Brisbane, Australia. A pre test and post test survey was used to ascertain base level of information literacy and evaluate the intervention, a librarian led workshop on searching and locating journal articles, use of the University of Queensland catalogue, Boolean operators and identifying relevant health databases. The results of the workshop indicated the students do not fully understand major information retrieval principles. The paper will report on the study process, report on related studies to date, the issues identified and the means to raise information literacy levels of nurses, in order to

adequately prepare them for the EBP environment.

**The human in human information transfer – the wider implications of gatekeeping**

Yang Lu

*University of California at Los Angeles, USA*

As humans inescapably embraced by social networks, we exhibit a fundamental reliance on interpersonal relations for the acquisition of information. Gatekeepers, who help link people with unknown information, are the "humans" in this interpersonal information transfer web. This paper pulls together ideas from diverse disciplinary research literatures to provide a synthetic view of the gatekeeping process. It reveals that gatekeepers arise in social groups by different means, as noted and verified by empirical research, are cultural certification, informal nominations and by virtue of social positions. Constituting key elements of our information environment, gatekeepers are very influential in that they help to define social reality in our mind and affect decisions we make. However, while relying and trusting our gatekeepers, we still need to be aware of the biases and information gaps gatekeepers could possibly have presented. More importantly, gatekeeping research helps reveal the information transfer mechanism through social networks and prompts us to social network analysis which can further promote our understanding of human information behavior as reflections of social relations, and the perennial issue of information inequity.

**Getting to first base: exploring evidence based sexual health**

Melissa MacLean

*FPA Health, Australia*

How does a library work together with a telephone information and referral service to provide up to date evidence based information to health professionals and the general community?

FPA Health (formerly Family Planning NSW) runs a confidential information and referral telephone service providing information on a wide range of sexual health topics. This service, FPA Healthline, is staffed by clinical nurse specialists who answer client's questions via telephone or email. The librarian is a very important part of the question answering process, providing current, relevant and timely

medical and nursing research for FPA Healthline nurses, which is used in conjunction with the sexual health expertise of the organisation to answer questions at hand and to create new Frequently Asked Questions (FAQs) for the website.

A case study will be explored using the example of recent discussion in the medical press about the possible effect of depot medroxyprogesterone acetate (Depo Provera) on bone density. This study will be used to illustrate ways in which a small organisation providing a unique service in NSW, can manage resources, knowledge and information in order to provide an evidence based information service that aims to be instrumental in improving the reproductive and sexual health of the people of NSW.

### **The SMARTAL (St MARTin's College health students Access to Learning resources whilst on placement) Project**

Liz Mailer

*St Martin's College of Higher Education, UK*

SMARTAL is a practitioner based research project centred in the library service of a distributed higher education college in the United Kingdom aiming to improve the service that health students on placement receive from Library Services.

The SMARTAL project was run by one part-time researcher over a 15 week period (December 2004 to March 2005). A literature review was conducted at the beginning of the project to provide background information and awareness of similar research in the area. The methodology (questionnaires to students and interviews with clinical support staff) was developed by Northumbria University's HENSAL (Health and Education Northumbria Students Access to Learning resources) project, which reported in 2002. Using an existing methodology enabled SMARTAL to be run within the time scale and triangulate the experience gained by the HENSAL project team. It also enabled comparisons to be made with the findings of the HENSAL project to determine national patterns and trends. The questionnaire data was analysed using SPSS software.

The findings of the SMARTAL project identified various barriers faced by placement students in accessing learning resources<sup>1</sup>. Particular difficulties concerned access to a library for

students working away from a large hospital, access to networked computers and study space and inconvenient library opening hours. The project report will make recommendations to the College and to the local NHS Strategic Health Authority with a view to providing an improved service to placement students from the College library and the NHS libraries.

The research has been supported by the College sabbatical leave scheme, which for the first time in 2004 invited support staff to apply for funding alongside academics. Library Services was keen to take advantage of this opportunity since library-led projects and research will contribute to the local evidence-base to support the implementation of the Library Services Strategic Plan 2005-2009.

<sup>1</sup> Learning resources covered printed and electronic books and journals, web-based information, IT and study space.

### **If a client asks about evidence-based practice, what does it mean for you?**

Andrew Meier

*Centre for Automotive Safety Research, University of Adelaide*

The evidence-based movement continues to spread across sectors - from health to areas such as education, criminology and transport. This means that information professionals serving in an increasing number of sectors need to be aware of not only the growing importance of the concept but the practicalities involved in providing information on interventions evaluated with higher methodological standards. Even more so given that in some sectors clients may increasingly be requesting information on methodologies, the actual subject of the experiment being of secondary importance. Information professionals areas such as health are well aware of the importance of randomisation and control groups in indexing and retrieval but this is not likely to be the case for many other sectors.

The issue of evidence-based information retrieval in selected sectors has been examined in the literature, including for librarianship. These few papers have highlighted the problems of database indexing and locating older material of high methodological standard. They are also a few years old and these problems not only still exist but continue to grow. Material continues to be catalogued by information professionals



unaware of that the methodology of the intervention may be as important as the subject of the study itself. Urgent action to promote awareness of evidence-based concepts, and their importance regardless of one's place in the information profession is required. This paper reinforces these issues with reference to the transport and transport safety sector.

### **Using library stocktaking data to make evidence-based decisions about library procedures and policies**

Ailsa Parker

*Whitireia Community Polytechnic Library, NZ*

A stocktake prior to a move to a new building ensures that holdings on the library catalogue are accurate and items on the shelves arranged correctly. Whitireia Community Polytechnic at Porirua, New Zealand, followed this procedure. Regular stocktakes had been done, but some investigation into best practice was required as the stocktake was to be electronic rather than manual. A loss rate was identified as well as problem areas, and evidence gained from the stocktake was then appraised and evaluated in terms of other data from within the library system e.g. the previous stocktake, item loan records and intra-campus loan data. Results were benchmarked against other academic libraries, although New Zealand data was difficult to obtain. A set of recommendations and best practice guidelines was then drawn up. Probably one of the most useful sources of benchmarking data and guidelines was Theft and loss from UK libraries: a national survey. This 1992 paper from the Crime Prevention Unit Series by John Burrows and Diane Cooper, details definition, frequency, extent and nature of loss from British libraries.

The library is now in its new building and the results of any future stocktake will need to be examined in terms of changes to the physical layout of the library e.g. non-library staff can exit the building without going through security gates, the staff information desk is now a considerable distance from the security gates and users have access to an external deck. A separate Maori collection has also been created. In addition, recent well-publicised thefts from New Zealand libraries has generated some literature on the subject of stocktaking and theft, so this can also be incorporated into future benchmarking and planning.

### **100 searches: refining the process of identifying articles for systematic reviews**

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#### Objective

Identifying the appropriate studies for inclusion in systematic reviews is important for the both the completion of the initial review and well as for carrying out updates. This poster presents an iterative process involving close collaboration between librarians and clinical experts.

#### Methods

A team of three librarians and one clinical expert worked together to update a large project of related systematic reviews. 100 different Medline search strategies were developed. Different searches were created to focus on specificity and sensitivity. Search performance was tested using known items. The search results were imported into a web-based systematic review software database and the results were screened. An initial consensus double rating established inter-rater consistency. Subsequent screening was undertaken by one librarian and was confirmed by clinical expert review.

#### Results

Including librarians in the screening process allow for cross-topic consistency and the identification of false hits. As well, the librarian's knowledge of the subject was increased and this assisted in the refinement of the search strategies. Close collaboration with a clinical expert allowed for the identification of known articles and responsive follow-up to search specificity results.

#### Conclusions

The results of this project will allow for the development of a searching and screening process for completing and updating systematic reviews. Iterative involvement of librarians in the searching and screening process may be particularly effective in compound systematic reviews involving a large number of searching elements.

### **Evolution of the practice of evidence-based dentistry sessions at Westmead Hospital – an important role for medical librarians**

Ratnes Singham, Linda Mulheron  
*Westmead Hospital Library, Australia*

Evidence-based practice program (EBP) was first introduced to the Dental students at Sydney University in 2000. This subject was first introduced in their curriculum so that they are able to look for evidence in their clinical practice of Dentistry.

The Reference and Reader Services Librarian's role (from Westmead Hospital, a teaching hospital of Sydney University) to this program was to participate in the group tutorial by facilitating the students searching strategies.

Each session consisted of 3 tutorials. During the first half of the tutorial, the tutor would try and get the students to identify a clinical problem from which they needed to develop and refine a search question. The Librarian became involved in the second half of the tutorial in showing the students to search the various resources such as Medline, Embase, EBMR databases. Search techniques involving subject headings versus keywords, Boolean logic and the use of maximum precision and maximum recall filters for retrieving articles on therapy, etiology, prognosis, diagnosis, clinical trials and systematic reviews.

After its first year of implementation of the program, the supervisor has reported positively to the University on the program and its great value to the students. This is evidenced in the fact that the Librarian has continued in this role as facilitator for the last 4 years. These sessions have further evolved and now the students are encouraged to first formulate a well structured question based on their clinical situation using the PICO model. In the PICO model P represents patient or problem, I for intervention, C for comparison, and finally O the outcome(s) of interest.

These EBP sessions, apart from introducing the students to life long learning skills, was also meaningful to them as they were encouraged to look for evidence to back their clinical treatment of their patients.

### **Evidence-based medicine: a review of medical librarian's role**

Lisa Song

*Hong Kong Baptist University Library, Hong Kong*

Evidence-based medicine (EBM), emerged into the medical practice for over ten years, is about the integrating individual clinical expertise and patient value with best available research

evidence. Practicing EBM involves the fundamental skill of finding, critically appraising and applying the evidence to the clinical decision making.

EBM extends medical librarian's role beyond identifying and locating the literatures to involvement in clinical practicing and teaching quality information filtering and critical appraisal of medical literature. These activities require librarians to acquire new knowledge and develop new skills. Therefore, librarians need to rethink their roles in providing medical information. Medical librarians have the skills and are well positioned to respond to EBM's information needs as trainers or mediators. However, there are many obstacles and challenges for medical librarians in EBM practice. Increasing literatures state that continuing education should always be a part of the professional life because librarians are facing excellent opportunity to develop and expend their roles.

In this poster, I will represent why the librarians are important in EBM practice, and illustrate the medical librarian's role in the areas of EBM teaching, learning, clinical practice and medical research. The obstacles for the librarians in EBM practice will also be identified.

### **A health evidence support service for health professionals**

Caroline Storer

*Bradford Health Informatics Service, UK*

A Health Evidence Support Service (HESS) has been available to all Health Service staff in the Bradford NHS Health Partnership for three years. HESS was implemented as an extension of the existing Library and Information Services to work proactively with clinical and healthcare teams in primary and secondary care to make more effective use of health evidence obtained from research.

The key roles of the Health Evidence Support Specialist are to package evidence into easily accessible formats and to match individuals with relevant information they are unaware of but likely to require. A number of services are provided in order to achieve this and ultimately to get evidence into practice, these are listed below:

- Weekly New Guidance Bulletins
- An information request service

- Tool Kits for Evidence-Based Practice (intranet and hard copy)
- Hands on Evidence-Based Practice Teaching sessions
- Summaries of evidence for education events
- Inform staff of key points of contact internally and externally who could help with further development of evidence-based practice and research.
- Ensure care provided is always based on best evidence.

The Health Evidence Support Specialist works closely with research partners within the health partnership. An evaluation project using questionnaires and focus groups is currently ongoing. Initial feedback suggests health professionals have welcomed the service and find it extremely useful. The Health Evidence Support Service was a new post both to Northern and Yorkshire and we believe country wide. Feedback suggests the post has ensured that relevant evidence-based information reaches frontline staff. As a result of the success of this post, another Health Evidence Support Specialist has been appointed at another health community in West Yorkshire.

### **Tool kits for evidence-based practice**

Caroline Storer

*Bradford Health Informatics Service, UK*

In order to fulfil clinical governance requirements, all staff require accessible information tailored to their area of practice. Many frontline staff do not have the time, confidence, skills or knowledge to learn about and implement evidence-based practice or to search for information. The Bradford Health Informatics Service Library wanted to make specialty specific evidence-based information readily available in all areas of practice. A resource pack was produced to meet these identified needs.

The Tool Kits for Evidence-Based Practice have been provided for primary and secondary care, higher education libraries and hospices. The content is also available on Trust Intranet sites. In undertaking this project, we hoped to achieve the following:

- A resource, easily accessible to all health care staff.
- Increase awareness of traditional and electronic evidence-based practice resources available.
- Increase staff confidence in using information and their ability to question practice and link it to delivery of care.
- Promote use and understanding of the Intranet/Internet.

Evaluation of the project within acute trusts has shown that staff are aware of the tool kit and, in most cases they are placed near a computer where all staff have access to them. In some areas the tool kits are used at induction. The introduction of the tool kits has led to an increase in requests for information from the libraries. This is an ongoing project and the updating of the tool kits is time consuming and it is hoped departments will be able to update their own tool kits from the intranet version. Further evaluation of the project is planned over the next few months.

### **Reflections on how evidence-based information practice can be applied in an evidence-based health care centre**

Catherine Voutier, Anne Parkhill

*Centre for Clinical Effectiveness, Monash Institute of Health Services Research, Australia*

This poster will explore ways in which evidence-based information/library practice (EBIP) can be incorporated into the work practices of information professionals at an evidence-based health care centre (EBHC). Does this influence the way in which we work? Does knowledge of EBHC principles help in the practice of EBIP?

While evidence based practice at EBHCs has been applied for a number of years, EBIP is quite new. Information professionals working in EBHC centres have a relatively firm grasp of the principles and practices evidence based practice. These include five steps which can be put simply as: Ask, Search/Retrieve, Appraise, Implement and Review. Traditionally, information professionals work in the first two, and sometimes the third, step. EBIP takes on EBHC attributes and also includes that of evidence via experience, collection and application of valid statistical data, and user feedback. We ask "How can this be implemented in current practice?", and "Are we already doing this without realising it?!"

As information professionals at the Monash Institute of Health Services Research we investigate best practice for our main information activities; search strategy development, retrieval,

current awareness and education and some implementation and review. If it is advantageous for any organisation that all its employees work at best practice levels and regularly evaluate their performance, these reflections will benefit the implementation of improved workflows and the review of our services currently collected in regular user surveys.