

**University Hospitals of Clinical Librarian Service:**

**Providing research evidence at the point of clinical need**

**Search strategy**

informationist\*.ti,ab OR "clinical librarian\*".ti,ab OR (clinical\* adj2 librarian\*).ti,ab OR  
(outreach adj2 librarian\*) OR (embed\* adj2 librarian\*).ti,ab;

Databases searched: AMED, EMBASE, HMIC, MEDLINE, PsycINFO, BNI, CINAHL, and HEALTH  
BUSINESS ELITE.

Date limit applied: 1997 – current

**Bibliography**

A bibliography of recent references on the topic of clinical librarianship and related issues.  
[Please let us know](#) if you find anything we missed.

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**Skills and key education needed for clinical librarians: an exploratory study from the librarians' perspectives.**

Zarghani M, Nemati-Anaraki L, Dinpajoo Z, Ghamgosar A, Khani S, Khazaee-Pool M. BMC Med Inform Decis Mak. 2021 Aug 9;21(1):240. doi: 10.1186/s12911-021-01601-y.

[FREE Full text](#)

**Understanding the information-seeking behavior of pharmacy college faculty, staff, and students: implications for improving embedded librarian services.**

Kamada H, Martin JR, Slack MK, Kramer SS. J Med Libr Assoc. 2021 Apr 1;109(2):286-294. doi: 10.5195/jmla.2021.950. PMID: 34285671

[Free PMC article.](#)

**Essential Services of Clinical Librarians in Academic and Health Care Settings: A Cross-Sectional Study.**

Carlson R, Towner Wright S. Med Ref Serv Q. 2021 Apr-Jun;40(2):168-187. doi: 10.1080/02763869.2021.1912570. PMID: 33970819

This article provides a comprehensive summary of clinical librarian service models in the US, Canada, and the UK from a cross-sectional study. An online survey received 182 responses from clinical librarians in hospital (62%), academic (26%), and other (10%) libraries.

These clinical librarians shared the services they provide, patrons they work with, and their perceptions of the value they add to clinical environments. Overall, this study quantifies the services offered most frequently by clinical librarians, the services felt to be most valuable, and the variety of health care clientele whom clinical librarians serve. These findings have implications for current clinical librarians, libraries and health care institutions, and for those who may become clinical librarians in the future.

**Evaluation of literature searching and article selection skills of an evidence-based practice team.**

Jones EP, Brennan EA, Davis A. J Med Libr Assoc. 2020 Jul 1;108(3):487-493. doi: 10.5195/jmla.2020.865. PMID: 32843879

**Background:** An evidence-based practice (EBP) team at an academic medical center supports the development of evidence-based hospital policies and protocols via "Evidence Briefs." An early career librarian was added to the EBP team to meet increased requests for Evidence Briefs, which provided an opportunity to initiate a quality improvement (QI)

analysis, improve work flow, and cross-train staff on literature searching and article selection skills.

**Case presentation:** This QI project evaluated literature searching and article selection skills of an early career librarian (less than 2 years' experience), a mid-career librarian (more than 10 years' experience), and a critical appraisal expert. This project examined 10 Evidence Brief requests completed within a 6-month period. Analysis of each individual's performance of literature searching and article selection was completed for each Evidence Brief. Across all Evidence Brief requests, the mid-career librarian performed the most comprehensive literature searches and captured the highest number of articles that ultimately ended up being included in Evidence Briefs (75%). The critical appraisal expert performed best on the article selection portion of the project and identified the highest number of relevant articles that were included in Evidence Briefs (74%).

**Conclusions:** This project provided a formalized method of assessing the literature searching and article selection skills of each member of the EBP team. This project illustrated the skill level of each individual and led to improvements in the Evidence Brief request work flow.

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#### **Library and knowledge staff in England share similar perceptions of the roles and personal characteristics of the clinical librarian.**

Rudd S, Harding S. Health Info Libr J. 2021 Mar 23. doi: 10.1111/hir.12365. Online ahead of print. PMID: 33755303

**Introduction:** Indications on the development of the health library and knowledge workforce (LKS) in England suggest that more staff may need to shift into clinical librarian (CL) roles. Anecdotal evidence suggested that CL roles have changed recently.

**Objectives:** To examine perceptions of CL tasks and required personal characteristics of CLs, amongst both practising CLs and other LKS staff in England.

**Methods:** An online survey was followed by descriptive statistical and content analysis to identify any differences in perceptions between the CL and non-CL staff groups.

**Results:** Response rate: 10% (123/1181). Both staff groups identified literature searching as the top core task and agreed on the main CL roles. Perceptions on the necessary personal characteristics were also similar. Ranking differed for a few tasks: non-CL staff may ascribe more importance to some tasks (evidence synthesis, critical appraisal training and attending ward rounds/team meetings) than the CL staff state. CLs spent more time on staff management, and less time on study skills training than non-CL staff perceived.

**Discussion:** Results indicated that CL roles are continuing to develop, but that CLs are more integrated into library administration than some non-CL staff believe.

**Conclusion:** Shared perceptions around CL roles should help workforce development.

#### **Facilitating research amongst radiographers through information literacy workshops.**

Hurt E, McLoughlin A.J Med Libr Assoc. 2021 Jan 1;109(1):112-119. doi: 10.5195/jmla.2021.842. PMID: 33424472

**Background:** Despite a strong research presence in Lancashire Teaching Hospitals National Health Service (NHS) Foundation Trust (LTHTR), allied health professionals from the organization are underrepresented in developing and publicizing research that is inspired by day-to-day clinical practice and staff experiences. Two LTHTR departments, Library and Knowledge Services (LKS) and Research and Innovation (R&I), came together to enable a group of staff to develop the knowledge and skills that they needed to access information and create new "home grown" research.

**Case presentation:** A clinical librarian and an academic research nurse created a research engagement program in the diagnostic radiography department at LTHTR, which included the development, delivery, and evaluation of 6 workshops. Sixteen individuals took part in these workshops, and data were collected on library usage, self-efficacy in information literacy, and research output before and after their delivery. Library membership increased by 50% among diagnostic radiography staff, literature search requests from this department increased by 133%, and all participants who attended at least 1 workshop reported an increased Information Literacy Self Efficacy Scale (ILSES) score. An increase in research activity and outputs was also attributed to the program.

**Conclusions:** This project has resulted in a set of freely available workshop plans and support resources that can be customized for other health care professionals and has won several awards for its innovative use of departmental collaboration. Through the evaluation of the program from workshop attendees and non-attenders, we have identified impacts, outputs, and barriers to engagement in order to continue to deliver this content to other departments and embed a home grown research culture at LTHTR.

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#### **A core competency model for clinical informationists.**

Hashemian M, Zare-Farashbandi F, Yamani N, Rahimi A, Adibi P. J Med Libr Assoc. 2021 Jan 1;109(1):33-43. doi: 10.5195/jmla.2021.1065.PMID: 33424462

**Objectives:** Access to high-quality information improves the quality of patient care, but lack of time and sufficient skills in information seeking can prevent access to information by clinicians. To solve this problem, clinical informationists can provide high-quality, filtered information for clinical team members. This study identified the core competencies that clinical informationists need to effectively fulfill their roles on clinical teams.

**Methods:** Participants were selected purposefully from clinicians and medical librarians. Data were collected through semi-structured interviews and analyzed using qualitative content analysis.

**Results:** The authors identified six competencies-communication, research, education and training, domain knowledge, information services, and technology-which together were used to develop a "CREDIT" model of core competencies for clinical informationists.

**Conclusions:** The CREDIT model can be used as criteria for evaluating the performance of clinical informationists as well as for developing and assessing clinical informationist educational programs and curriculums.

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**A clinical librarian in a hospital critical care unit may generate a positive return on investment.**

Hartfiel N, Sadera G, Treadway V, Lawrence C, Tudor Edwards R. Health Info Libr J. 2021 Jun;38(2):97-112. doi: 10.1111/hir.12332. Epub 2020 Nov 16. PMID: 33196136

**Background:** Timely information provided by clinical librarians can contribute to outcomes such as improved patient care and time savings for hospital staff. What is unknown is the return on investment (ROI) of a clinical librarian on a critical care unit.

**Objective:** The aim of this study was to assess the ROI, from the employer perspective, of placing a clinical librarian in a critical care unit in a large UK acute hospital.

**Methods:** Using a mixed methods approach, ROI was estimated by comparing the total costs with the total monetised benefits of implementing the clinical librarian intervention. Total costs included salary and equipment costs. Total monetised benefits included time saving for hospital staff, support for professional development and improved patient care.

**Results:** When total monetised benefits were compared with total costs, the 15-month clinical librarian intervention generated a positive ROI of £1.18-£3.03 for every £1 invested.

**Discussion:** Using outcome measures derived from previous research, this novel study generated promising results indicative for commissioners seeking to improve patient care and deliver value for money. To improve generalisability, multisite studies using standardised ROI tools are recommended.

**Conclusion:** Employing a clinical librarian in a critical care unit can generate a positive ROI.

**How hospital-based health care providers perceive clinical librarian services: a qualitative review protocol.**

Lieggi M, Olson L, Kleiman A, Jang H. JBI Evid Synth. 2021 Mar;19(3):689-694. doi: 10.11124/JBISIR-D-19-00324. PMID: 32813410

**Objective:** The objective of the review is to evaluate how health care providers working in hospitals perceive clinical librarian services.

**Introduction:** Clinical librarianship programs existed as early as 1971; however, there is a lack of evidence on their effectiveness in impacting health care outcomes. Studies report primarily on programs supporting medicine, although these programs also support other health care providers. In order to affect outcomes, particularly those focused on patient-centered, evidence-based care, clinical librarians need insight into how hospital health care providers perceive clinical librarian services.

**Inclusion criteria:** The review will consider studies that include any health care provider who works within a hospital, including surgical, clinical, and inpatient units. Studies that focus on qualitative data about clinical librarian services, published from 1971 onward, will be eligible for inclusion.

**Methods:** The primary databases to be searched are PubMed, CINAHL, Embase, PsycINFO, Library Literature & Information Science, LISTA (Library, Information Science & Technology Abstracts), and Web of Science. Studies will be selected based on their assessment against the inclusion criteria by two independent reviewers. Eligible studies will be critically

appraised for methodological quality. Data will be extracted using a standardized tool, and findings pooled and synthesized using a meta-aggregation approach.

## 2020

### **The clinical informationist as a new member of clinical team.**

Rahimi A, Taheri A, Adibi P.J Res Med Sci. 2020 Aug 31;25:83. doi: 10.4103/jrms.JRMS\_578\_20. eCollection 2020.PMID: 33088320

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### **Designing a model of professional ethics excellence for clinical librarians.**

Ashrafi-Rizi H, Kazempour Z, Sheikhshoei F, Ghazavi Z.J Med Libr Assoc. 2020 Oct 1;108(4):574-583. doi: 10.5195/jmla.2020.893.

**Objective:** Developing and promoting professional ethics principles for clinical librarians can help the health care system balance the interests of all stakeholders, including clinical librarians, health care professionals, and patients. Therefore, the goal of this study was to design a model of professional ethics excellence for clinical librarians.

**Methods:** The authors conducted a descriptive applied study using literature review and the delphi method. The delphi panel included eleven experts in medical librarianship, library and information sciences, or information sciences and knowledge studies.

**Results:** After the delphi rounds, five concepts and forty-six components were identified and confirmed to provide a model of professional ethics excellence for clinical librarians. The highest-rated concept was excellence in communication. The highest-rated component was mastery in developing search strategies in information resources and databases.

**Conclusions:** Identifying and applying principles of professional ethics among clinical librarians can enhance the professionalization of clinical librarians and result in better information services for physicians. Furthermore, incorporating these principles into the curriculum for health sciences library and information sciences students or into workshops for active clinical librarians can further formalize the profession and practice of evidence-based medicine.

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### **Development of a Surgical Evidence Blog at Morbidity and Mortality Conferences: Integrating Clinical Librarians to Enhance Resident Education.**

Lovasik BP, Rutledge H, Lawson E, Maithel SK, Delman KA. J Surg Educ. 2020 Sep-Oct;77(5):1069-1075. doi: 10.1016/j.jsurg.2020.03.024. Epub 2020 Jun 15.PMID: 32553541

**Introduction:** Surgical morbidity and mortality (M&M) conference is a primary educational endeavor for trainees and faculty alike. Case presentations are enhanced by inclusion of clinical evidence; however, trainees are frequently limited in their ability to collect and share this type of material.

**Methods:** A surgical evidence web log ("blog") was created in partnership between the Clinical Librarian Service and the Department of Surgery. A clinical librarian attended weekly departmental M&M conferences and reviewed evidence in collaboration with a surgical resident. For each case presented, the clinical librarian created an evidence-based blog post based on specific learning topics encountered in the routine discussion of the M&M conference. The goal of this surgeon-librarian partnership was to enhance M&M's educational value by reinforcing learning topics, serving as a repository of case-based evidence, and involving trainees in evidence-based surgical practice.

**Results:** Blog posts included summaries of available evidence, critical reviews of seminal studies, and reviews of evidence-based guidelines framed in the context of the case. New blog posts were promoted via direct links in an existing weekly newsletter sent to all trainees and faculty in the department. Within the first year, surgical residents reported increased interaction with the literature, and 100% reported gaining knowledge that they would otherwise not receive through their standard readings, with 73% of residents using this to influence clinical practice and 87% applying knowledge in test preparation. This surgeon-librarian partnership enforces interdisciplinary collaboration through existing resources, and is highly generalizable to both surgical and medical training programs.

**Conclusions:** In this study, the development of a surgical evidence blog represents an effective resource for promoting evidence-based practices within a case-based learning curriculum. This intervention is the first report in the literature to integrate the expertise and resources of a Clinical Librarian Service with an evidence-based resident educational curriculum in a surgical residency program.

### **Clinical informationist educational needs and goals: A scoping review.**

Hashemian M, Rahimi A, Yamani N, Adibi P, Zare-Farashbandi F.J Educ Health Promot. 2020 Jul 28;9:193. doi: 10.4103/jehp.jehp\_272\_20. eCollection 2020.PMID: 32953918

Clinical informationist (CI) is one of the current trends in the field of medical librarianship and information science. CIs are members of clinical care teams, and their main duty is to fill the gap in the information needs of health-care workers and patients using information sources. They need an official and standard education. This study aims to identify the educational goals and needs of CIs. To this end, a scoping review was conducted using the Preferred Reporting Item for Systematic Reviews and Meta-analyses guidelines. The ISI Web of Science, Scopus, Proquest (MEDLINE), Science Direct, Emerald, ERIC, Cochrane, and Library, Information Science and Technology Abstracts were searched. *The Journal of the European Association for Health Information and Libraries* was hand searched for relevant

studies. A total of 1026 studies were extracted, and 38 studies were selected for the final review. The review resulted in identifying 18 goals in cognitive, emotional, and psychomotor areas. Furthermore, the educational needs were identified in eight educational needs including research method and statistics, education, medical knowledge, information and librarianship science, clinical environment knowledge, evidence-based knowledge, information technologies and systems, management, and leadership. Although part of these educational needs can be met through general medical librarianship and information science education, further specialized education for CIs requires specific aims and curriculum. Thus, the results of this study can be the basis for future studies regarding the competencies of CI in order to provide a more precise and detailed curriculum based on these educational needs.

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### **Clinical librarian in a hospital-based teaching program: Bringing evidence chairside.**

Ritwik P, Schiavo JH, Lucas W. J Dent Educ. 2020 Sep 15. doi: 10.1002/jdd.12429.

### **Library Jargon Creates Barriers for Potential Users of Health Library and Information Services.**

Kiely H. Health Info Libr J. 2020 Sep;37(3):228-232. doi: 10.1111/hir.12328. Epub 2020 Aug 31. PMID: 32866346

This paper is based on Helen Kiely's Masters dissertation on MA in Library and Information Service Management, successfully completed at the University of Sheffield in 2018. The aim of the study was to explore the extent to which users of a health care library service understood common terminology used by clinical librarians/information professionals. A survey was developed based on the terminology used for common services and was distributed to staff and students at an acute NHS Foundation Trust. One hundred and eight people participated over a four week period and were asked to provide definitions to the terms. Analysis of the responses for accuracy and common themes indicates that jargon can be a barrier to user access and recommendations are made with respect to the need for outreach to users and the language used in this practice for creating better accessibility.

### **How hospital-based health care providers perceive clinical librarian services: a qualitative review protocol.**



Lieggi M, Olson L, Kleiman A, Jang H. JBI Evid Synth. 2020 Jul 6. doi: 10.11124/JBISRIIR-D-19-00324.

**Objective:** The objective of the review is to evaluate how health care providers working in hospitals perceive clinical librarian services.

**Introduction:** Clinical librarian programs have existed IMO as early as 1971, however, there is a lack of evidence on their effectiveness in affecting health care outcomes. Studies report primarily on programs supporting medicine, although these programs also support other health care providers. In order for clinical librarians to affect outcomes, particularly those focused on patient-centered, evidence-based care, they need insight into how hospital health care providers perceive clinical librarian services.

**Inclusion criteria:** The review will consider studies that include any health care provider that works within a hospital, including surgical, clinical, and inpatient units. Studies that focus on qualitative data about clinical librarian services, published from 1971, will be eligible for inclusion.

**Methods:** The primary databases to be searched are PubMed, CINAHL, Embase, PsycINFO, Library Literature & Information Science, and LISTA (Library, Information Science & Technology Abstracts), and Web of Science. Studies will be selected based on their assessment against the inclusion criteria by two independent reviewers. Eligible studies will be critically appraised for methodological quality. Data will be extracted using a standardized tool and findings pooled and synthesized using a meta-aggregation approach.

**Systematic review registration number:** We are rejecting this submission as we do not consider it to meet the scope of PROSPERO as reviews need to contain at least one outcome of direct patient or clinical relevance in order to be included in PROSPERO.

### **How to keep up to date with medical information using web-based resources: a systematised review and narrative synthesis.**

Bougioukas KI, Bouras EC, Avgerinos KI, Dardavessis T, Haidich AB. Health Info Libr J. 2020 Jul 21. doi: 10.1111/hir.12318. Online ahead of print.

**Background:** Keeping up to date with the latest medical information using Web-based resources has been sparsely described, and a comprehensive up-to-date review is needed.

**Objectives:** To summarise the Web-based 'channels' that may assist the actors of the health care system (clinicians, medical researchers and students) to keep up to date with medical information.

**Methods:** We searched PubMed and Scopus for English language articles published between January 1990 and February 2019 that investigated ways for keeping up with medical information. We used the results from our search and relevant information from other sources to conduct a narrative synthesis.

**Results:** We found that resources that push information (e.g. web alerts, medical newsletters, listservs), resources that rely on the active information seeking (e.g. access to health librarians and electronic databases, podcasts, mobile apps), collaborative resources (e.g. web conferences, online journal clubs, web social media) and resources that synthesise information (e.g. bibliometrics, living systematic reviews) can contribute in keeping up with

new findings and can enhance evidence-based medicine. Clinicians, medical researchers and students can benefit from the proper use of such Internet-based technological innovations.

**Conclusion:** Internet provides many resources that can help the actors of the health care system stay up to date with the latest scientific findings.

**Personal, technical and organisational factors affect whether physicians seek answers to clinical questions during patient care: a literature review.**

Daei A, Soleymani MR, Ashrafi-Rizi H, Kelishadi R, Zargham-Boroujeni A.

Health Info Libr J. 2020 Jul 20. doi: 10.1111/hir.12323. Online ahead of print.

**Background:** Numerous questions are generated for physicians during patient care. Facilitators and barriers affect the physicians' clinical information-seeking behaviour. While most health studies have focused on barriers, few have dealt with facilitators.

**Objective:** This review aimed to identify facilitators in physicians' information-seeking behaviour to help respond to clinical questions raised during patient care.

**Methods:** A narrative review was conducted, and 9 databases were searched. Selection criteria included original articles in the context of patient care and full-text articles published in the English language from 2002 to 2019. The articles were selected and analysed by group discussions.

**Results:** Analysis of studies disclosed personal, technical and organisational facilitators including 26 themes. Internet utilisation and information searching skills, more available time, personal interests and knowing preferred sites or textbooks were among the personal factors. The most common technical factors included providing navigation support, and ease of searching and finding needed information. The most commonly reported factors at the organisational level are closeness to Internet facility and access during the consultation.

**Conclusion:** Information systems designers, health service managers and librarians may need to work together to provide systems and settings that encourage doctors to seek information to answer their clinical questions during patient care.

**Development of a Surgical Evidence Blog at Morbidity and Mortality Conferences: Integrating Clinical Librarians to Enhance Resident Education.** Lovasik BP, Rutledge H, Lawson E, Maithel SK, Delman KA.

J Surg Educ. 2020 Jun 15:S1931-7204(20)30090-8. doi: 10.1016/j.jsurg.2020.03.024.

**Introduction:** Surgical morbidity and mortality (M&M) conference is a primary educational endeavor for trainees and faculty alike. Case presentations are enhanced by inclusion of clinical evidence; however, trainees are frequently limited in their ability to collect and share this type of material.

**Methods:** A surgical evidence web log ("blog") was created in partnership between the Clinical Librarian Service and the Department of Surgery. A clinical librarian attended weekly departmental M&M conferences and reviewed evidence in collaboration with a

surgical resident. For each case presented, the clinical librarian created an evidence-based blog post based on specific learning topics encountered in the routine discussion of the M&M conference. The goal of this surgeon-librarian partnership was to enhance M&M's educational value by reinforcing learning topics, serving as a repository of case-based evidence, and involving trainees in evidence-based surgical practice.

**Results:** Blog posts included summaries of available evidence, critical reviews of seminal studies, and reviews of evidence-based guidelines framed in the context of the case. New blog posts were promoted via direct links in an existing weekly newsletter sent to all trainees and faculty in the department. Within the first year, surgical residents reported increased interaction with the literature, and 100% reported gaining knowledge that they would otherwise not receive through their standard readings, with 73% of residents using this to influence clinical practice and 87% applying knowledge in test preparation. This surgeon-librarian partnership enforces interdisciplinary collaboration through existing resources, and is highly generalizable to both surgical and medical training programs.

**Conclusions:** In this study, the development of a surgical evidence blog represents an effective resource for promoting evidence-based practices within a case-based learning curriculum. This intervention is the first report in the literature to integrate the expertise and resources of a Clinical Librarian Service with an evidence-based resident educational curriculum in a surgical residency program.

### **The educational role of clinical informationist on improving clinical education among medical students: Based on Kirkpatrick model.**

Tahmasebi M, Adibi P, Zare-Farashbandi F, Papi A, Rahimi A.

J Educ Health Promot. 2020 Feb 28;9:28. doi: 10.4103/jehp.jehp\_439\_19. eCollection 2020.

**Introduction:** Due to time constraints and a significant increase in medical information, one of the ways to keep physicians and medical teams up to date is to use evidence-based medicine. The current research focused on the effects of the educational role of clinical informationist (CI) on improving clinical education among medical students based on the Kirkpatrick (KP) model.

**Methods:** The method was semiexperimental research in two group designed with pretest and posttest. The research population included thirty medical students for each group that was selected by the convenience time-based sequential sampling method. The study data were collected using a researcher-made two questionnaires and a checklist. Data were analyzed by the descriptive statistics and inferential statistics using SPSS version 20 software.

**Results:** Based on the first level of the KP model, the total mean of medical students' satisfaction in the experimental group was 4.06 from 5. Based on the second, third, and fourth levels of the model, the independent *t*-test showed that before the intervention, the mean scores of attitude, knowledge, information-seeking skills and behaviors, and also clinical skills were not significantly different in both the intervention and control groups ( $P > 0.05$ ). After the intervention, the results of covariance test showed that attitude,

knowledge, information-seeking skills and behaviors, and also clinical skills of the intervention group are significantly better than that of the control group ( $P < 0.001$ ).

**Conclusion:** Training and the presence of the CIs in the clinical round had resulted in the improved satisfaction, attitude, knowledge, and information-seeking skills while also improving information-seeking behaviors and clinical skills of medical students.

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#### **Librarian integration into health care conferences: a case report.**

Price C, Kudchadkar SR, Basyal PS, Nelliott A, Smith M, Friedman M, Needham DM.

J Med Libr Assoc. 2020 Apr;108(2):278-285. doi: 10.5195/jmla.2020.803. Epub 2020 Apr 1.

**Background:** Health care continuing education conferences are important educational events that present opportunities for structured learning, interactive sharing, and professional networking. Conference presenters frequently cite published literature, such as clinical trials, to supply an evidence-based foundation, with presenters' slides often shared with conference attendees. By using social media, these conferences can have greater impact, assist in supporting evidence-based clinical practice, and increase stakeholder engagement.

**Case presentation:** The authors present a case of embedding a health sciences librarian into the Annual Johns Hopkins Critical Care Rehabilitation Conference. The librarian served multiple roles, including social media ambassador, conference exhibitor, and presenter. We explore how these roles contributed to the field of early rehabilitation research through information dissemination and education. We also address best practices for librarian support of the conference, with a discussion of tools, platforms, and work flows that were beneficial.

**Conclusions:** Librarian integration facilitated education about bibliographic literature database content, database searching, critical appraisal, and reporting of search methodology. Additionally, the librarian contributed to real-time distribution of scholarly literature through proficiency with web platforms, citation management programs, and social media. Librarians' expertise in information organization and dissemination, as well as various technology platforms, make them a valuable addition to health care conferences.

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## **2019**

#### **Evidence-Based Leadership Practice and the Role of the Librarian.**

Bleich MR, Brown R.

J Contin Educ Nurs. 2019 Dec 1;50(12):537-539. doi: 10.3928/00220124-20191115-03.

Evidence-based clinical practice is now the norm. When evidence exists to enhance practice, organizational leaders work to instill the best practices that benefit patient outcomes. Leaders are also responsible for organizational outcomes and best practices in human and material resource management, improving the culture, and ensuring and retaining a workforce with sufficient talent, skills, and abilities. The authors address the role of the librarian in securing evidence-based leadership practice.

### **Health science librarianship: An opportunity for nurses.**

Mages KC.

Nursing. 2019 Dec;49(12):53-56. doi: 10.1097/01.NURSE.0000604716.12708.54.

Health science librarianship may interest nurses inclined toward research, technology, and education. This article discusses the role of health science librarians as part of the clinical team.

### **How Medical Students Discover and Use Medical Information Tools.**

Hoogland MA.

Med Ref Serv Q. 2019 Oct-Dec;38(4):347-357. doi: 10.1080/02763869.2019.1661197.

Many studies have examined how medical faculty and fourth-year medical students use information tools. Few studies have investigated how first, second, and third-year medical students discover and use information tools. In fall 2018, first, second, and third-year medical students received emails describing a study, which included a three-question survey and four interview questions. Of the 525 students, 122 completed the survey and 18 completed interviews. Results showed that clinical students most frequently use UpToDate, but preclinical students use multiple information tools. This report shows librarians can positively influence how preclinical students use information tools during medical school.

### **Pre-requisites, barriers and advantages of clinical informationist participation in grand round: a qualitative study.**

Zare-Farashbandi E, Zare-Farashbandi F, Adibi P, Rahimi A. Health Info Libr J. 2020 Jun;37(2):143-151. doi: 10.1111/hir.12273. Epub 2019 Oct 8.

**Background:** Clinical specialists require access to the most recent and up to date professional information. However, barriers such as insufficient time and lack of necessary information retrieval skills necessitate the presence of clinical informationist (CI) in medical teams.

**Objectives:** This study sought to determine the pre-requisite for CI participation in the grand round.

**Methods:** This was a qualitative study carried out using content analysis approach. Study involved all fellowship students and attending physicians in the department of gastroenterology at Al-Zahra hospital in Isfahan (Iran), who were selected using purposive sampling. Gathered reports were analysed using qualitative content analysis and concept mapping approaches.

**Discussion:** To improve the process of CI collaboration with clinical specialists during the educational rounds, it is necessary for CI to have certain pre-requisite skills.

**Conclusions:** By identifying the pre-requisites for CI participation in the grand round and explaining advantages of this participation for clinical specialists, this study proposes a suitable process for implantation of CI participation in grand rounds.

**An Optometry Librarian's Vision: Improved Student Scholarly Communication.**

Rios DM.

Med Ref Serv Q. 2019 Apr-Jun;38(2):163-170. doi: 10.1080/02763869.2019.1588038.

Health profession students benefit academically, clinically, and professionally when they acquire the writing skills necessary for scholarly communication. The purpose of this article is to discuss how a solo, embedded health science librarian spearheaded collaborative efforts and contributed to the creation of a scaffolded writing program within the existing optometry curriculum. The article includes a discussion of the opportunities, challenges, and outcomes of this writing endeavor.

**Enhancing Clinical Librarian Work Processes and Communicating Service Impact with REDCap and Data Visualization.**

Daniels K, Lawson E.

Med Ref Serv Q. 2019 Apr-Jun;38(2):187-196. doi: 10.1080/02763869.2019.1588051.

Due to staffing changes, clinical librarians in a large pediatric health care system needed to streamline how user requests were received and how best to handle the shared workflow. This article describes how REDCap and SAS were implemented to improve the management of requests, capture comprehensive user statistics, and convey the value of the library services through enhanced reporting.

**Medical Librarians Can Help Providers Improve Clinical Decision-Making and Education.**

Hageman JR.

Pediatr Ann. 2019 Feb 1;48(2):e49-e50. doi: 10.3928/19382359-20190116-01.

No abstract available.

**2018**

**Clinical Medical Librarian Licensure: Pros versus Cons.**

Bramble J, Steidinger S, Hamasu C, Austin M.

Med Ref Serv Q. 2018 Jul-Sep;37(3):306-311. doi: 10.1080/02763869.2018.1477719.

In hospitals and clinics, anyone who "touches" a patient has a license authorizing them to do so—from the phlebotomist to the cardiologist, from the genetic counselor to the social worker, and so on, except for the clinical medical librarian. This column discusses the intent versus the realities of occupational licensure for clinical medical librarians and provides recommendations for next steps.

**[Information specialists improve the quality of systematic reviews].**

Wildgaard L, Vendt J, Wildgaard K.

Ugeskr Laeger. 2018 Jul 9;180(28):V10170721.

Systematic reviews (SR) are a recognised standard for synthesising clinical data in order to support evidence-based clinical decisions. A robust search strategy is the core of an SR, requiring theoretical and methodological considerations in the pre-, intra- and post-search stage. This review discusses the competencies necessary to design a search including the necessary symbiosis between medical knowledge and detailed knowledge of database architecture and corresponding semantics. Information specialists play an important role in high-quality SR.

**Evaluating the impact of clinical librarians on clinical questions during inpatient rounds.**

Brian R, Orlov N, Werner D, Martin SK, Arora VM, Alkureishi M.

J Med Libr Assoc. 2018 Apr;106(2):175-183. doi: 10.5195/jmla.2018.254. Epub 2018 Apr 1.

**Objective:** The investigation sought to determine the effects of a clinical librarian (CL) on inpatient team clinical questioning quality and quantity, learner self-reported literature searching skills, and use of evidence-based medicine (EBM).

**Methods:** Clinical questioning was observed over 50 days of inpatient pediatric and internal medicine attending rounds. A CL was present for 25 days and absent for 25 days.

Questioning was compared between groups. Question quality was assessed by a blinded evaluator, who used a rubric adapted from the Fresno Test of Competence in Evidence-Based Medicine. Team members were surveyed to assess perceived impacts of the CL on rounds.

**Results:** Rounds with a CL (CLR) were associated with significantly increased median number of questions asked (5 questions CLR vs. 3 NCLR;  $p<0.01$ ) and answered (3 CLR vs. 2 NCLR;  $p<0.01$ ) compared to rounds without a CL (NCLR). CLR were also associated with increased mean time spent asking (1.39 minutes CLR vs. 0.52 NCLR;  $p<0.01$ ) and answering (2.15 minutes CLR vs. 1.05 NCLR;  $p=0.02$ ) questions. Rounding time per patient was not significantly different between CLR and NCLR. Questions during CLR were 2 times higher in adapted Fresno Test quality than during NCLR ( $p<0.01$ ). Select participants described how the CL's presence improved their EBM skills and care decisions.

**Conclusions:** Inpatient CLR were associated with more and improved clinical questioning

and subjectively perceived to improve clinicians' EBM skills. CLs may directly affect patient care; further study is required to assess this. CLs on inpatient rounds may be an effective means for clinicians to learn and use EBM skills.

[Free PMC article](#)

### **A Clinical Librarian Embedded in Medical Education: Patient-Centered Encounters for Preclinical Medical Students.**

Blake L, Yang FM, Brandon H, Wilson B, Page R.

Med Ref Serv Q. 2018 Jan-Mar;37(1):19-30. doi: 10.1080/02763869.2018.1404384.

Adding patient encounters and simulation to the preclinical years of medical school is becoming increasingly popular. This article describes the creation of active learning opportunities by a clinical librarian that are aimed at training preclinical students through the use of simulated patient scenarios. Scenarios for second-year students walk them through the evidence-based resources needed in clinical years and beyond through a standardized patient encounter. Scenarios for first-year students involve role-play of cases where the patient and physician bring contrasting ideas to the outpatient interaction. All scenarios are carried out under the guidance of a clinician and librarian.

## **2017**

### **Embedded Librarian as Research Team Member.**

Brahmi F, Kaplan F J Hand Surg Am. 2017 Mar;42(3):210-212. doi: 10.1016/j.jhsa.2016.12.007.

#### **Abstract**

Adding a librarian to an upper extremity surgical and therapy practice has many advantages (educational, research, remaining on the cutting edge of technology). As an embedded team member, the librarian at the Indiana Hand to Shoulder Center prepares literature reviews, creates Google Scholar Alerts for individual clinicians, and introduces developing technologies such as 3-dimensional printers, Smartphone Apps, and online access to nontraditional resources. With the librarian relieving clinicians of these responsibilities, surgeons can devote more time to clinical and research activities. Private practices unable to support their own librarian could share access to a librarian via Skype, Face Time, and video conferencing. Another small practice alternative is contracting services from a local medical school library that designates a librarian as its liaison.

## **2016**



### **How Do I Find the Evidence? Find Your Librarian-Stat!**

Orthop Nurs. 2016 Nov/Dec; 35(6):421-423. Eresuma E, Lake E.

#### **Abstract**

Clinical nurses often struggle with a lack of time and proficiency when it comes to finding and reviewing research. Knowing where to start, and discerning which search terms will retrieve the best results, can be arduous. As expert searchers, medical librarians have the skills and knowledge to make significant contributions to the clinical team, helping nurses navigate information resources and research from start to finish. When there is not direct access to a librarian, the toolbox of resources outlined in the article can save nurses' time and effort when they require quality, evidence-based information.

**Transforming your service: the right evidence at the right time and place.** Sutton A. Health Info Libr J. 2016 Sep 9. doi: 10.1111/hir.12161. [Epub ahead of print]

#### **Abstract**

This virtual issue is published to coincide with the CILIP Health Libraries Group Conference 2016. The theme of the conference is Knowledge for Healthcare (KFH), the development framework for health care library and knowledge services (LKS), published by Health Education England. Transforming the service, and delivering the right evidence at the right time and place, is a key strategic focus of KFH. Therefore, this virtual issue draws on content published in Health Information and Libraries Journal (HILJ) in the last 2 years, which demonstrate initiatives in health care LKS in line with the transformation strands outlined in KFH. The virtual issue follows the same structure as a regular issue of HILJ, containing one review article, a series of original articles and our three regular features: Dissertations into Practice, Teaching and Learning in Action and International Perspectives and Initiatives.

### **Efficient Evidence: Strategies for Accessing and Using Medical Evidence Efficiently.**

Banning, Adrian S. MMS, PA-C; Childs, Gary M. MS. The Journal of Physician Assistant Education: March 2016 - Volume 27 - Issue 1 - p 40–42 doi: 10.1097/JPA.0000000000000055

**The impact of clinical librarian services on patients and health care organisations.** Alison Brettle,' Michelle Maden and Clare Payne. Health Information and Libraries Journal. 2016 Feb 16 DOI: 10.1111/hir.12136 [Epub ahead of print]

**Abstract:**

**Background**

Systematic reviews have found limited evidence of effectiveness and impact of clinical librarians (CLs) due to the poor quality of reporting, scale and design of previous studies.

**Objectives**

To measure specific CL impact on organisational and patient outcomes using a robust approach that helps CLs develop research skills.

**Methods**

Questionnaire and interviews.

**Results**

Clinical librarians contribute to a wide range of outcomes in the short and longer term reflecting organisational priorities and objectives. These include direct contributions to choice of intervention (36%) diagnosis (26%) quality of life (25%), increased patient involvement in decision making (26%) and cost savings and risk management including avoiding tests, referrals, readmissions and reducing length of stay (28%).

**Discussion**

Interventions provided by CL's are complex and each contributes to multiple outcomes of importance to health care organisations.

**Conclusion**

This study is unique in taking a wide view of potential and specific impacts to which CLs contribute across health care organisations. It is the largest UK evaluation of CL services to date and demonstrates CLs affect direct patient care, improve quality and save money. Future researchers are urged to use the tools presented to collect data on the same outcomes to build a significant and comprehensive international evidence base about the effectiveness and impact of clinical librarian services.

**A study comparing public and medical librarians' perceptions of the role and duties of health information-providing librarians**, Noh Y, Health Information and Libraries Journal, 2015 Sep 28. doi: 10.1111/hir.12122. [Epub ahead of print]

**Abstract:**

**OBJECTIVE:** This study proposed to define the role and duties of librarians who provide health information service in public and medical libraries. Appropriate education, career experience and starting salary for this position are also presented.

**METHOD:** This study analysed previous research and job advertisements to understand the current needs for this position. Almost all job advertisements studied were eventually retrieved from Salary.com (US job posting site). Public libraries seeking to fill health informationist positions were even more difficult to find in any of the above locations. Therefore, the researcher attempted to find cases using various search engines, including Google, and noticed that public libraries usually post job advertisements on their website. Finally, 32 job postings were selected as suitable. Fifty-four public and medical librarians were surveyed to validate the results in Korea.

**RESULTS:** Public librarians chose 'health information librarian' as the most appropriate title for this position, while medical librarians answered 'medical librarian'. Therefore, librarians providing health information service in public libraries should be called 'health information librarians', while the position in medical libraries should be called 'medical librarian'. Accordingly, job postings and academic articles will be easily accessible. Both groups marked that the position should require a bachelor's degree in both LIS and a health science field, 2 years library experience and health-related user training. Other requirements included knowledge of health resources and medical terminology, search capabilities and a focus on user-centric service. For required duties, public librarians chose accessing information resources, while medical librarians selected collection management.

**CONCLUSION:** Health information librarians will play a vital role in the future and must therefore be educated accordingly.

**Evaluating the Impact of Literature Searching Services on Patient Care Through the Use of a Quick-Assessment Tool**, Ashley Farrell, Jeff Mason, Journal of the Canadian Health Libraries Association, 2014, 35(3): 116-123

**Abstract:** Objectives: To evaluate the impact of literature searching services on patient care, and to create a validated quick-assessment tool to be used by other libraries to assess their own literature searching services. Methods: All users of the Regina Qu'Appelle Health Region Health Sciences Library who requested a literature search for the purposes of patient care were emailed a link to a short survey as a preamble to search results sent using

LibAnswers. A reminder was sent one week after the initial invitation. Responses were collected using FluidSurveys. Face and content validation of the survey were conducted with prospective respondents, librarians, and research support staff followed by a short pilot phase to assess reliability. Results: Fifty-four responses were received for a response rate of 57.5%. Immediate impacts of the information provided included confirming, changing, or determining a diagnosis (7.1%) or treatment plan (64.3%); avoiding adverse events (9.5%); and preventing (4.8%) or initiating (2.4%) a referral or consultation to another department. Future uses for the information provided include changing the approach to particular (27.8%) or future (55.6%) patients, sharing with colleagues (68.5%), and teaching (42.6%). Conclusions: Libraries do effect change in patient care. It is possible for hospital libraries to assess the impact a service such as literature searching has on patient care without requiring a major time investment from library users. Librarians in similar settings are encouraged to further validate and use this tool to more easily compare the impact hospital libraries have on patients.

**Knowledge for Healthcare: the future of health librarianship**, Bryant SL., Stewart D., Goswami L., Grant MJ., Health Information and Libraries Journal, 2015 Sep;32(3):163-7

**Abstract:** Knowledge for Healthcare so that the right knowledge and evidence is used at the right time in the right place. The authors describe five workstreams within a modernisation programme: Service Transformation, Workforce Planning and Development, Quality and Impact, Resource Discovery and Optimising Investment. Communications, engagement and partnership working are central to success. The development framework sets out principles on which to base decisions, and design criteria for transforming services.

**The Lived Experience and Training Needs of Librarians Serving at the Clinical Point-of-Care**, Lyon JA1, Kuntz GM, Edwards ME, Butson LC, Auten B., Medical Reference Service Quarterly, 2015 Jul-Sep;34(3):311-33

**Abstract:** This study examines the emotional experiences and perceptions of librarians embedded into clinical care teams and how those perceptions affect their training and preparation needs. Qualitative research methodologies were applied to textual data drawn from focus groups (n = 21), interviews (n = 2), and an online survey (n = 167), supplemented by quantitative survey data. Phenomenological results show librarians experience strongly affective responses to clinical rounding. Important factors include personal confidence; relationships with team members, patients, and families; and the stressful environment. Analysis of librarians' perceived educational needs indicates that training must address specialized subjects including medical knowledge, clinical culture, and institutional politics.

**An extensible and successful method of identifying collaborators for National Library of Medicine informationist projects,** Williams JD, Rambo NH., Journal of the Medical Library Association: JMLA, 2015 Jul;103(3):145-7

**Abstract:** QUESTION/PURPOSE: The New York University (NYU) Health Sciences Library used a new method to arrange in-depth discussions with basic science researchers. The objective was to identify collaborators for a new National Library of Medicine administrative supplement.

SETTING: The research took place at the NYU Health Sciences Library.

METHODS: Using the National Institutes of Health (NIH) RePORTER, forty-four researchers were identified and later contacted through individualized emails.

RESULTS: Nine researchers responded to the email followed by six in-person or phone discussions. At the conclusion of this process, two researchers submitted applications for supplemental funding, and both of these applications were successful.

CONCLUSIONS: This method confirmed these users could benefit from the skills and knowledge of health sciences librarians, but they are largely unaware of this.

KEYWORDS: Basic Science Researchers; Collaboration; Data Management; Grant Funding; Information-Seeking Behavior; Informationist; Knowledge Management; Outreach

**Engaging in research: challenges and opportunities for health library and information professionals,** Murphy J, Health Information and Libraries Journal, 18<sup>th</sup> May 2015, doi: 10.1111/hir.12107. [Epub ahead of print]

**Abstract:** This year's virtual issue (the 6th in the series) has been published to coincide with the European Association for Health Information and Libraries' (EAHIL) 2015 workshop (10-12 June, Edinburgh): Research-Minded: Understanding, Supporting, Conducting Research. This event is being run in collaboration with the International Conference of Animal Health Information Specialists and the International Clinical Librarian Conference. Although research has always been a central part of any librarian's role, until recently health librarians and library users and funding bodies assumed that librarians were 'midwives' - there to assist students, clinicians, academics and managers set up and carry out their research. The notion of the librarian as a professional with a research agenda, who understands research methods, submits research grants, and publishes, is a relatively new perspective. If librarians are to take an evidence-based approach to their profession they need to acquire research skills. This is the rationale for the 2015 EAHIL workshop. To support the workshop, this virtual issue contains six original articles published in Health Information and Libraries Journal over the last 2 years that demonstrate the range of research activities carried out by

health librarians, as well as a review article and articles from each of the three feature columns.

**Clinical librarian support for rapid review of clinical utility of cancer molecular biomarkers,** Geng Y, Fowler CS, Fulton S., Medical Reference Services Quarterly, 2015 Apr-Jun;34(2):202-14

**Abstract:** The clinical librarian used a restricted literature searching and quality-filtering approach to provide relevant clinical evidence for the use of cancer molecular biomarkers by institutional policy makers and clinicians in the rapid review process. The librarian-provided evidence was compared with the cited references in the institutional molecular biomarker algorithm. The overall incorporation rate of the librarian-provided references into the algorithm was above 80%. This study suggests the usefulness of clinical librarian expertise for clinical practice. The searching and filtering methods for high-level evidence can be adopted by information professionals who are involved in the rapid literature review.

**Professional development through attending conferences: reflections of a health librarian,** Jenkins, Ruth, Health Information and Libraries Journal, May 2015, 32(2): 156-160.

**Abstract:** In this article, guest writer Ruth Jenkins from Berkshire Healthcare Foundation Trust reflects on two conferences she attended in 2014, LILAC and SLA. Through the process of reflection, she considers the benefits that attending conferences can have to library and information professionals in the health sector. In particular, she discusses the opportunities and areas for learning and professional development that conferences can offer including evidence-based practice and current awareness, gaining new knowledge and objectivity, and networking and the unexpected benefits of conferences. Ruth also offers some practical hints and tips on ways to facilitate your attendance at conferences, including through awards and funding.

## 2014

**'An investigation into the feasibility of designing a framework for the quantitative evaluation of the Clinical Librarian service at an NHS Trust in Brighton, UK'** Deshmukh A, Roper T. , Health Information and Libraries Journal, December 2014, 31(4):314-7.

**Abstract:** This feature presents research undertaken by Archana Deshmukh for her MA dissertation at the University of Brighton. She worked closely with Tom Roper, the Clinical Librarian at Brighton and Sussex University Hospitals NHS Trust, in a project to explore the feasibility of applying quantitative measures to evaluate the Clinical Librarian service. The investigation used an innovative participatory approach and the findings showed that although an exclusively quantitative approach to evaluation is not feasible, using a mixed

methods approach is a way forward. Agreed outputs and outcomes could be embedded in a marketing plan, and the resulting framework could provide evidence to demonstrate overall impact. Archana graduated in July 2014, gaining a Distinction in the MA in Information Studies, and she is currently looking for work in the health information sector.

**A review of competencies needed for health librarians – a comparison of Irish and international practice**, Lawton, Aoife, Burns, Jane, Health Information and Libraries Journal, December 2014, 32(2): 84-94.

**Abstract:**

**Objectives:** The purpose of this review was to uncover areas of competence which may lead to a baseline of skills for health librarians. A baseline could inform personal development plans for health librarians, criteria for job descriptions and curriculum for library and information science (LIS) courses.

**Methods:** This research outlines existing competencies for librarians working in health care as defined by library associations, recent job descriptions and a mapping review of the library and information science literature. This is performed in the context of librarians working in the Irish health system with examples of practice drawn from the Irish experience.

**Results:** Ten areas of competence were found to be common to three of five library associations, which were also common to recent job descriptions. The literature reveals an ever changing working environment for librarians working in health with opportunities for new and evolving roles.

**Conclusions:** The challenge for librarians moving into these roles will be to stay relevant and to keep skills updated in a rapidly moving health and information environment.

**'Personalised evidence' for personalised healthcare: integration of a clinical librarian into mental health services - a feasibility study**, Steele R, Tiffin PA The Psychiatric Bulletin, February 2014, 38(1):29-35.

**Abstract:** Aims and method To evaluate the feasibility of integrating a clinical librarian (CL) within four mental health teams. A CL was attached to three clinical teams and the Trustwide Psychology Research and Clinical Governance Structure for 12 months. Requests for evidence syntheses were recorded. The perceived impact of individual evidence summaries on staff activities was evaluated using a brief online questionnaire. Results Overall, 82 requests for evidence summaries were received: 50% related to evidence for individual patient care, 23% to generic clinical issues and 27% were on

management/corporate topics. In the questionnaires 105 participants indicated that the most common impact on their practice was advice given to colleagues (51 respondents), closely followed by the evidence summaries stimulating new ideas for patient care or treatment (50 respondents). Clinical implications The integration of a CL into clinical and corporate teams is feasible and perceived as having an impact on staff activities. A CL may be able to collate 'personalised evidence' which may enhance individualised healthcare. In some cases the usual concept of a hierarchy of evidence may not easily apply, with case reports providing guidance which may be more applicable than population-based studies.

**Engaging medical librarians to improve the quality of review articles**, Journal of the American Medical Informatics Association September 2014, 10;312(10):999-1000.

**Abstract:** Review articles published in JAMA summarize various aspects of medical practice and are written by known authorities. An expert's opinion about a topic has value, but often more can be learned by that expert's assessment of all the pertinent literature. When reading individual research articles, readers could miss subtle features of the studies that are more apparent to an expert clinician-researcher. Readers benefit from the expert's explanation of the validity and applicability of individual studies.

**The persistence of clinical questions across shifts on an intensive care unit: an observational pilot study**, Journal of the American Medical Informatics Association July 2014, 102(3):201-5.

**Abstract:** How do clinical questions emerge and move toward resolution in the intensive care setting over the course of 24 hours? In a 20-bed surgical intensive care unit in a large, tertiary-care teaching hospital, informationists shadowed clinicians for 2 48-hour periods to record questions, noting when they were asked and whether they were answered. Thirty-eight percent of 112 recorded questions remained unanswered. Some unanswered questions persisted across shifts, and clinicians' information-seeking behaviors changed over time. Clinical information services can be improved and integrated more fully into clinical workflows based on a fuller understanding of the life cycle of clinical inquiry.

**Effects of librarian-provided services in healthcare settings: a systematic review**, Journal of the American Medical Informatics Association, 28<sup>th</sup> May 2014.

**Abstract:** OBJECTIVE: To assess the effects of librarian-provided services in healthcare settings on patient, healthcare provider, and researcher outcomes.



**MATERIALS AND METHODS:** Medline, CINAHL, ERIC, LISA (Library and Information Science Abstracts), and the Cochrane Central Register of Controlled Trials were searched from inception to June 2013. Studies involving librarian-provided services for patients encountering the healthcare system, healthcare providers, or researchers were eligible for inclusion. All librarian-provided services in healthcare settings were considered as an intervention, including hospitals, primary care settings, or public health clinics.

**RESULTS:** Twenty-five articles fulfilled our eligibility criteria, including 22 primary publications and three companion reports. The majority of studies (15/22 primary publications) examined librarians providing instruction in literature searching to healthcare trainees, and measured literature searching proficiency. Other studies analyzed librarian-provided literature searching services and instruction in question formulation as well as the impact of librarian-provided services on patient length of stay in hospital. No studies were found that investigated librarians providing direct services to researchers or patients in healthcare settings.

**CONCLUSIONS:** Librarian-provided services directed to participants in training programs (eg, students, residents) improve skills in searching the literature to facilitate the integration of research evidence into clinical decision-making. Services provided to clinicians were shown to be effective in saving time for health professionals and providing relevant information for decision-making. Two studies indicated patient length of stay was reduced when clinicians requested literature searches related to a patient's case.

**Establishing a new clinical informationist role in an academic health sciences center,** Aldrich AM, Schulte SJ., *Medical reference service quarterly*, 2014, 33(2):136-46.

**Abstract:** The concept of clinical informationists is not new, but has recently been gaining more widespread acceptance across the United States. This article describes the lessons and challenges learned from starting a new clinical informationist service targeted to internal medicine residents in a large academic medical center. Lessons included the need for becoming immersed in evidence-based practice fundamentals; becoming comfortable with the pace, realities, and topics encountered during clinical rounds; and needing organizational commitment to both the evidence-based practice paradigm and clinical informationist role. Challenges included adapting to organizational culture, resident burnout, and perceptions of information overload.

**'Personalised evidence' for personalised healthcare: integration of a clinical librarian into mental health services - a feasibility study,** Rachel Steele and Paul A. Tiffin, *Psychiatric Bulletin*, published online 23 January 2014, 1-7.

**Abstract: Aims and method:** To evaluate the feasibility of integrating a clinical librarian (CL) within four mental health teams. A CL was attached to three clinical teams and the Trustwide Psychology Research and Clinical Governance Structure for 12 months. Requests for evidence syntheses were recorded. The perceived impact of individual evidence summaries on staff activities was evaluated using a brief online questionnaire. **Results:** Overall, 82 requests for evidence summaries were received: 50% related to evidence for individual patient care, 23% to generic clinical issues and 27% were on management/corporate topics. In the questionnaires 105 participants indicated that the most common impact on their practice was advice given to colleagues (51 respondents), closely followed by the evidence summaries stimulating new ideas for patient care or treatment (50 respondents). **Clinical implications:** The integration of a CL into clinical and corporate teams is feasible and perceived as having an impact on staff activities. A CL may be able to collate 'personalised evidence' which may enhance individualised healthcare. In some cases the usual concept of a hierarchy of evidence may not easily apply, with case reports providing guidance which may be more applicable than population-based studies. **Declaration of interest:** None.

## 2013

**When the librarian was the search engine: introduction to the special issue on new roles for health sciences librarians**, Lucretia W. McClure, Journal of the Medical Library Association, October 2013, 101(4): 257–260.

**Abstract:** The librarian in today's medical and health fields lives in a fast-paced and ever-changing environment. Reaching this modern, technology-driven library was a long and difficult road that had many bumps and retreats. Hope was never the issue; keeping pace was the challenge.

The purpose of this introduction to the Journal of the Medical Library Association special issue on "New Roles for Health Sciences Librarians" is to explore the work and responsibilities of the medical librarian as libraries moved from the manual to the digital environment over a period of seventy years (for a review of more recent developments, see Cooper and Crum in this issue). What the librarian of the 1940s and 1950s did and what the librarian needed to know was outlined by the profession's best practitioners of that time in the first Handbook of Medical Library Practice 1, developed by a committee of the Medical Library Association in 1943. The model of the library profession as described in this manual was the traditional one, a model that had been the same for many centuries. And it continued to follow that pattern for the next two decades. Janet Doe, the editor of the Handbook, outlined the goal of this seminal work as showing "those aspects of clientele, physical equipment, literature, methods and bibliographic tools in which the medical library

differs from the general library” 2. Included were chapters on administration, book and journal selection, cataloging/classification, reference, and history of medicine.

Much of what is described in 1943 is continued in health sciences libraries today. The major differences are the way that information and knowledge are created and delivered and the skills that practicing librarians need.

**New activities and changing roles of health sciences librarians: a systematic review,** Cooper D, Crum, Journal of the Medical Library Association, October 2013, 101(4): 268–277.

**Abstract:**

Objective: The paper identifies and documents new health sciences librarian activities and roles during the period from 1990–2012.

Methods: A systematic review of the literature was conducted using MEDLINE, Library and Information Abstracts, Library Literature, Scopus, and Web of Science. To find new roles that might not yet have been described in the literature, job announcements published in the Medical Library Association email discussion list archives from 2008–2012 were searched. For inclusion, an article needed to contain a substantive description of a new role and/or activity performed by librarians and be in the field of medical or health sciences librarianship. Papers that did not describe an actual (rather than proposed) librarian role were excluded.

Results: New roles identified through the literature search were: embedded librarians (such as clinical informationist, bioinformationist, public health informationist, disaster information specialist); systematic review librarian; emerging technologies librarian; continuing medical education librarian; grants development librarian; and data management librarian. New roles identified through job announcements were digital librarian, metadata librarian, scholarly communication librarian, and translational research librarian. New twists to old roles were also identified: clinical medical librarian, instruction librarian, outreach librarian, and consumer health librarian.

Conclusions: While the main purposes of health sciences librarianship remain the same, the new roles represent major new activities so that, for many librarians, daily on-the-job work is completely different.

Implications: This list of new activities should inform students contemplating medical librarianship careers, guide formal and continuing education programs, and encourage other librarians to consider these new services.

**The effect of a clinical medical librarian on in-patient care outcomes,** Esparza JM, Shi R, McLarty J, Comegys M, Banks DE., Journal of the Medical Library Association, July 2013, 101(3): 185-91

**Abstract:** OBJECTIVE: The research sought to determine the effect of a clinical medical librarian (CML) on outcomes of in-patients on the internal medicine service.

METHODS: A prospective study was performed with two internal medicine in-patient teams. Team 1 included a CML who accompanied the team on daily rounds. The CML answered questions posed at the point of care immediately or in emails post-rounds. Patients on Team 2, which did not include a CML, as well as patients who did not require consultation by the CML on Team 1, served as the control population. Numerous clinical and library metrics were gathered on each question.

RESULTS: Patients on Team 1 who required an answer to a clinical question were more ill and had a longer length of stay, higher costs, and higher readmission rates compared to those in the control group. Using a matched pair analysis, we showed no difference in clinical outcomes between the intervention group and the control group.

CONCLUSIONS: This study is the largest attempt to prospectively measure changes in patient outcomes when physicians were accompanied by a CML on rounds. This approach may serve as a model for further studies to define when and how CMLs are most effective.

**The evolving role and value of libraries and librarians in health care evolving roles of health sciences libraries viewpoint, Sollenberger JF, & Holloway RG, JAMA, September 2013, 310(12): 1231-1232.**

**Abstract:** This opinion piece looks at the evolving roles of librarians working in healthcare environments and highlights the value that they add. This article could be very useful for advocacy for health librarians and libraries.

**Expert searcher, teacher, content manager, and patient advocate: an exploratory study of clinical librarian roles, Tan MC, Maggio LA, Journal of the Medical Library Association, January 2013, 101(1): 63-72**

**Abstract:** OBJECTIVE: The research explored the roles of practicing clinical librarians embedded in a patient care team. METHODS: Six clinical librarians from Canada and one from the United States were interviewed to elicit detailed descriptions of their clinical roles and responsibilities and the context in which these were performed. RESULTS: Participants were embedded in a wide range of clinical service areas, working with a diverse complement of health professionals. As clinical librarians, participants wore many hats, including expert searcher, teacher, content manager, and patient advocate. Unique aspects of how these roles played out included a sense of urgency surrounding searching activities, the broad dissemination of responses to clinical questions, and leverage of the roles of expert searcher, teacher, and content manager to advocate for patients. CONCLUSIONS: Detailed role descriptions of clinical librarians embedded in patient care teams suggest possible new practices for existing clinical librarians, provide direction for training new

librarians working in patient care environments, and raise awareness of the clinical librarian specialty among current and budding health information professionals.

## 2012

**Evaluating the effectiveness of clinical medical librarian programs: a systematic review of the literature**, Wagner KC, Byrd GD, Journal of the Medical Library Association, October 2012, 100(4) Suppl(J): 1536-5050

**No abstract available.**

**Changing the Face of Reference: Adapting Biomedical and Health Information Services for the Classroom, Clinic, and Beyond**, Tennant M.R., Auten B., Botero C.E., Butson L.C., Edwards M.E., Garcia-Milian R., Lyon J.A., Norton H.F., Medical Reference Services Quarterly, July 2012, 31(3): 280-301

**Abstract:** This article describes how the reference department at a large academic health sciences library evolved to address the clinical and research information needs of the parent organization without losing its close connections to the classroom and curriculum. Closing the reference desk, moving to on-call and house call models, designing positions such as clinical research librarian and basic biomedical sciences librarian, finding alternative funding to grow the department, providing technology and training to facilitate librarians' work, and developing programming for and taking advice from library clients facilitated efforts to create a relevant presence and solidify the library's place in the university community.

**Setting up a search clinic in a palliative care department**, Bastin, Elinor, Libraries for Nursing Bulletin, June 2012, 32(2): 11-17.

**Abstract:** Pilot project by an outreach librarian to set up a search clinic in a palliative care department to help staff find journal articles. The 3 phases of the project, which included a presentation to staff to raise awareness of library services, and search clinic sessions taking place weekly, fortnightly, then as required, are described. Plans to extend the search clinic model are outlined.

**Expert searching in health librarianship: a literature review to identify international issues and Australian concerns**, Lasserre K, Health Information & Libraries Journal, March 2012, 29(1): 3-15.

**Abstract:** BACKGROUND: The traditional role of health librarians as expert searchers is under challenge. OBJECTIVES: The purpose of this review is to establish health librarians'

views, practices and educational processes on expert searching. **METHODS:** The search strategy was developed in LISTA and then customised for ten other databases: ALISA, PubMed, Embase, Scopus, Web of Science, CINAHL, ERIC, PsycINFO, Cochrane Library and Google Scholar. The search terms were (expert search\* OR expert retriev\* OR mediated search\* OR information retriev\*) AND librar\*. The searches, completed in December 2010 and repeated in May 2011, were limited to English language publications from 2000 to 2011 (unless seminal works). **RESULTS:** Expert searching remains a key role for health librarians, especially for those supporting systematic reviews or employed as clinical librarians answering clinical questions. **CONCLUSIONS:** Although clients tend to be satisfied with searches carried out for them, improvements are required to effectively position the profession. Evidence-based guidelines, adherence to transparent standards, review of entry-level education requirements and a commitment to accredited, rigorous, ongoing professional development will ensure best practice.

**Gertrude Lamb's Pioneering Concept of the Clinical Medical Librarian**, Van Kessel, K., Evidence Based Library and Information Practice, March 2012, 7(1): 125-128.

**Abstract:** Objective – To determine if “the medical librarian with special skills and training in tested methods for approaching medical literature serve a valuable interface between the professional who is taking care of patients and the knowledge explosion in medicine wherein lies the key to better patient care”.

**Rethinking Library Service to Distance Education Students: Analyzing the Embedded Librarian Model**, Sullo E., Harrod T., Butera G., Gomes A., Medical Reference Services Quarterly, January 2012, 31(1): 25-33.

**Abstract:** Since fall 2009, reference librarians at The George Washington University's Himmelfarb Health Sciences Library have been embedded in online classes through Blackboard within the School of Nursing and School of Medicine and Health Sciences. The authors sought to determine the types of questions asked of the librarian, with the goal of informing future interactions with distance education classes to help develop a standard "protocol" for working with this population of students. Eighty-two questions were categorized and qualitatively analyzed. The findings have prompted librarians to explore tools such as Elluminate Live!, a tool that allows librarians to provide synchronous instruction within the Blackboard environment.

**The informationist's role in 21st century medicine**, Gross M, Goode VH, Maryland Medicine, 2012, 13(1): 27-8.

**No abstract available.**

## **2011**

**Involving clinical librarians at the point of care: results of a controlled intervention**, Aitken EM, Powelson SE, Reaume RD, Ghali WA, Academic Medicine, December 2011, 86(12): 1508-12.

**Abstract:** PURPOSE: To measure the effect of including a clinical librarian in the health care team on medical residents and clinical clerks. METHOD: In 2009, medical residents and clinical clerks were preassigned to one of two patient care teams (intervention and control). Each team had a month-long rotation on the general medicine teaching unit. The clinical librarian joined the intervention team for morning intake, clinical rounding, or an afternoon patient list review, providing immediate literature searches, formal group instruction, informal bedside teaching, and/or individual mentoring for use of preappraised resources and evidence-based medicine search techniques. Both intervention and control teams completed pre and post surveys comparing their confidence levels and awareness of resources as well as their self-reported use of evidence for making patient care decisions. The nonintervention team was surveyed as the control group. RESULTS: The clinical librarian intervention had a significant positive effect on medical trainees' self-reported ability to independently locate and evaluate evidence resources to support patient care decisions. Notably, 30 of 34 (88%) reported having changed a treatment plan based on skills taught by the clinical librarian, and 27 of 34 (79%) changed a treatment plan based on the librarian's mediated search support. CONCLUSIONS: Clinical librarians on the care team led to positive effects on self-reported provider attitudes, provider information retrieval tendencies, and, notably, clinical decision making. Future research should evaluate economic effects of widespread implementation of on-site clinical librarians.

**Cost-effective ways of delivering enquiry services: a rapid review**, Sutton A and Grant MJ., Health Information and Libraries Journal, December 2011, 28(4): 249-55.

**Abstract:** Background: In the recent times of recession and budget cuts, it is more important than ever for library and information services to deliver cost-effective services.

Objectives: This rapid review aims to examine the evidence for the most cost-effective ways of delivering enquiry services.

Methods: A literature search was conducted on LISA (Library and Information Sciences Abstracts) and MEDLINE. Searches were limited to 2007 onwards.

**Results:** Eight studies met the inclusion criteria. The studies covered hospital and academic libraries in the USA and Canada. Services analysed were 'point-of-care' librarian consultations, staffing models for reference desks and virtual/digital reference services.

**Conclusions:** Transferable lessons, relevant to health library and information services generally, can be drawn from this rapid review. These suggest that 'point-of-care' librarians for primary care practitioners are a cost-effective way of answering questions. Reference desks can be cost-effectively staffed by student employees or general reference staff, although librarian referral must be provided for more complex and subject-specific enquiries. However, it is not possible to draw any conclusions on virtual/digital reference services because of the limited literature available. Further case analysis studies measuring specific services, particularly enquiry services within a health library and information context, are required.

**Health librarians: developing professional competence through a 'legitimate peripheral participation' model**, Clarke, S and Thomas, Z., Health Information and Libraries Journal, December 2011, 28(4): 326-30.

**Abstract:** This feature considers the legitimate peripheral participation model in developing professional competencies in health librarianship. It is described how this model was used in the development of a framework for mapping and recognising the competencies gained by new health librarians at the Royal Free Hospital Medical Library.

**Effectiveness of bibliographic searches performed by paediatric residents and interns assisted by librarians. A randomised controlled trial**, Gardois P, Calabrese R, Colombi N, Deplano A, Lingua C, Longo F, Villanacci MC, Miniero R, Piga A., Health Information and Libraries Journal, December 2011, 28(4): 273-84.

**Abstract:** Background: Considerable barriers still prevent paediatricians from successfully using information retrieval technology.

**Objectives:** To verify whether the assistance of biomedical librarians significantly improves the outcomes of searches performed by paediatricians in biomedical databases using real-life clinical scenarios.

**Methods:** In a controlled trial at a paediatric teaching hospital, nine residents and interns were randomly allocated to an assisted search group and nine to a non-assisted (control) group. Each participant searched PubMed and other online sources, performing pre-determined tasks including the formulation of a clinical question, retrieval and selection of bibliographic records. In the assisted group, participants were supported by a librarian with



≥5 years of experience. The primary outcome was the success of search sessions, scored against a specific assessment tool.

**Results:** The median score of the assisted group was 73.6 points interquartile range (IQR = 13.4) vs. 50.4 (IQR = 17.1) of the control group. The difference between median values in the results was 23.2 points (95% CI 4.8–33.2), in favour of the assisted group (P-value, Mann–Whitney U test: 0.013).

**Conclusions:** The study has found quantitative evidence of a significant difference in search performance between paediatric residents or interns assisted by a librarian and those searching the literature alone.

**Bridging the 'Know-do gap': a role for health information professionals?**, Booth, A., Health Information and Libraries Journal, December 2011, 28(4): 331-4.

**Abstract:** This feature briefly examines the development of knowledge translation, knowledge transfer and the knowledge broker role as constituting the next manifestation of the movement that brought us evidence based medicine and its derivatives. It examines the extent to which health information professionals currently meet the specification for a knowledge broker role. In doing so it assesses the strengths and weaknesses of the profession when ranged alongside the five components of the knowledge transfer process that is, problem identification; knowledge development and selection; analysis of context; knowledge transfer interventions; and knowledge utilization. Current deficiencies also lie in a need for political astuteness and awareness and in a lack of knowledge of the most significant models of behavioural change. The feature concludes by examining the potential for knowledge team approaches arguing that gains from a wider perspective that encompasses the entire knowledge process may be even more significant than the pooling of collective knowledge, skills and expertise.

**Supporting evidence-based medicine: a survey of U.S. medical librarians**, Li P. Wu L., Medical reference services quarterly, October 2011, 30(4):365-81.

**Abstract:** This study sought to identify medical librarians' roles in supporting evidence-based medicine (EBM) practice; determine whether medical librarians' work settings, work experiences, or job titles made a difference in their EBM responsibilities; and find out medical librarians' perceptions of their roles in EBM practice. An online survey was distributed to U.S. medical librarians. The results showed that medical librarians had positive perceptions of their EBM-related responsibilities, which were diverse and specific. Their work experience, work settings, and job title categories related to some of their EBM responsibilities, as well as the nature of some of the responsibilities.

**Is the informationist a new role? A logic model analysis**, Cooper ID, Journal of the Medical Library Association, July 2011, 99(3): 189-92.

**No abstract available.**

**The Systematic Review Team: Contributions of the Health Sciences Librarian**, Dudden, R and Protzko, S., Medical Reference Services Quarterly, July 2011, 30 (3): 301-315.

**Abstract:** While the role of the librarian as an expert searcher in the systematic review process is widely recognized, librarians also can be enlisted to help systematic review teams with other challenges. This article reviews the contributions of librarians to systematic reviews, including communicating methods of the review process, collaboratively formulating the research question and exclusion criteria, formulating the search strategy on a variety of databases, documenting the searches, record keeping, and writing the search methodology. It also discusses challenges encountered such as irregular timelines, providing education, communication, and learning new technologies for record keeping. Rewards include building relationships with researchers, expanding professional expertise, and receiving recognition for contributions to health care outcomes.

**Supporting nurses towards publication: the librarian's role**, Petrinic, T, Libraries for Nursing Bulletin, June 2011, 31(2): 11-21.

**Abstract:** Help and support available from librarians for nurses preparing articles for publication. Advice is outlined on topics covered in the one-to-one consultation service provided by the outreach librarian team at Oxford University Health Care Libraries, including literature searching, journal selection, citation styles, the peer review process and submission.

**Research: the opportunity wheel keeps turning**, Cooper, ID., Journal of the Medical Library Association, April 2011, 99(2): 107-109.

**No abstract available.**

**Evaluating clinical librarian services: a systematic review**, Brett A, Maden-Jenkins M, Anderson L, McNally R, Pratchett T, Tancock J, Thornton D, Webb A, Health Information & Libraries Journal, March 2011, 28(1): 3-22.

**Abstract:** BACKGROUND: Previous systematic reviews have indicated limited evidence and poor quality evaluations of clinical librarian (CL) services. Rigorous evaluations should demonstrate the value of CL services, but guidance is needed before this can be achieved. OBJECTIVES: To undertake a systematic review which examines models of CL services, quality, methods and perspectives of clinical librarian service evaluations. METHODS: Systematic review methodology and synthesis of evidence, undertaken collaboratively by a group of 8 librarians to develop research and critical appraisal skills. RESULTS: There are four clear models of clinical library service provision. Clinical librarians are effective in saving health professionals time, providing relevant, useful information and high quality services. Clinical librarians have a positive effect on clinical decision making by contributing to better informed decisions, diagnosis and choice of drug or therapy. The quality of CL studies is improving, but more work is needed on reducing bias and providing evidence of specific impacts on patient care. The Critical Incident Technique as part of a mixed method approach appears to offer a useful approach to demonstrating impact. CONCLUSIONS: This systematic review provides practical guidance regarding the evaluation of CL services. It also provides updated evidence regarding the effectiveness and impact of CL services. The approach used was successful in developing research and critical appraisal skills in a group of librarians.

**Evaluating clinical librarians: mixing apple merchants and orange sellers?**, Booth A, Health Information & Libraries Journal, March 2011, 28(1): 87-90.

**Abstract:** Clinical librarian services have been in existence for over 40 years. Although three systematic reviews have examined clinical librarian roles they continue to pose a challenge to rigorous evaluation. Difficulties can be articulated around their Population, Intervention, Comparator and Outcome (PICO) characteristics as well as within a wider evaluation framework. This feature suggests that developments within health research aimed at evaluating complex interventions may hold the key to assessing the contribution of such a variety of service models.

**Hospital clinicians' information behaviour and attitudes towards the 'Clinical Informationist': an Irish survey**, Flynn MG, McGuinness C, Health Information & Libraries Journal, March 2011, 28(1): 23-32 .

**Abstract:** BACKGROUND: Hospital clinicians are increasingly expected to practice evidence-based medicine (EBM) in order to minimize medical errors and ensure quality patient care, but experience obstacles to information-seeking. The introduction of a Clinical Informationist (CI) is explored as a possible solution. AIMS: This paper investigates the self-perceived information needs, behaviour and skill levels of clinicians in two Irish public hospitals. It also explores clinicians' perceptions and attitudes to the introduction of a CI

into their clinical teams. **METHODS:** A questionnaire survey approach was utilised for this study, with 22 clinicians in two hospitals. Data analysis was conducted using descriptive statistics. **RESULTS:** Analysis showed that clinicians experience diverse information needs for patient care, and that barriers such as time constraints and insufficient access to resources hinder their information-seeking. Findings also showed that clinicians struggle to fit information-seeking into their working day, regularly seeking to answer patient-related queries outside of working hours. Attitudes towards the concept of a CI were predominantly positive. **CONCLUSION:** This paper highlights the factors that characterise and limit hospital clinicians' information-seeking, and suggests the CI as a potentially useful addition to the clinical team, to help them to resolve their information needs for patient care.

**Evidence-Based Practice Mentors: Taking Information Literacy to the Units in a Teaching Hospital**, Arguelles, C., *Journal of Hospital Librarianship*, February 2011, 11(1): 8-22.

**Abstract:** This article describes Evidence-Based Mentors, an integrated strategy with librarian participation, aimed to motivate and assist nurses in the search and use of literature and evidence-based information for nursing practice in a teaching hospital. The librarian's role goes beyond searching the literature to involvement in teaching critical appraisal of information. It details the evidence-based process, including the use of the PICO model, the categorization of resources, and the synthesizing that lead to the change of nursing practices that impact on outcomes directly related to patient recovery, organizational effectiveness, and nursing competency.

**Information "Sound Bites" by E-mail: Increasing Information Awareness and Improving Clinical Information Skills**, Burdick, A., *Journal of Hospital Librarianship*, February 2011, 11(1): 70-77.

**Abstract:** E-mails from a clinical medical librarian integrated information education "sound bites" into clinical information and references provided to internal medicine teams. The e-mails followed adult education recommendations and physician preferences. Information education topics were short and directly applied to the clinical question discussed. Feedback has been positive and a small survey indicated that 79% of respondents learned more about Ovid MEDLINE and PubMed as information resources through clinical medical librarian e-mails and participation in patient care rounds. The sound bites project was well received and reinforced the value of information resources and of the librarian.

**Conquering evidence-based practice using an embedded librarian and online search tool**, Putnam, J, Faltermeier, D, Riggs, C, *Journal of Nursing Education*, January 2011, 50( 1): 60.

**Abstract:** Syllabus Selections: Innovative Learning Activities series. Description of a strategy using an embedded librarian and online search tool to promote students' development of information management skills in an online evidence-based practice course in the USA. [(BNI unique abstract)] 2 references.

**Continual evolution: the experience over three semesters of a librarian embedded in an online evidence-based medicine course for physician assistant students,** Kealey S, Medical Reference Services Quarterly, 2011, 30(4): 411-25.

**Abstract:** This column examines the experience, over three years, of a librarian embedded in an online Epidemiology and Evidence-based Medicine course, which is a requirement for students pursuing a Master of Science in Physician Assistant Studies at Pace University. Student learning outcomes were determined, a video lecture was created, and student learning was assessed via a five-point Blackboard test during year one. For years two and three, the course instructor asked the librarian to be responsible for two weeks of course instruction and a total of 15 out of 100 possible points for the course. This gave the librarian flexibility to measure additional outcomes and gather more in-depth assessment data. The librarian then used the assessment data to target areas for improvement in the lessons and Blackboard tests. Revisions made by the librarian positively affected student achievement of learning outcomes, as measured by the assessment conducted the subsequent semester. Plans for further changes are also discussed.

## 2010

**Clinical librarians as facilitators of nurses' evidence-based practice,** Maatta S, Wallmyr G, Journal of Clinical Nursing, December 2010, 19(23-24): 3427-34.

**Abstract:** AIM: The aim of this study was to explore nurses' and ward-based clinical librarians' reflections on ward-based clinical librarians as facilitators for nurses' use of evidence-based practice. BACKGROUND: Nurses' use of evidence-based practice is reported to be weak. Studies have suggested that clinical librarians may promote evidence-based practice. To date, little is known about clinical librarians participating nurses in the wards. DESIGN: A descriptive, qualitative design was adopted for the study. METHOD: In 2007, 16 nurses who had been attended by a clinical librarian in the wards were interviewed in focus groups. Two clinical librarians were interviewed by individual interviews. In the analysis, a content analysis was used. RESULTS: Three themes were generated from the interviews with nurses: 'The grip of everyday work', 'To articulate clinical nursing issues' and 'The clinical librarians at a catalyst'. The nurses experienced the grip of everyday work as a

hindrance and had difficulties to articulate and formulate relevant nursing issues. In such a state, the nurses found the clinical librarian presence in the ward as enhancing the awareness of and the use of evidence-based practice. Three themes emerged from the analysis with the librarians. They felt as outsiders, had new knowledge and acquired a new role as ward-based clinical librarians. **CONCLUSIONS:** Facilitation is needed if nurses' evidence-based practice is going to increase. The combined use of nurses and clinical librarians' knowledge and skills can be optimised. To achieve this, nurses' skills in consuming and implementing evidence ought to be strengthened. **RELEVANCE TO CLINICAL PRACTICE:** The fusion of the information and knowledge management skill of the ward-based clinical librarian and the clinical expertise of the nurses can be of value. With such a collaborative model, nurse and ward-based clinical librarian might join forces to increase the use of evidence-based practice.

**Using evidence in practice**, Booth, A, Health Information and Libraries Journal, September 2010, 27(3): 253–256.

**No abstract available.**

**Development of a clinical information tool for the electronic medical record: a case study**, Epstein BA, Tannery NH, Wessel CB, Yarger F, LaDue J, Fiorillo AB, Journal of the Medical Library Association, 2010 July, 98(3): 223–227.

**Abstract:**

**QUESTION:** What is the process of developing a clinical information tool to be embedded in the electronic health record of a very large and diverse academic medical center?

**SETTING:** The development took place at the University of Pittsburgh Health Sciences Library System.

**METHOD:** The clinical information tool developed is a search box with subject tabs to provide quick access to designated full-text information resources. Each subject tab offers a federated search of a different pool of resources. Search results are organized "on the fly" into meaningful categories using clustering technology and are directly accessible from the results page.

**RESULTS:** After more than a year of discussion and planning, a clinical information tool was embedded in the academic medical center's electronic health record.

**CONCLUSION:** The library successfully developed a clinical information tool, called Clinical-e, for use at the point of care. Future development will refine the tool and evaluate its impact and effectiveness.

**Clinical librarians, a new tribe in the UK: roles and responsibilities**, Harrison J, Beraquet V, Health Information & Libraries Journal, June 2010, 27(2): 123-32.

**Abstract:** AIMS: The aims of this research were to determine the background, education, training experience, roles and responsibilities of practising Clinical Librarians (CL) in the UK. This paper reports the findings of a survey undertaken in 2007 at the third Clinical Librarian conference. This research builds on research undertaken by Harrison and Sargeant in 2002 and Ward in 2004, and can be considered as part of a longitudinal study of the role of the CL in the UK. OBJECTIVES: The objectives of the research were to define and gain a broad understanding of the role of the CL in the UK highlighting similarities and differences amongst the professionals and provide evidence for a baseline of skills and activities for the CL role. The type of sampling used was Judgmental. RESULTS/ANALYSIS: Results/analysis detail the skills and activities undertaken by CLs. Searching for information for Clinicians was the activity most frequently undertaken. Developing good relationships with other healthcare professionals was considered essential. Two-thirds of the respondents held a postgraduate library qualification. CONCLUSIONS: Crucially a new model for the UK CL role is derived drawing on the findings of this study and the existing literature.

**The informationist: building evidence for an emerging health profession**, Grefsheim SF, Whitmore SC, Rapp BA, Rankin JA, Robison RR, Canto CC, Journal of the Medical Library Association, April 2010, 98(2): 147-56.

**Abstract:** BACKGROUND: To encourage evidence-based practice, an Annals of Internal Medicine editorial called for a new professional on clinical teams: an informationist trained in science or medicine as well as information science. OBJECTIVES: The study explored the effects of informationists on information behaviors of clinical research teams, specifically, frequency of seeking information for clinical or research decisions, range of resources consulted, perceptions about access to information, confidence in adequacy of literature searches, and effects on decision making and practice. It also explored perceptions about training and experience needed for successful informationists. METHODS: Exploratory focus groups and key interviews were followed by baseline and follow-up surveys conducted with researchers and clinicians receiving the service. Survey data were analyzed with Pearson's chi-square or Fisher's exact test. RESULTS: Comparing 2006 to 2004 survey responses, the researchers found that study participants reported: seeking answers to questions more frequently, spending more time seeking or using information, believing time was less of an obstacle to finding or using information, using more information resources, and feeling greater satisfaction with their ability to find answers. Participants' opinions on informationists' qualifications evolved to include both subject knowledge and information searching expertise. CONCLUSION: Over time, clinical research teams with informationists

demonstrated changes in their information behaviors, and they valued an informationist's subject matter expertise more.

**Experiences as an embedded librarian in online courses**, Konieczny A, Medical Reference Services Quarterly, January 2010, 29(1): 47-57.

**Abstract:** Embedded librarianship gives librarians a prime opportunity to have a direct, positive impact in a clinical setting, classroom setting, or within a working group by providing integrated services that cater to the group's needs. Extending embedded librarian services beyond the various physical settings and into online classrooms is an exceptional way for librarians to engage online learners. This group of students is growing rapidly in numbers and could benefit greatly from having library services and resources incorporated into their classes. The author's services as an embedded librarian in fully online courses at a medium-sized university will be discussed, as will strategies, lessons learned, and opportunities for engaging in this realm. To develop a foundation of knowledge on embedded librarianship, an overview of this topic is provided.

**Freely available online resources for renal nurses**, Bastin, E, Journal of Renal Nursing, January 2010, 2(1): 36-37.

**Abstract:** Guide to websites recommended for renal nurses by an outreach librarian, including patient information and NHS evidence-based resources.

**Solo librarian and outreach to hospital staff using Web 2.0 technologies**, Landau R, Medical Reference Services Quarterly, January 2010, 29(1): 75-84.

**Abstract:** The part-time librarian at Penn Presbyterian Medical Center (PPMC) serves physicians, staff, and students. Challenged by time constraints and the need for a physical presence in the library, the librarian sought methods requiring limited manpower and maintenance to reach out to users. The librarian utilized two Web 2.0 technologies, Delicious and Bloglines, to extend library services beyond the confines of the hospital intranet. This article details the process to implement these two technologies in the hospital setting. Informational resources about Web 2.0 technologies are included in the article.

**Medical librarians supporting information systems project lifecycles toward improved patient safety. Medical librarians possess expertise to navigate various search resources and can investigate inquiries during IS project lifecycles**, Saimbert MK, Zhang Y, Pierce J,



Moncrief ES, O'Hagan KB, Cole P. , Journal of Healthcare Information Management, 2010, 24(1): 52-6.

**Abstract:** Health information systems (HIS) have progressed from being used to manage billing to impacting patient safety and health professionals' job satisfaction. Many decisions are made during project management and the information system lifecycle of a HIS. Medical librarians are underutilized in HIS lifecycles; it may not be clear to stakeholders what they can provide and where their services fit. Medical librarians possess expertise to navigate various search resources and can investigate inquiries during information systems project lifecycles. Librarians can market specific skills to project lifecycle teams such as those involved in computerized provider order entry (CPOE), electronic medication administration record (eMAR) and root cause analysis (RCA). HIS project personnel, including patient safety team members, should make use of medical librarians in phases of health information systems project management. This will help them meet institutional and global objectives for evidence-based use of technology towards improved patient safety.

## 2009

**Quantifying the information needs of doctors in the UK using clinical librarians**, Davies K, Health Information & Libraries Journal, December 2009, 26(4): 289-97.

**Abstract:** BACKGROUND AND OBJECTIVES: The main objective of this paper is to determine the frequency of doctors' clinical information needs using Clinical Librarians as data collectors, focusing on the UK acute sector. Additionally, the frequency of questions followed-up by Clinical Librarians was determined. The information needs of doctors have been investigated in other countries, particularly the USA, but not in the UK. Clinical Librarians have not been utilized as data collectors in any previous studies. METHOD: Clinical Librarians counted clinical questions posed by doctors in clinical settings. RESULTS: The Clinical Librarians counted 286 questions from 655 doctors discussing 1210 patient cases. This represents approximately one question for every four patients. CONCLUSION: Clinical Librarians can collect data to identify the number of information needs doctors have, but this was more successful when the Clinical Librarian was experienced and an established part of the clinical team.

**Clinical librarian attendance at general surgery quality of care rounds (Morbidity and Mortality Conference)**, Greco E, Englesakis M, Faulkner A, Trojan B, Rotstein LE, Urbach DR, Surgical Innovation, September 2009,16(3): 266-9.

**Abstract:** Quality of Care rounds, also known as Mortality and Morbidity conferences, are an important and time-honored forum for quality audit in clinical surgery services. The authors created a modification to their hospital's Quality of Care rounds by incorporating a clinical librarian, who assisted residents in conducting literature reviews related to clinical topics discussed during the rounds. The objective of this article is to describe the authors' experience with this intervention. The clinical librarian program has greatly improved the Quality of Care rounds by aiding in literature searches and quality of up-to-date, evidence-based presentations.

**The impact of library services in primary care trusts in NHS North West England: a large-scale retrospective quantitative study of online resource usage in relation to types of service,** Bell K, Glover SW, Brodie C, Roberts A, Gleghorn C, Health Information & Libraries Journal, June 2009, 26(2): 136-42.

**Abstract:** BACKGROUND: Within NHS North West England there are 24 primary care trusts (PCTs), all with access to different types of library services. This study aims to evaluate the impact the type of library service has on online resource usage. METHODOLOGY: We conducted a large-scale retrospective quantitative study across all PCT staff in NHS NW England using Athens sessions log data. We studied the Athens log usage of 30,381 staff, with 8,273 active Athens accounts and 100,599 sessions from 1 January 2007 to 31 December 2007. RESULTS: In 2007, PCTs with outreach librarians achieved 43% penetration of staff with active Athens accounts compared with PCTs with their own library service (28.23%); PCTs with service level agreements (SLAs) with acute hospital library services (22.5%) and with no library service (19.68%). This pattern was also observed when we looked at the average number of Athens user sessions per person, and usage of Dialog Datastar databases and Proquest full text journal collections. DISCUSSION: Our findings have shown a correlation of e-resource usage and type of library service. Outreach librarians have proved to be an efficient model for promoting and driving up resources usage. PCTs with no library service have shown the lowest level of resource usage.

**In an emergency--call the clinical librarian!,** Coats TJ, Sutton S, Vorwerk C, Cooke MW, Emergency Medicine Journal, May 2009, 26(5): 321-3 .

**No abstract available.**

**Embedded librarians: one library's model for decentralized service,** Freiburger G, Kramer S, Journal of the Medical Library Association, April 2009, 97(2): 139-42.

**No abstract available.**

**Evaluation of a new clinical librarian service**, Vaughn CJ, Medical Reference Services Quarterly, 2009, 28(2): 143-53.

**Abstract:** In order to evaluate a new Clinical Medical Librarian (CML) service at Preston Medical Library in Knoxville, Tennessee, the three departments participating in the service were surveyed and interviewed. Participants in the study shed light on how much impact the attendance of a librarian at rounds and other meetings has had on their patient care decisions as well as their use of the library. Overall, the CML service has been well received by residents and faculty and will continue to serve at least these three departments.

**Inquiring Informationists: A qualitative exploration of our role**, Robison RR, Ryan ME, Cooper ID., Evidence Based Library and Information Practice, 2009, 4(1):4-16.

**Abstract:** Objective – The goal of this study is to explore the impact of an informationist program at the National Institutes of Health (NIH) Library and to provide a basis for further program assessment. In 2001 the NIH Library began its informationist program, where librarians with training in both biomedicine and information science work alongside researchers. The goal of the program is to facilitate researchers' access to and usage of information resources.

Methods – The researchers used qualitative interviews with key informants to characterize the current informationist services of user groups. Subjects were selected to capture a variety of activities that would show patterns of how the program assists the researchers of various NIH groups. Following the interviews, the authors extracted recurring and significant themes from the subjects' comments.

Results – Interview subjects provided their views on the informationists' skills, impact, and team participation. Research results documented that informationists helped find resources, provided instruction, and worked as part of the research team. The NIH groups currently using this service value their informationists' knowledge of library resources and their ability to access information needs quickly. The informationists' skills in finding information save the researchers time, increase the efficiency of the research team, and complement the contributions of other team members. Training by informationists was found useful. Informationist services led to increased self-reported library use, albeit in some cases this use was entirely via the informationist.

Conclusions – Informationists saved researchers time by obtaining requested information, finding esoteric or unfamiliar resources, and providing related training. These activities appeared to be facilitated by the acceptance of the informationist as part of the research

team. This exploratory study provides background that should be useful in future, more extensive evaluations.

**Trends in hospital librarianship and hospital library services: 1989 to 2006**, Thibodeau PL, Funk CJ., Journal of the Medical Library Association, 2009, 97(4): 273-9.

**Abstract:** Objective: The research studied the status of hospital librarians and library services to better inform the Medical Library Association's advocacy activities.

Methods: The Vital Pathways Survey Subcommittee of the Task Force on Vital Pathways for Hospital Librarians distributed a web-based survey to hospital librarians and academic health sciences library directors. The survey results were compared to data collected in a 1989 survey of hospital libraries by the American Hospital Association in order to identify any trends in hospital libraries, roles of librarians, and library services. A web-based hospital library report form based on the survey questions was also developed to more quickly identify changes in the status of hospital libraries on an ongoing basis.

Results: The greatest change in library services between 1989 and 2005/06 was in the area of access to information, with 40% more of the respondents providing access to commercial online services, 100% more providing access to Internet resources, and 28% more providing training in database searching and use of information resources. Twenty-nine percent (n=587) of the 2005/06 respondents reported a decrease in staff over the last 5 years.

Conclusions: Survey data support reported trends of consolidation of hospitals and hospital libraries and additions of new services. These services have likely required librarians to acquire new skills. It is hoped that future surveys will be undertaken to continue to study these trends.

**Vital pathways for hospital librarians: present and future roles**, Holst R, Funk CJ, Adams HS, Bandy M, Boss CM, Hill B, Joseph CB, Lett RK., Journal of the Medical Library Association, 2009, 97(4): 285-92.

**Abstract:** OBJECTIVES: The research objectives were to (1) describe the current and future roles of hospital librarians and the challenges they face and (2) find evidence supporting the hypothesis that librarians are essential to hospitals in achieving the organizations' mission-critical goals.

METHOD: The authors used results from a previous research study that identified the five organizational mission-critical goals important to hospital administrators and then searched

the literature and solicited examples from hospital librarians to describe the librarian's role in helping hospitals achieve these goals.

**RESULTS:** The literature supports the hypothesis that hospital librarians play important roles in the success of the hospital. Librarians support quality clinical care, efficient and effective hospital operations, continuing education for staff, research and innovation, and patient, family, and community health information needs.

**CONCLUSION:** Hospital librarians fulfill many mission-critical roles in today's hospital, providing the right information at the right time in a variety of ways to enhance hospital and medical staff effectiveness, optimize patient care, improve patient outcomes, and increase patient and family satisfaction with the hospital and its services. Because hospital librarians and their services provide an excellent return on investment for the hospital and help the hospital keep its competitive edge, hospital staff should have access to the services of a professional librarian.

**Are therapeutic decisions made on the medical admissions unit any more evidence-based than they used to be?**, Ayre S, Walters G., *Journal of Evaluation in Clinical Practice*, 2009, 15(6):1180-6.

**Abstract:** **RATIONALE, AIMS AND OBJECTIVES:** To determine whether inpatients in a medical admissions unit in a UK district general hospital received evidence-based therapies in 2008.

**METHODS:** The diagnoses of and therapies received by inpatients at the George Eliot Hospital National Health Service Trust in Nuneaton were recorded. A clinical librarian searched the literature (Clinical Knowledge Summaries, Cochrane Library, Medline and Embase) for the best evidence for each diagnosis-therapy pair. Evidence was graded on the following scale: systematic review, randomized controlled trial, non-experimental evidence and no or contrary evidence.

**RESULTS:** One hundred and two patients generated 150 diagnosis-therapy pairs. Of these 61 (41%) had systematic review level evidence supporting them, 17 (11%) randomized controlled trial evidence, 48 (32%) non-experimental evidence and 24 (16%) no evidence.

**CONCLUSIONS:** Results were comparable with previous studies. Care in a medical admissions unit in 2008 is still evidence-based, but, despite the vast growth in medical literature, no more than it was. The process was a useful collaboration between medical and library staff to audit the quality of patient care.

**Developing research capacity in health librarians: a review of the evidence**, Rossall H, Boyes C, Montacute K, Doherty P, *Health Information & Libraries Journal*, September 2008, 25(3): 159-74.

**Abstract:** This critical review considers current issues of research capacity development in UK health care and the role of health librarianship in this context, placing particular focus on the use of research networks. There is a growing literature base recognising the need for librarians to engage more with research. The concepts of evidence-based health librarianship and clinical librarianship are discussed in the context of research and examples of existing good practice are reviewed. It is suggested that librarians should build on this through better consideration of evidence based methodologies, hierarchies of evidence, improvement of research skills, and a collective endeavour to identify research priorities. The importance research capacity is being given in the Department of Health R&D strategy and the use of networks in achieving this is discussed, and it is suggested that the utilisation of networks and collaboration should be undertaken and explored in more depth in developing research capacity in health librarianship. Areas where librarians currently engage with research and use networks and collaborative practices to contribute to the research base are reviewed. A co-ordinated approach to developing research capacity is called for and it is argued that the use of networks would be beneficial in assisting the process.

**Commentary on Tod A, Bond B, Leonard N, Gilsnan I & Palfreyman S (2007) Exploring the contribution of the clinical librarian to facilitating evidence-based nursing. *Journal of Clinical Nursing* 16, 621-629**, Bakalis, N., *Journal of Clinical Nursing*, July 2008, 17(14): 1953-1955.

**Abstract:** Commentary on research by Tod et al. about the role of the clinical librarian, their contribution to the health care team and interprofessional relationships. Collaboration between nurses and librarians are discussed, focusing on the benefits for nurses. A response from the original authors is included.

**The emerging informationist specialty: a systematic review of the literature**, Rankin JA, Grefsheim SF, Canto CC, *Journal of the Medical Library Association*, July 2008, 96(3): 194-206.

**Abstract:** PURPOSE: A systematic literature review was conducted to synthesize what is known about informationists, highlight program models, and suggest areas for future research. METHODS: Articles retrieved through database searching were reviewed for relevance. Informationist case reports were identified and coded according to an attributes checklist. Data from other retained publications were synthesized under broad themes. The few research studies found were reviewed for level of evidence. RESULTS: Of 113 papers

reviewed, the study identified 7 classic and 8 emerging informationist programs. Two major models are apparent, clinical and research, with priorities differing according to program maturity. The literature synthesis also brought together current thinking about informationist qualifications; practice roles; setting characteristics; education and training; organizational, programmatic, and service provider success factors; and challenges and barriers. Program outcomes to date are reported, and future research topics suggested. Specific findings will assist informationist program planners. **CONCLUSIONS:** While the informationist concept remains in the early adopter stage, it appears that domain knowledge, continuous learning, and embedding (working in context) are essential to success. The need for librarians to transition to greater specialization and libraries to emphasize customized service was underscored. A research agenda focused on information management, dissemination, behaviors, and economics is proposed.

**Informationist programme in support of biomedical research: a programme description and preliminary findings of an evaluation**, Whitmore SC, Grefsheim SF, Rankin JA, Health Information & Libraries Journal, June 2008, 25(2):135-41 .

**Abstract:** **BACKGROUND:** The informationist programme at the Library of the National Institutes of Health (NIH) in Bethesda, MD, USA has grown to 14 informationists working with 40 clinical and basic science research teams. **PURPOSE:** This case report, intended to contribute to the literature on informationist programmes, describes the NIH informationist programme, including implementation experiences, the informationists' training programme, their job responsibilities and programme outcomes. **BRIEF DESCRIPTION:** The NIH informationist programme was designed to enhance the library's service capacity. Over time, the steps for introducing the service to new groups were formalized to ensure support by leadership, the team being served and the library. Job responsibilities also evolved from traditional library roles to a wide range of knowledge management activities. The commitment by the informationist, the team and the library to continuous learning is critical to the programme's success. **RESULTS / OUTCOMES:** NIH scientists reported that informationists saved them time and contributed to teamwork with expert searching and point-of-need instruction. Process evaluation helped refine the programme. **EVALUATION METHOD:** High-level, preliminary outcomes were identified from a survey of scientists receiving informationist services, along with key informant interviews. Process evaluation examined service implementation, informationists' training and service components. Anecdotal evidence has also indicated a favourable response to the programme.

**A randomized effectiveness trial of a clinical informatics consult service: impact on evidence-based decision-making and knowledge implementation**, Mulvaney SA, Bickman L,

Giuse NB, Lambert EW, Sathe NA, Jerome RN, Journal of the American Medical Informatics Association: JAMA, March-April 2008, 15(2):203-11.

### **Abstract**

**OBJECTIVE:** To determine the effectiveness of providing synthesized research evidence to inform patient care practices via an evidence based informatics program, the Clinical Informatics Consult Service (CICS).

**DESIGN:** Consults were randomly assigned to one of two conditions: CICS Provided, in which clinicians received synthesized information from the biomedical literature addressing the consult question or No CICS Provided, in which no information was provided. **Measurement:** Outcomes were measured via online post-consult forms that assessed consult purpose, actual and potential impact, satisfaction, time spent searching, and other variables.

**RESULTS:** Two hundred twenty six consults were made during the 19-month study period. Clinicians primarily made requests in order to update themselves (65.0%, 147/226) and were satisfied with the service results (Mean 4.52 of possible 5.0, SD 0.94). Intention to treat (ITT) analyses showed that consults in the CICS Provided condition had a greater actual and potential impact on clinical actions and clinician satisfaction than No CICS consults. Evidence provided by the service primarily impacted the use of a new or different treatment (OR 8.19 95% CI 1.04-64.00). Reasons for no or little impact included a lack of evidence addressing the issue or that the clinician was already implementing the practices indicated by the evidence.

**CONCLUSIONS:** Clinical decision-making, particularly regarding treatment issues, was statistically significantly impacted by the service. Programs such as the CICS may provide an effective tool for facilitating the integration of research evidence into the management of complex patient care and may foster clinicians' engagement with the biomedical literature.

**Public health practitioners' information access and use patterns in the Maryland (USA) public health departments of Anne Arundel and Wicomico Counties**, Twose C, Swartz P, Bunker E, Roderer NK, Oliver KB, Health Information & Libraries Journal, March 2008, 25(1): 13-22.

**Abstract:** **PURPOSE:** To increase understanding of the information needs and use of public health practitioners. **SETTING:** From June 2005 to May 2006, the library offered a course in public health information resources to eighteen practitioners in two counties, access to the library's licensed electronic resources through a tailored web portal, and consulting services. **EVALUATION METHOD:** We combined usage statistics from the web portal, self-report and observational data collected during training and shadowing of participants. **CONCLUSIONS:** The data from this project indicate that usage of licensed information resources and services



is infrequent but broad ranging. A few users register at the high end of the usage range, but one use of one high quality article can have a significant impact on policy decisions. Time and competing responsibilities often constrain the retrieval and use of resources for evidence-based decision making and an informationist or power-user model may be more appropriate than training all practitioners to integrate searching into their workflow. This study indicates (i) that evidence-based public health practice requires seamless and broadly based information access; and (ii) that the currently existing patchwork does not support the level of use or take into account the time constraints of information needs for public health practice.

**Bringing evidence to practice: a team approach to teaching skills required for an informationist role in evidence-based clinical and public health practice**, Oliver KB, Dalrymple P, Lehmann HP, McClellan DA, Robinson KA, Twose C, Journal of the Medical Library Association, January 2008, 96(1): 50-7.

**Abstract:** OBJECTIVE: The objectives were (1) to develop an academic, graduate-level course designed for information professionals seeking to bring evidence to clinical medicine and public health practice and to address, in the course approach, the "real-world" time constraints of these domains and (2) to further specify and realize identified elements of the "informationist" concept. SETTING: The course took place at the Division of Health Sciences Informatics, School of Medicine, Johns Hopkins University. PARTICIPANTS: A multidisciplinary faculty, selected for their expertise in the course core competencies, and three students, two post-graduate National Library of Medicine (NLM) informationist fellows and one NLM second-year associate, participated in the research. INTERVENTION: A 1.5-credit, graduate-level course, "Informationist Seminar: Bringing the Evidence to Practice," was offered in October to December 2006. In this team-taught course, a series of lectures by course faculty and panel discussions involving outside experts were combined with in-class discussion, homework exercises, and a major project that involved choosing and answering, in both oral and written form, a real-world question based on a case scenario in clinical or public health practice. CONCLUSION: This course represents an approach that could be replicated in other academic health centers with similar pools of expertise. Ongoing journal clubs that reiterate the question-and-answer process with new questions derived from clinical and public health practice and incorporate peer review and faculty mentoring would reinforce the skills acquired in the seminar.

**Consumer health information and local health resources: MedlinePlus and My Health Minnesota --> Go Local Outreach Efforts**, Watson LA, Brasure MB, AMIA ... Annual Symposium Proceedings/AMIA Symposium, 2008(1169): 1559-4076.

**Abstract:** The University of Minnesota Health Sciences Libraries and an NLM Public Health Informationist Fellow are designing, implementing and evaluating outreach and training related to the My Health Minnesota --> Go Local project. The goal is to enhance the skills of public health and community based organizations in assisting community members with health information needs. Ultimately, this project seeks to improve health literacy among Minnesota citizens.

**Informationist education**, Robison RR, Medical Reference Services Quarterly, 2008, 27(3): 339-47.

**Abstract:** The National Institutes of Health (NIH) funds biomedical research and conducts its own research. One way the NIH Library supports this work is by providing librarians with biomedical training and encouraging them to become embedded with researchers and administrators. Some of these "informationists" have degrees in scientific or health fields, and all engage in ongoing training, mostly through coursework at local institutions and at NIH itself. This article elaborates on the training of NIH informationists. Past research has indicated that patrons welcome librarians with biomedical training, which may in turn lead to greater communication between librarians and researchers.

**Morning Report Presentation with Literature Search Associated with Decreased Length of Hospital Stay**, Kelson J., Evidence Based Library and Information Practice, 2008, 3(3):76-79.

**Abstract:** Objective – To determine whether hospital charges, length of stay or 30-day re-admission rates were affected by case discussion at residents' morning report (MR), accompanied by librarian-provided literature search results, within 24 hours of admission

**Just-in-Time information improved decision-making in primary care: a randomized controlled trial**, McGowan J, Hogg W, Campbell C, Rowan M., PLoS One, 2008, 3(11): e3785.

**Abstract:** The "Just-in-time Information" (JIT) librarian consultation service was designed to provide rapid information to answer primary care clinical questions during patient hours. This study evaluated whether information provided by librarians to answer clinical questions positively impacted time, decision-making, cost savings and satisfaction.

**Personalized Information Service for Clinicians: Users Like It**, Hannigan G., Evidence Based Library and Information Practice, 2008, 3(3):83-85.

**Abstract:** Objective – To examine physician use of an Evidence-Based Medicine (EBM) literature request service available to clinicians through the institution’s electronic medical record system (EMR). Specifically, the authors posed the following questions: 1) Did newly implemented marketing and communication strategies increase physicians’ use of the service? 2) How did clinicians rate the relevance of the information provided? 3) How was the information provided used and shared?

Design – Ten-month, prospective, observational study employing a questionnaire, statistics, a focus group, and a “before and after marketing intervention” analysis.

Setting – Adult primary care outpatient clinic in an academic medical centre.

Subjects – Forty-eight attending and 89 resident physicians.

Methods – In 2003, a new service was introduced that allowed physicians in the Adult Primary Care Center clinic to request evidence summaries from the library regarding complex clinical questions. Contact with the library was through the secure messaging feature of the institution’s electronic medical record (EMR). From March through July 2005, the librarian employed “standard” publicity methods (e-mail, flyers, posters, demonstrations) to promote the service. A focus group in July 2005 provided feedback about the service as well as recommendations about communicating its availability and utility. New communication methods were implemented, including a monthly electronic “current awareness” newsletter, more frequent visits by the librarian during resident clinic hours, and collaborations between the librarian and residents preparing for morning report presentations. At the end of the study period, a 25-item Web-based questionnaire was sent to the 137 physicians with access to the service.

Main Results – During the 10-month study period, 23 unique users submitted a total of 45 questions to the EBM Literature Request Service. More questions were from attending physicians than residents: 36 (80%) vs. 9 (20%). At least one of the 23 users asked 12 (26%) of the questions. Utilization did not significantly change after the mid-study intervention. At the end of the study, 48 physicians (35%) completed the survey (32 attending physicians and 16 residents). While 94% of the respondents indicated awareness of the service, only 40% indicated using it. The 19 who used the service, on average, agreed that the information provided was relevant and “sometimes leads to a change in my clinical practice” (p.37). Those who indicated that they shared the information (n=15) mostly did so with other attending physicians and residents, but also mentioned sharing with fellows, patients, and nurses. Information was typically shared verbally but also by distributing a printout, forwarding by e-mail, and forwarding within the EMR message system. The information was used primarily for general self-education, instruction of trainees, and confirmation of a current plan.

Conclusion – The newly implemented marketing and communication strategies did not significantly increase the use of the EBM Literature Request Service. Those who used the service found it relevant and often shared the information with others. Based on a small number of respondents and survey information, the librarian-provided EBM Literature Request Service was “well-received” (39).

**Participating in communities of practice**, Bandy M, Condon J, Graves E, Medical Reference Services Quarterly, 2008, 27(4): 441-9.

**Abstract:** Hospital librarians understand they need to move outside the four walls of the physical library and provide information support for clinicians in various settings. Librarians round with patient care teams as clinical librarians. They sit on quality improvement and patient safety committees in order to provide information to those groups. Many are members of their organization's Institutional Review Board. Some of these activities are done for a specific purpose and are short-lived. Other activities become institutionalized as the value of the librarian's contribution is recognized. This article will describe examples in which hospital librarians are part of multidisciplinary teams created to improve patient care in their hospital.

**A randomised effectiveness trial of a Clinical Informatics Consult Service: impact on evidence-based decision making and knowledge implementation**, Mulvaney SA, Bickman L, Giuse NB, Lambert WE, Sathe NA, Jerome RN., Journal of the American Medical Informatics Association, 2008, 15 (2): 203-211.

**Abstract:** OBJECTIVE: To determine the effectiveness of providing synthesized research evidence to inform patient care practices via an evidence based informatics program, the Clinical Informatics Consult Service (CICS).

DESIGN: Consults were randomly assigned to one of two conditions: CICS Provided, in which clinicians received synthesized information from the biomedical literature addressing the consult question or No CICS Provided, in which no information was provided. Measurement: Outcomes were measured via online post-consult forms that assessed consult purpose, actual and potential impact, satisfaction, time spent searching, and other variables.

RESULTS: Two hundred twenty six consults were made during the 19-month study period. Clinicians primarily made requests in order to update themselves (65.0%, 147/226) and were satisfied with the service results (Mean 4.52 of possible 5.0, SD 0.94). Intention to treat (ITT) analyses showed that consults in the CICS provided condition had a greater actual and potential impact on clinical actions and clinician satisfaction than No CICS consults. Evidence provided by the service primarily impacted the use of a new or different treatment

(OR 8.19 95% CI 1.04-64.00). Reasons for no or little impact included a lack of evidence addressing the issue or that the clinician was already implementing the practices indicated by the evidence.

**CONCLUSIONS:** Clinical decision-making, particularly regarding treatment issues, was statistically significantly impacted by the service. Programs such as the CICS may provide an effective tool for facilitating the integration of research evidence into the management of complex patient care and may foster clinicians' engagement with the biomedical literature.

## 2007

**The perioperative librarian: luxury or necessity?**, Kurup V, Hersey D, Current Opinion in Anaesthesiology, December 2007, 20(6): 585-9.

**Abstract:** PURPOSE OF REVIEW: There has been an explosion of medical information in the past decade. Current clinical practice demands that anesthesiologists be aware of current treatments and procedures, along with the latest practice standards and guidelines. The need to be able to rapidly retrieve relevant, accurate clinical information at the point of care is now felt more than ever. This review explores the impact of clinical medical librarians, with particular emphasis on their application in the perioperative setting. RECENT FINDINGS: An increasing number of hospitals are turning to medical librarians to help clinicians improve their information-seeking skills. As a result, the role of medical librarians has expanded dramatically. Most studies evaluating the effectiveness of clinical medical librarian programs support their value in clinical teams, yet the studies rely primarily on descriptive surveys and qualitative data. SUMMARY: Anesthesiologists have particular information needs for which the physical library is no longer sufficient. New outcome measures to define the 'success' of clinical medical librarian programs need to be formulated, and economic considerations need to be factored into these programs.

**Evaluation of outreach services for primary care and mental health; assessing the impact**, Robinson L, Bawden D, Health Information & Libraries Journal, December 2007, 24 (Suppl 1): 57-66.

**Abstract:** OBJECTIVES: This paper reports an evaluation, carried out for London Health Libraries, of the impact of outreach services to primary care and mental health workers in 13 different settings. The main aims of the project were to identify the impact being made by the service, and to produce best-practice guidelines for outreach services in this kind of

community setting. METHODS: Analysis of documents, analysis of any evaluation already carried out, interviews with outreach librarians, survey of a representative sample of users (eight services). The services evaluated were very diverse in terms of setting, structure, functions and activities. The evaluation was therefore largely qualitative. Emphasis was placed on trying to identify critical incidents, where it could be shown unambiguously that the outreach services made a difference to practice. FINDINGS: Service recipients felt better informed, more up to date, more aware of resources, more confident and supported in their work, and saved time. Direct impacts, such as improved patient care, cost savings, etc., were more difficult to establish. CONCLUSIONS: The study identified the main areas of impact, and the main factors which affected this. Recommendations for good practice in such outreach services are made. Lessons of this evaluation for impact studies in general are presented, in particular the difficulty of assessing 'direct' impacts.

**Community outreach library services in the UK: a case study of Wirral Hospital NHS Trust (WHNT)**, Dowse FM, Sen B, Health Information & Libraries Journal, September 2007, 24(3): 177-8.

**Abstract:** AIMS AND OBJECTIVES: The study evaluates the Community Outreach Library Service at Wirral Hospital National Health Service Trust (WHNT). It considers the information seeking behaviour and information needs of primary care staff, and service effectiveness in meeting those needs. METHODS: A literature review established the current context and areas of best practice. The investigative case study used postal questionnaires to 250 primary care staff and an interview with the Community Outreach Librarian. FINDINGS: Themes emerged from the literature regarding information seeking behaviour, information needs, and meeting user needs through effective service delivery. Outreach services have value in terms of improving information skills and providing services at point of need. Time is a major constraint for both users and service providers. CONCLUSIONS: Investment is needed from appropriate funding sources to support the provision and marketing of outreach library services. Librarians benefit from sharing best practice. The continued evaluation of outreach library services is recommended.

**Librarian-perceived barriers to the implementation of the informationist / information specialist in context role**, Sathe NA, Jerome R, Giuse NB, Journal of the Medical Library Association, July 2007, 95(3): 270-4.

**No abstract available.**

**Exploring the contribution of the Clinical Librarian to facilitating evidence-based nursing,** Tod AM, Bond B, Leonard N, Gilsenan JJ, Palfreyman S, Journal of Clinical Nursing, April 2007, 16(4): 621-9.

**Abstract:** AIM: To examine the potential role of the Clinical Librarian in facilitating evidence-based practice of nurses in acute hospital settings and develop a model for the role.

BACKGROUND: There is a growing policy and professional expectation that nurses will seek out and apply evidence in their clinical practice. Studies have demonstrated that nurses experience barriers in working with an evidence-based approach. The role of Clinical Librarian has been used in other countries and within medicine to overcome some of the barriers to evidence-based practice. There are limitations in the previous work in terms of rigour of evaluation, scope of the Clinical Librarian role and application to nursing in a UK setting. DESIGN: A qualitative consultation of 72 nurses in acute care settings. METHODS: Six consultation group interviews of between 4-19 participants. Written records were recorded by the scribe. Content analysis was undertaken to identify the range and frequency of comments. RESULTS: Clinical questions currently go unanswered because of barriers of time, skills deficits and access to resources. Literature searching, skills training and evidence dissemination were the main areas of work the staff requested that a Clinical Librarian should undertake. It was anticipated that the Clinical Librarian could interact and work productively with nursing staff with a limited but regular presence on the ward. Interim communication could be via e-mail, phone and written suggestions and requests for work. It was seen to be vital that the Clinical Librarian worked in partnership with staff to build evidence-based practice capacity and ensure clinical relevance of the work. CONCLUSIONS: This study has generated the first model for the Clinical Librarian role with an emphasis on nursing. It is derived from the views of clinical nurses. Recommendations are made for the implementation and evaluation of such a role. RELEVANCE TO CLINICAL PRACTICE: The Clinical Librarian could be an invaluable support to promoting evidence-based nursing.

**Sensitivity of routine system for reporting patient safety incidents in an NHS hospital: retrospective patient case note review,** Sari AB, Sheldon TA, Cracknell A, Turnbull A, BMJ, January 2007, 13(334): 7584.

**Abstract:**

OBJECTIVE: To evaluate the performance of a routine incident reporting system in identifying patient safety incidents.

DESIGN: Two stage retrospective review of patients' case notes and analysis of data submitted to the routine incident reporting system on the same patients.

SETTING: A large NHS hospital in England.

**POPULATION:** 1006 hospital admissions between January and May 2004: surgery (n=311), general medicine (n=251), elderly care (n=184), orthopaedics (n=131), urology (n=61), and three other specialties (n=68).

**MAIN OUTCOME MEASURES:** Proportion of admissions with at least one patient safety incident; proportion and type of patient safety incidents missed by routine incident reporting and case note review methods.

**RESULTS:** 324 patient safety incidents were identified in 230/1006 admissions (22.9%; 95% confidence interval 20.3% to 25.5%). 270 (83%) patient safety incidents were identified by case note review only, 21 (7%) by the routine reporting system only, and 33 (10%) by both methods. 110 admissions (10.9%; 9.0% to 12.8%) had at least one patient safety incident resulting in patient harm, all of which were detected by the case note review and six (5%) by the reporting system.

**CONCLUSION:** The routine incident reporting system may be poor at identifying patient safety incidents, particularly those resulting in harm. Structured case note review may have a useful role in surveillance of routine incident reporting and associated quality improvement programmes.

**Changes in information behavior in clinical teams after introduction of a clinical librarian service,** Urquhart C, Turner J, Durbin J, Ryan J, Journal of the Medical Library Association, January 2007, 95(1): 14-22.

**Abstract:** **OBJECTIVES:** The eighteen-month evaluation of a clinical librarian project (October 2003-March 2005) conducted in North Wales, United Kingdom (UK) assessed the benefits of clinical librarian support to clinical teams, the impact of mediated searching services, and the effectiveness of information skills training, including journal club support. **METHODS:** The evaluation assessed changes in teams' information-seeking behavior and their willingness to delegate searching to a clinical librarian. Baseline (n = 69 responses, 73% response rate) and final questionnaire (n = 57, 77% response rate) surveys were complemented by telephone and face-to-face interviews (n = 33) among 3 sites served. Those attending information skills training sessions (n = 130) completed evaluations at the session and were surveyed 1 month after training (n = 24 questionnaire responses, n = 12 interviews). **RESULTS:** Health professionals in clinical teams reported that they were more willing to undertake their own searching, but also more willing to delegate some literature searching, than at the start of the project. The extent of change depended on the team and the type of information required. Information skills training was particularly effective when organized around journal clubs. **CONCLUSIONS:** Collaboration with a clinical librarian



increased clinician willingness to seek information. Clinical librarian services should leverage structured training opportunities such as journal clubs.

**Do Clinical Librarians Matter? The First Randomized Controlled Trial in Librarianship,**

Eldredge, J, Evidence Based Library and Information Practice, 2007, 2(4): 84-87.

**Abstract:** Objectives – To determine whether clinical librarian services cause healthcare providers to change their information seeking behaviors. To evaluate librarians' educational roles for clinicians, patients, and patients' families.

Design – Randomized controlled trial.

Setting – An academic, health-sciences-center, teaching hospital in Canada.

Subjects – A total of eight teams, each consisting of at least eight members who represented at least three different types of health professionals. Four teams (rheumatology, obstetrics, neurology, and pediatrics) were randomized into the intervention group to receive clinical librarian services for a six-month period, and four teams (hematology, diabetic day care, pain clinic, and community psychiatry) were randomized into the control group that did not receive clinical librarian services.

Methods – Two half-time clinical librarians attended the intervention groups' rounds, clinics, and conferences identified as having educational components or where questions would likely arise related to patient care. The two clinical librarians handled 600 perceived or actual information requests, delivered 1,200 documents, and provided over 3,000 references during the twelve-month study period of September 1978 to August 1979. The typical service consisted of the clinical librarian securing one or two articles relevant to the question raised along with pertinent references placed in a "hot topics" ring binder located in the clinical wards. Healthcare providers were alerted to or reminded about the clinical librarian service through a brochure and an exhibit. The brochure also advertised the clinical librarian service to patients or their families. Approximately 24% of all information requests fielded by the clinical librarians originated from patients or their families. The remaining information requests originated from physicians (40%), allied health professionals (21%), and nurses (15%) belonging to these interdisciplinary intervention group teams.

Main Results – Trained impartial interviewers conducted in-depth interviews with members of both the intervention group teams and the control group teams immediately following the first six-month study period and then again three months after the end of the study period. Following the initial six months of the study period, 67% of the members of the intervention group compared to 37% of the members of the study group used the library's reference services. Three months after the study period had ended, 76% of the members of the intervention group compared to 49% of the members of the study group had used the

reference services. The authors reported in a one-sentence page note that these findings were statistically significant beyond the .05 level as measured by chi-square and analysis of variance tests. Three months after the study period had ended, 60% of the members of the intervention group compared to 38% of the members of the study group reported rating highly the use of library resources. In addition, three months after the study period had ended, 36% of the members of the intervention group compared to 27% of the members of the study group reported rating highly the use of reference librarians. Although patients or their families were generally positive in rating the clinical librarians' services, they proved to be a difficult population upon which to conduct a comprehensive follow-up evaluation study once patients had left the hospital.

Conclusion – The authors conclude that the clinical librarian services to the four intervention groups had changed the group members' information seeking behavior.

**Decreased hospital length of stay associated with presentation of cases at morning report with librarian support**, Banks DE, Shi R, Timm DF, Christopher KA, Duggar DC, Comegys M, McLarty J., *Journal of the Medical Library Association*, 2007, 95(4): 371-373.

**Abstract:** Objective: The research sought to determine whether case discussion at residents' morning report (MR), accompanied by a computerized literature search and librarian support, affects hospital charges, length of stay (LOS), and thirty-day readmission rate.

Methods: This case-control study, conducted from August 2004 to March 2005, compared outcomes for 105 cases presented at MR within 24 hours of admission to 19,210 potential matches, including cases presented at MR and cases not presented at MR. With matching criteria of patient age ( $\pm 5$  years), identical primary diagnosis, and secondary diagnoses (within 3 additional diagnoses) using International Classification of Diseases (ICD-9) codes, 55 cases were matched to 136 controls. Statistical analyses included Student's t tests, chi-squared tests, and nonparametric methods.

Results: LOS differed significantly between matched MR cases and controls (3 days vs. 5 days,  $P < 0.024$ ). Median total hospital charges were \$7,045 for the MR group and \$10,663 for the control group. There was no difference in 30-day readmission rate between the 2 groups.

Discussion/Conclusion: Presentation of a case at MR, followed by the timely dissemination of the results of an online literature review, resulted in a shortened LOS and lower hospital charges compared with controls. MR, in association with a computerized literature search guided by the librarians, was an effective means for introducing evidence-based medicine into patient care practices.

2006

**Clear and present questions: formulating questions for evidence based practice**, Andrew Booth, Library Hi Tech, 2006, 24(3): 355-68.

**Abstract:**

Purpose – The paper seeks to provide an overview and update of thinking in relation to the theory and practice of formulation of answerable research questions within evidence based information practice.

Design/methodology/approach – The paper reviews the healthcare and information literature on question formulation, augmented by structured and purposive internet searches.

Findings – Although a few key authors have published extensively on all aspects of the evidence-based information practice process, including question formulation, there is little in the way of empirical research.

Research limitations/implications – In the absence of an empirical research base from within the specific domain of information practice, this conceptual paper extrapolates findings from healthcare research to general librarianship.

Practical implications – This article models the process of question formulation using a proposed conceptual framework (SPICE) and encourages practitioners to identify their own practice-based questions.

Originality/value – This is the first article specifically to address question formulation for a general (i.e. non-health) library audience.

**A web-based library consult service for evidence-based medicine: Technical development**, Schwartz A, Millam G; UIC LCS Investigators, BMC Medical Information Decision Making, 2006, 16(6):16.

**Abstract:** Incorporating evidence based medicine (EBM) into clinical practice requires clinicians to learn to efficiently gain access to clinical evidence and effectively appraise its validity. Even using current electronic systems, selecting literature-based data to solve a single patient-related problem can require more time than practicing physicians or residents can spare. Clinical librarians, as informationists, are uniquely suited to assist physicians in this endeavor.

Results: To improve support for evidence-based practice, we have developed a web-based EBM library consult service application (LCS). Librarians use the LCS system to provide full text evidence-based literature with critical appraisal in response to a clinical question asked

by a remote physician. LCS uses an entirely Free/Open Source Software platform and will be released under a Free Software license. In the first year of the LCS project, the software was successfully developed and a reference implementation put into active use. Two years of evaluation of the clinical, educational, and attitudinal impact on physician-users and librarian staff are underway, and expected to lead to refinement and wide dissemination of the system.

Conclusion: A web-based EBM library consult model may provide a useful way for informationists to assist clinicians, and is feasible to implement.

**Defining the informationist: a case study from the Frederick L. Ehrman Medical Library,** Banks MA., Journal of the Medical Library Association, 2006, 94(1):5-7.

**No abstract available.**

**How do primary care physicians seek answers to clinical questions? A literature review,** Coumou Herma CH, Meijman Frans J., Journal of the Medical Library Association, 2006, 94(1): 55-60.

**Abstract:** Objectives: The authors investigated the extent to which changes occurred between 1992 and 2005 in the ways that primary care physicians seek answers to clinical problems. What search strategies are used? How much time is spent on them? How do primary care physicians evaluate various search activities and information sources? Can a clinical librarian be useful to a primary care physician?

Methods: Twenty-one original research papers and three literature reviews were examined. No systematic reviews were identified.

Results: Primary care physicians seek answers to only a limited number of questions about which they first consult colleagues and paper sources. This practice has basically not changed over the years despite the enormous increase in and better accessibility to electronic information sources. One of the major obstacles is the time it takes to search for information. Other difficulties primary care physicians experience are related to formulating an appropriate search question, finding an optimal search strategy, and interpreting the evidence found. Some studies have been done on the supporting role of a clinical librarian in general practice. However, the effects on professional behavior of the primary care physician and on patient outcome have not been studied. A small group of primary care physicians prefer this support to developing their own search skills.

Discussion: Primary care physicians have several options for finding quick answers: building a question-and-answer database, consulting filtered information sources, or using an intermediary such as a clinical librarian.

**Librarians, surgeons, and knowledge**, Knight T, Brice A., Surgical Clinics of North America, 2006, 86: 71-90.

**Abstract:** are indicative of the ferment of change brought about by the digital revolution, and of the continuing determination of health information professionals to rise to the challenges involved in supporting surgeons and everyone in the surgical team, as they endeavor to provide the best possible care for their patients. Libraries as we know them have changed, and are changing. The scholarly communications process is also undergoing profound transformation. The authors discuss these changes and their implications for surgeons.

**Listening to our clinical colleagues: how are they finding the evidence to support Trust clinical governance?**, Publicover M, Giles G, Bolton B, Shemilt C, Urquhart, C., Health Information and Libraries Journal, 2006, 23(Suppl. 1): 57-60.

**No abstract available.**

**The Clinical Librarian/Informationist: Past, present, future**, Guessferd M., Journal of Hospital Librarianship, 2006, 6(2): 65-73.

**No abstract available.**

**What do clinicians want from us? An evaluation of Brighton and Sussex University Hospitals NHS Trust clinical librarian service and its implications for developing future working patterns**, Brookman, A., Lovell, A., Henwood, F., Lehmann, J., Health Information and Libraries Journal, 2006, 23(Suppl. 1): 10-21.

**Abstract:** BACKGROUND: The Clinical Librarian (CL) Service at Brighton was established in 2003 with the aim of providing high-quality evidence to designated teams and fostering an evidence-based culture.

OBJECTIVE: To evaluate the CL service at Brighton and discuss the implication of the findings.

**METHODS:** A combination of internally collected data (n = 167), and an external evaluation of the service by questionnaires (n = 86) of users and non-users and interviews (n = 9) of users.

**RESULTS:** Internal data suggest that the service is valued by its users and that patient care and continuing professional development are the most common uses for searches (confirmed by the external study); that searches generally result in some change in knowledge; and that this knowledge is disseminated. The external study found that visibility of the CL was crucial to the effectiveness of the role and that clinicians used the service mostly to get access to a wider range of resources and/or to save time. Users wanted the CL to include evaluative annotation with the results, and for the CL role to become more embedded in the team. Interview results expanded on the issues of integration of the CL and the need for annotation of results.

**CONCLUSIONS:** To be most effective, CLs would be dedicated to one team, but financial constraints make this unlikely. Alternative working patterns are suggested as a possible compromise.

**Working towards the informationist**, Oliver KB, Roderer NK., Health Informatics Journal, 2006, 12(1):41-8.

**Abstract:** Current information is a critical component of good healthcare. In this article we offer a definition of a new health professional, the 'informationist', whose function it is to ensure evidence-based health practice. We describe the literature and discussions that led to the proposal of this new role, and offer a description of the steps being taken to further elaborate this career. In particular, we describe efforts at Johns Hopkins to train informationists and informaticists and to offer services that lead to the integration of these and other information professionals into clinical care, public health and research.

## 2005

**The literature search process: protocols for researchers**, South Central Healthcare Librarians, July 2005.

**Abstract:** This document has been developed by health librarians in close partnership with the Thames Valley Research & Development Network. Its aim is to support healthcare researchers in carrying out effective literature searches according to an agreed set of recommendations. This will help ensure that research is not duplicated and that literature searches retrieve the best available evidence.

This document provides guidance for the following key steps:

- planning a literature search
- identifying key sources of information
- guidance in carrying out an effective literature search
- documenting the search process

**Undertaking an information-needs analysis of the emergency-care physician to inform the role of the clinical librarian: a Greek perspective**, Lappa, E, Health Information and Libraries Journal, Jun 2005, 22(2): 124-132.

**Abstract:** Research into the information needs of staff in an emergency department in Greece, including nurses. The difficulty that staff have in finding time to visit the hospital library and the role of the clinical librarian is discussed.

**Survey of UK Clinical Librarians**, Ron Stamp, Linda Ward, University Hospitals of Leicester, June 2005.

**Abstract:** Aims:

- To repeat part of the February 2004 survey of health information professionals in the UK offering clinical librarian or similar outreach information services to staff in hospital settings
- To update a web based CL contacts list
- To identify a subset of CLs offering rapid response answers to clinical questions and direct them towards the National Knowledge Service audit of Clinical Question Answering Services in England and Wales.

**An overview of the design and methods for retrieving high-quality studies for clinical care**, Nancy L Wilczynski, Douglas Morgan, R Brian Haynes, and the Hedges Team, BMC Medical Informatics Decision Making, June 2005, 5(20).

**Abstract:**

Background: With the information explosion, the retrieval of the best clinical evidence from large, general purpose, bibliographic databases such as MEDLINE can be difficult. Both researchers conducting systematic reviews and clinicians faced with a patient care question are confronted with the daunting task of searching for the best medical literature in electronic databases. Many have advocated the use of search filters or "hedges" to assist with the searching process. The purpose of this report is to describe the design and methods

of a study that set out to develop optimal search strategies for retrieving sound clinical studies of health disorders in large electronics databases.

**Objective:** To describe the design and methods of a study that set out to develop optimal search strategies for retrieving sound clinical studies of health disorders in large electronic databases.

**Design:** An analytic survey comparing hand searches of 170 journals in the year 2000 with retrievals from MEDLINE, EMBASE, CINAHL, and PsycINFO for candidate search terms and combinations. The sensitivity, specificity, precision, and accuracy of unique search terms and combinations of search terms were calculated.

**Conclusion:** A study design modeled after a diagnostic testing procedure with a gold standard (the hand search of the literature) and a test (the search terms) is an effective way of developing, testing, and validating search strategies for use in large electronic databases.

**Clever searching for evidence**, Sharon Sanders, Chris Del Mar, BMJ, 21st May 2005, 330(7501): 1162-3.

**No abstract available.**

**Optimal search strategies for retrieving scientifically strong studies of treatment from Medline: analytical survey**, Haynes RB, McKibbin KA, Wilczynski NL, Walter SD, Werre SR; Hedges Team, BMJ, 21<sup>st</sup> May 2005, 330(7501):1179.

**Abstract:** OBJECTIVE: To develop and test optimal Medline search strategies for retrieving sound clinical studies on prevention or treatment of health disorders.

DESIGN: Analytical survey.

DATA SOURCES: 161 clinical journals indexed in Medline for the year 2000.

MAIN OUTCOME MEASURES: Sensitivity, specificity, precision, and accuracy of 4862 unique terms in 18 404 combinations.

RESULTS: Only 1587 (24.2%) of 6568 articles on treatment met criteria for testing clinical interventions. Combinations of search terms reached peak sensitivities of 99.3% (95% confidence interval 98.7% to 99.8%) at a specificity of 70.4% (69.8% to 70.9%). Compared with best single terms, best multiple terms increased sensitivity for sound studies by 4.1% (absolute increase), but with substantial loss of specificity (absolute difference 23.7%) when sensitivity was maximised. When terms were combined to maximise specificity, 97.4% (97.3% to 97.6%) was achieved, about the same as that achieved by the best single term



(97.6%, 97.4% to 97.7%). The strategies newly reported in this paper outperformed other validated search strategies except for two strategies that had slightly higher specificity (98.1% and 97.6% v 97.4%) but lower sensitivity (42.0% and 92.8% v 93.1%).

**CONCLUSION:** New empirical search strategies have been validated to optimise retrieval from Medline of articles reporting high quality clinical studies on prevention or treatment of health disorders.

**askMEDLINE: a free-text, natural language query tool for MEDLINE/PubMed**, Paul Fontelo, Fang Liu and Michael Ackerman, BMC Medical Informatics and Decision Making, March 2005, 5(5).

**Abstract:** Plain language search tools for MEDLINE/PubMed are few. We wanted to develop a search tool that would allow anyone using a free-text, natural language query and without knowing specialized vocabularies that an expert searcher might use, to find relevant citations in MEDLINE/PubMed. This tool would translate a question into an efficient search.

**Results:** The accuracy and relevance of retrieved citations were compared to references cited in BMJ POEMs and CATs (critically appraised topics) questions from the University of Michigan Department of Pediatrics. askMEDLINE correctly matched the cited references 75.8% in POEMs and 89.2 % in CATs questions on first pass. When articles that were deemed to be relevant to the clinical questions were included, the overall efficiency in retrieving journal articles was 96.8% (POEMs) and 96.3% (CATs.)

**Conclusion:** askMEDLINE might be a useful search tool for clinicians, researchers, and other information seekers interested in finding current evidence in MEDLINE/PubMed. The text-only format could be convenient for users with wireless handheld devices and those with low-bandwidth connections in remote locations.

**A survey of UK clinical librarianship: February 2004**, Ward L., Health Information and Libraries Journal, 2005, 22(1): 26-34.

**Abstract:** AIM: This article will describe a survey carried out in February 2004, the aim of which was to summarize the form and content of clinical librarian (CL) and other similar outreach information services to UK health professionals in the acute (secondary or tertiary) sector.

**OBJECTIVES:** (i) To survey the activities and views of UK information professionals offering information services involving the librarians' presence in the clinical setting, (ii) to develop a tool to explore critical aspects of this form of information work, (iii) to create a contacts database for UK CLs, to be made available on the Internet.

**METHODOLOGY:** All known information specialists/librarians offering CL or similar services were surveyed. The semi-structured questionnaire was piloted. Respondents were asked to consider their activity over a period of 4 weeks.

**RESULTS:** Twenty-six people responded to the invitation to take part and met the inclusion criteria.

**CONCLUSIONS:** A summary of a 'typical' clinical librarian revealed by this survey is given, with a major conclusion that there is a very mixed picture of activity. Opinion on how far CLs should go in fully appraising search results is uncertain. The survey suggests reasons for this and the developments that may influence change are discussed. Recommendations for future research and development are offered.

**Envisioning the Information Specialist in Context (ISIC)**, Sathe N, Giuse NB., *MLA News*, 2005, 373, 14.

**No abstract available.**

**Evidence-Based Practice: a new paradigm brings new opportunities for health sciences librarians**, Perry GJ, Kronenfeld MR., *Medical Reference Services Quarterly*, 2005, 24(4): 1-16.

**Abstract:** It is questionable whether the Evidence-Based Health Care model, whereby end users appraise all potentially pertinent information, is sustainable. A shift to an Evidence-Based Practice model, featuring a new medical knowledge base infrastructure facilitating rapid translation of clinical research into practice should be embraced. This shift would offer new opportunities for health sciences librarians. In this article, the authors: (1) review milestones in the evolution of the health sciences knowledge base; (2) review the evolution of the Evidence-Based Health Care/Practice model of health information utilization; and (3) discuss the significance and implications for health sciences librarians of trends towards an increasingly digital health information environment. The authors suggest new roles for health sciences librarians: partnering to integrate advanced information management technologies into the clinical enterprise and integration into the processes for developing these technologies.

**Evolution of a mature clinical informationist model**, Giuse NB, Koonce TY, Jerome RN, Cahall M, Sathe NA, Williams A., *Journal of the American Medical Informatics Association*, 2005, 12(3): 249-55.

**Abstract:** Achieving evidence-based practice will require new approaches to providing information during health care delivery and to integrating evidence and informatics at the point of care. To support evidence-based practice, Vanderbilt University Medical Center's Eskind Biomedical Library (EBL) introduced the role of clinical informationist, an information specialist with sufficient knowledge and insight to function as a true partner in the health care team. To further disseminate evidence-based knowledge, the Vanderbilt University Medical Center's (VUMC) electronic medical record system and pathway development processes integrate advanced information synthesis capabilities provided by clinical informationists. Combining clinical informationist expertise with informatics tools is an effective strategy for delivering the evidence needed to support patient care decisions.

**Facilitating patient centredness through information work: seeing librarians as guests in the lives of patients**, Zipperer L, Gillaspie M, Goeltz R., *Journal of Hospital Librarianship*, 2005, 5(3): 1-15.

**Abstract:** The notion that professionals working in health care whether physician, pharmacist, nurse, or librarian can be perceived as guests in the lives of patients can serve as a powerful philosophy when designing services for patients. Librarians in health care organizations can contribute to this patient-centered approach to care through a variety of relationships: that with the patient, the clinicians, and the organizations facilitating the care. Using the Institute of Medicine's (IOM) Crossing the Quality Chasm definition and discussion of patient centeredness, a view of how librarians should interact with patients and providers to support patient-centered service will emerge. A personal story of how sharing information in a guest/host fashion to improve care is provided. Examples of services that contribute to supporting this type of relationship at various stages of the care continuum will be reviewed. New ways of collaborating are presented to provide librarians with concrete ideas and examples of how to shift their effort and the work of their organization toward the quality aim of patient-centered care.

**Fellowship training at John Hopkins: programs leading to careers in librarianship and informatics as informaticians or informationists**, Campbell JM, Roderer NK., *Medical Reference Services Quarterly*, 2005, 24(1): 93-9.

**Abstract:** Preparing librarians to meet the information challenges faced in the current and future health care environments is critical. At Johns Hopkins University, three NLM-funded fellowship programs provide opportunities for librarians to utilize the rich environments of the Welch Medical Library and the Division of Health Sciences Informatics in support of life-long learning.

**Librarians as hidden gems in a clinical team**, Schwing LJ, Coldsmith EE., Medical Reference Services Quarterly, 2005, 24(1): 29-39.

**Abstract:** Medical librarians typically contribute to patient care from the confines of the library in response to practitioners' requests for literature searches, information pearls, and evidence-based information. While this model has long served the needs of active clinicians, the learning environment of residency programs is ripe for innovative librarian involvement. This paper illustrates how the librarian can become part of a clinical team outside of the library and provide real-time reference services while teaching by example. Benefits of the alliance include the integration of disciplines to provide enhanced resident learning and improved patient care.

**Librarians, informaticists, informationists, and other information professionals in biomedicine and the health sciences: what do they do?**, McKnight M., Journal of Hospital Librarianship, 2005, 5(1):13-29.

**Abstract:** Biomedicine and health today are supported by a tightly woven interdisciplinary braid of (1) the discovery and use of information content, (2) its storage, management, and retrieval by information science (including the practice of librarianship) enabled by (3) the tools of information technology. Few specialists in one strand of the braid can work without some understanding of the other two strands. None have a monopoly on any one strand. Professional titles in research, education, and practice often are inadequate descriptions of the cross-disciplinary roles of their holders, or the actual practice of the professions. Some are medical librarians, health information managers, biomedical informaticists, and clinical informationists. Others work with controlled vocabularies, imaging and radiation therapy informatics, or business information systems. Biomedical informatics and bioinformatics related to human health include biosignals (including patient monitoring), laboratory informatics, pharmaceutical informatics, biomolecular informatics, genetic informatics, and proteonomics.

**North Wales Clinical Librarian Project**, Urquhart C, Durbin J, Turner J., Aberystwyth: University of Wales Department of Information Studies, 2005.

**Abstract:** Executive summary from summary report. Scope of evaluation Clinical librarian services have developed in different ways in different organisations. The common theme to any clinical librarian role is provision of information services at the point of need, often at, or near the point of care. The clinical librarian works with health professionals in their work settings, outside the library. In the North Wales project, the roles included: • Literature searching skills training (NW Wales) • Support for multidisciplinary teams (including journal clubs) (NE Wales, Conwy & Denbighshire. The Clinical Librarian started in post on 15

September 2003. The evaluation plans were prepared immediately after that, but the formal work could not start until March 2004, when ethics approval was obtained. The Clinical Librarian post formally completed in February 2005. The aim of the evaluation was to provide evidence to inform future structures of health library support for clinical governance. The evidence was obtained by showing how the clinical librarian service impacted on clinical practice, and the information seeking and critical appraisal skills of staff. In addition, the impact of the service on the health library activities was studied. From this evaluation, some lessons may be drawn for future development of Welsh health library services.

**Objectives** The objectives were to:

- Assess which aspects of the clinical librarian services were used
- Estimate time (and money saved) through clinical librarian searches, compared with searching conducted by clinical staff
- Estimate the effect of information skills training on staff searching patterns, and time taken to search
- Examine the benefits to clinical practice (in terms of clinical governance activities and policies)
- Examine whether information skills training has affected skills and confidence
- Explain some of the factors affecting the working of the clinical multidisciplinary teams with the clinical librarian, and whether attitudes towards the clinical librarian changed.

**Key messages** Clinical librarian support, through training or team working:

- Increases the willingness of staff to search for information to support clinical decisions (thus decreasing risks to patient care of unsafe decisions)
- Improves staff skills in searching for the best evidence, among all staff groups, with the greatest effect (at this stage) among doctors (enhancing critical appraisal skills)
- Changes team attitudes and cultures towards searching for the evidence – a more discriminating approach emerging as the norm.

Information found by the clinical librarian is also shared among the team (saving time and benefiting team learning)

- Reaches staff who are not currently library users (with benefits for clinical governance)
- Makes searching for the evidence more efficient and effective (health professionals believe that searches by the clinical librarian are more comprehensive than theirs)

**Recommendations for clinical librarian services** The clinical librarian service should be targeted to areas where support is appropriate and likely to be cost-effective. These include:

- Journal clubs
- Support of newly established multidisciplinary community teams.

**Recommendations for future health library services** The future library service model might have a library services manager responsible for services across a Trust or several small Trusts. In this shared services model, there would be opportunities for specialist librarians to work as outreach trainers, clinical librarians, or research support. Supporting this structure there would be a group of support staff, who themselves might have to specialise in tasks such as cataloguing, dealing with customer enquiries (face to face and remote enquiries). The support staff, after all, are the 'front face' of the library service to many of the users. The support staff generally work in the physical library space. The librarian may not be, as the role will require liaison work outside the library.

**Peer training in expert searching: the observation effect**, Vieira DL, Dunn K., Journal of the Medical Library Association, 2005, 93(1): 69-73.

**Abstract:** Objectives: The purpose of this study is to determine if searchers' observing each others' search processes is an effective training method and if sharing through observation can strengthen search skills.

Method: A shared email account was established among all public services librarians conducting literature searches at the Ehrman Medical Library. Three questionnaires were sent to the public services librarians soliciting input on the shared-search process. The results were analyzed for this study.

Results: The shared-search process has helped searchers become more effective in searching. Colleagues' viewing of the search results is a major factor influencing the searchers' performance.

Conclusions: Easy to implement, the peer-training model is an effective way to train searchers as well as help keep skills up to date.

**Providing evidence-based answers to complex clinical questions: evaluating the consistency of article selection**, Rosenbloom ST, Giuse NB, Jerome RN, Blackford JU. , Academic Medicine, 2005, 80(1):109-14.

**Abstract:** PURPOSE: Health care providers must maintain familiarity with current biomedical evidence, but clinicians struggle to maintain their awareness of current research because of the demands of daily practice and the exponential growth of medical knowledge. Clinical information specialists (informationists), trained experts in reviewing and filtering the medical literature in response to complex clinical queries, may be able to assist practicing clinicians. This study compared informationists and two categories of physicians in their article selection in response to two complex clinical questions.

METHOD: The study was performed at Vanderbilt University Medical Center. A total of 15 faculty and staff from three groups were recruited (five general physicians, five physicians trained in research methodology, and five informationists). The participants reviewed two previously selected clinical questions, worked in focus groups to define the pertinent facet questions of the questions, and then ranked the articles by pertinence to the clinical questions.

RESULTS: In general, both informationists and physicians trained in research methodology had a high degree of intergroup agreement for ranking article pertinence, while the generalists were less likely to agree on pertinent articles.

CONCLUSIONS: These findings suggest that informationists consistently select articles relevant to answering complex clinical queries and may assist practicing clinicians by providing information relevant to patient cases.

**Subject knowledge in the health sciences library: an online survey of Canadian academic health sciences librarians**, Watson EM., Journal of the Medical Library Association, 2005, 93(4): 459-66.

**Abstract:** Objectives: This study investigated whether Canadian academic health sciences librarians found knowledge of the health sciences to be important and, if so, how they acquired and maintained this knowledge.

Methods: Data were gathered using a Web-based questionnaire made available to Canadian academic health sciences librarians.

Results: Respondents recognized the need for subject knowledge: 93.3% of respondents indicated that subject knowledge was “very important” or “somewhat important” to doing their job. However, few respondents felt that holding a degree in the health sciences was necessary. Respondents reported devoting on average more than 6 hours per week to continuing education through various means. Reading or browsing health sciences journals, visiting Websites, studying independently, and participating in professional associations were identified by the largest number of participants as the best ways to become and stay informed.

Conclusions: Although more research needs to be done with a larger sample, subject knowledge continues to be important to Canadian academic health sciences librarians. Continuing education, rather than formal degree studies, is the method of choice for obtaining and maintaining this knowledge.

**The role of the clinical librarian: can our experience of supporting clinicians be transferred to managers?**, Verschuere J., IFMH Inform, Spring 2005, 16(1): 13-15.

**No abstract available.**

**The role of expert searching in the Family Physicians' Inquiries Network (FPIN)**, Ward D, Meadows SE, Nashelsky J.E., Journal of the Medical Library Association, 2005, 93(1): 88-96.

**Abstract:** Objective: This article describes the contributions of medical librarians, as members of the Family Physicians' Inquiries Network (FPIN), to the creation of a database of clinical questions and answers that allows family physicians to practice evidence-based

medicine using high-quality information at the point of care. The medical librarians have contributed their evidence-based search expertise and knowledge of information systems that support the processes and output of the consortium.

**Methods:** Since its inception, librarians have been included as valued members of the FPIN community. FPIN recognizes the search expertise of librarians, and each FPIN librarian must meet qualifications demonstrating appropriate experience and training in evidence-based medicine. The consortium works collaboratively to produce the Clinical Inquiries series published in family medicine publications.

**Results:** Over 170 Clinical Inquiries have appeared in Journal of Family Practice (JFP) and American Family Physician (AFP). Surveys have shown that this series has become the most widely read part of the JFP Website. As a result, FPIN has formalized specific librarian roles that have helped build the organizational infrastructure.

**Conclusions:** All of the activities of the consortium are highly collaborative, and the librarian community reflects that. The FPIN librarians are valuable and equal contributors to the process of creating, updating, and maintaining high-quality clinical information for practicing primary care physicians. Of particular value is the skill of expert searching that the librarians bring to FPIN's products.

**The value and impact of information provided through library services for patient care: a systematic review**, Weightman AL, Williamson J., Health Information and Libraries Journal, 2005, 22(1): 4-25.

**Abstract:** **OBJECTIVE:** An updated systematic review was carried out of research studies looking at the value and impact of library services on health outcomes for patients and time saved by health professionals.

**METHODS:** A comprehensive systematic search was undertaken of the published literature to September 2003 in ERIC, LISA, MEDLINE, PREMEDLINE, EMBASE, the Cochrane Controlled Trials Register and Google. Some handsearching was carried out, reference lists were scanned and experts in the field were contacted. Twenty-eight research studies of professionally led libraries for health-care staff, including clinical librarian projects, met the inclusion criterion of at least one health or 'time saved' outcome. Papers were critically appraised using internationally accepted criteria. Data were extracted and results were summarised using a narrative format as the studies were heterogeneous and precluded a statistical analysis.

**RESULTS:** There is evidence of impact from both traditional and clinical librarian services. The higher quality studies of traditional services measured impacts of 37-97% on general patient care, 10-31% on diagnosis, 20-51% on choice of tests, 27-45% on choice of therapy



and 10-19% on reduced length of stay. Four studies of clinical librarian projects suggested that professionals saved time as a result of clinical librarian input, and two of these studies showed evidence of cost-effectiveness. However, the clinical librarian studies were generally smaller, with poorer quality standards.

**CONCLUSIONS:** Research studies suggest that professionally led library services have an impact on health outcomes for patients and may lead to time savings for health-care professionals. The available studies vary greatly in quality but the better quality studies also suggest positive impacts. Good practice can be gathered from these studies to guide the development of a pragmatic survey for library services that includes the direct effects for patients among the outcome measures.

**Optimal search strategies for retrieving systematic reviews from Medline: analytical survey,** Victor M Montori, Nancy L Wilczynski, Douglas Morgan, R Brian Haynes, BMJ, 2005, 330:68.

**Abstract:**

**Objective:** To develop optimal search strategies in Medline for retrieving systematic reviews.

**Design:** Analytical survey.

**Data sources:** 161 journals published in 2000 indexed in Medline.

**Main outcome measures:** The sensitivity, specificity, and precision of retrieval of systematic reviews of 4862 unique terms in 782 485 combinations of one to five terms were determined by comparison with a hand search of all articles (the criterion standard) in 161 journals published during 2000 (49 028 articles).

**Results:** Only 753 (1.5%) of the 49 028 articles were systematic reviews. The most sensitive strategy included five terms and had a sensitivity of 99.9% (95% confidence interval 99.6% to 100%) and a specificity of 52% (51.6% to 52.5%). The strategy that best minimised the difference between sensitivity and specificity had a sensitivity of 98% (97% to 99%) and specificity of 90.8% (90.5% to 91.1%). Highest precision for multiterm strategies, 57% (54% to 60%), was achieved at a sensitivity of 71% (68% to 74%). The term "cochrane database of systematic reviews.jn." was the most precise single term search strategy (sensitivity of 56% (52% to 60%) and precision of 96% (94% to 98%)). These strategies are available through the "limit" screen of Ovid's search interface for Medline.

**Conclusions:** Systematic reviews can be retrieved from Medline with close to perfect sensitivity or specificity, or with high precision, by using empirical search strategies.

2004

**Evidence-based databases versus primary medical literature: an in-house investigation on their optimal use**, Koonce TY, Giuse NB, Todd P, Journal of the Medical Library Association, October 2004, 92(4): 407-11.

**Abstract:** OBJECTIVE: The objective is to investigate the effectiveness of evidence-based medicine (EBM) resources in providing evidence for complex clinical questions versus general care management questions to identify situations for their optimal use. METHODS: In this investigation, forty complex clinical questions were randomly selected from an in-house archival database of questions received by librarians during clinical rounds. An additional forty questions were selected from a list of general care management questions received by the library from Pathways teams. To measure the effectiveness of resources in answering the questions, a team of librarians was asked to search UpToDate, the Cochrane Database of Systematic Reviews, and HealthGate Clinical Guidelines (formerly, EBM Solutions). The team then established consensus on whether a question was fully or partially answered by one of the above-mentioned EBM resources and was instructed to record the instances in which the primary literature needed to be used to answer the question completely. RESULTS: The study found that the EBM resources completely answered 20.0% of the 40 complex clinical questions and 47.5% of the 40 general care management questions, partially answered 40.0% of the complex clinical questions and 22.5% of the general care management questions, and did not answer 40.0% of the complex clinical questions and 30.0% of the general care management questions. CONCLUSION: The pervasive use of EBM resources in answering clinical questions is making it imperative for information specialists to develop an expertise on their appropriate use. By exploring their use in answering complex clinical questions and general care management questions, this paper underlines the strengths and weakness of EBM resources and provides information specialists with some basic knowledge about how these resources can be combined with the primary literature to strengthen their effectiveness.

**PDAs: exploring the role of the medical librarian**, Lovett D.G., Electronic Resources in Medical Libraries, 2004,1(1):113-8.

**No abstract available.**

**Clinical Librarianship: Resource Guide**, Bertha Yuen Man Low, Inform, Summer 2004, 15(1): 12-13.

**No abstract available.**

**Clinicians, librarians and patient safety: opportunities for partnership**, L Zipperer, Quality and Safety in Health Care, 2004 June, 13(3): 218–222.

**Abstract:** Librarians could improve the safety of medical care through greater participation in patient safety initiatives. A librarian's expertise in accessing the evidence base could enhance the safety and appropriateness of care in a clinical environment. In addition, librarians could apply specific technical knowledge management skills to medicine. To realize improvements from these skill sets, healthcare leaders must consider ways of working with librarians to enhance patient safety.

**Knowledge in the palm of your hands; PDAs in the clinical setting**, Honeybourne C, Sutton S, Ward L, Health Information and Libraries Journal, March 2006, 23(1):51-9.

**Abstract:** OBJECTIVE: To explore the impact of hand-held computers on patient care by identifying: (i) how often clinical staff accessed resources on hand-held computers to inform their clinical decision making; (ii) Which hand-held resources were thought to be most useful in the clinical setting; (iii) the barriers to using hand-held resources to support patient care.

DESIGN: A descriptive study comparing aspects of Personal Digital Assistant (PDA) resource use in two phases, between August 2002 and December 2003. There was variability in the way that resources were accessed between the two studies.

SETTING: University Hospitals of Leicester NHS Trust, an acute teaching hospital, and one primary care practice.

PARTICIPANTS: A purposive sample of 14 clinical and librarian staff participated in phase one and 14 in phase two of the study. Participants consisted of consultants, nurses, pharmacist, junior doctors, clinical librarians, and a general practitioner.

MAIN OUTCOME MEASURES: Baseline Data Questionnaire to identify the participants' level of knowledge and use of hand-helds on entering the study. End-of-phase questionnaire with self-reported measures of use of the hand-held and PDA resources during the study.

RESULTS: All of the participants used hand-helds in their clinical setting to support evidence-based practice and education, but with varying frequency. More staff reported using the hand-held to answer specific patient questions in phase two than phase one of the study. UK resources were preferred to American resources. The 'plug-in and go' method using Secure Digital (SD) cards was preferred to downloading resources from the Internet.

CONCLUSIONS: Hand-held technology is emerging as an effective clinical tool to aid evidence-based practice and support the educational needs of clinical staff. The hand-held can provide a critical mass of information that is relevant, quickly accessible and in a

coherent format: delivering clinical information at the point of need with a resulting benefit to patient safety.

**A model for training the new bioinformaticist**, Jennifer Lyon, Nunzia Bettinsoli Giuse, Annette Williams, Taneya Koonce, Rachel Walden, *Journal of the Medical Library Association*, April 2004, 92(2): 188-195.

**Abstract:**

**Objectives:** The objectives were to examine the effectiveness of a curriculum designed to increase bioinformatics competencies of librarians with diverse backgrounds and to identify demographic factors that may affect the learning process.

**Methods:** Sixteen professional staff participated in a 12-week training course consisting of 5 distinct modules: molecular biology, genetic analysis, biotechnology, research literature, and databases. Participants completed a 120-question pretest and an 88-question posttest designed to evaluate the effectiveness of the training.

**Results:** Training was deemed successful as all participants scored higher on the posttest than the pretest. Data analysis was conducted in relation to participant background. Holding a biology degree did not seem to affect posttest results. Years of experience, however, had an impact on final scores in the databases section, as senior team members had greater difficulty learning the material.

**Discussion:** As the need for specialized information in the area of molecular biology and genetics becomes more central for the effectiveness of organizations, it is crucial for libraries to quickly align with those needs by having a clear vision for increasing the skills and competencies of their staff in this subject area. This paper describes an effective model for learning that was developed and tested by the Eskin Biomedical Library.

**Evaluating the effectiveness of clinical medical librarian programs: a systematic review of the literature**, Wagner KC, Byrd GD, *Journal of the Medical Library Association*, January 2004, 92(1): 14-33.

**Abstract:** **OBJECTIVE:** This study was undertaken to determine if a systematic review of the evidence from thirty years of literature evaluating clinical medical librarian (CML) programs could help clarify the effectiveness of this outreach service model. **METHODS:** A descriptive review of the CML literature describes the general characteristics of these services as they have been implemented, primarily in teaching-hospital settings. Comprehensive searches for CML studies using quantitative or qualitative evaluation methods were conducted in the medical, allied health, librarianship, and social sciences literature. **FINDINGS:** Thirty-five

studies published between 1974 and 2001 met the review criteria. Most (30) evaluated single, active programs and used descriptive research methods (e.g., use statistics or surveys/questionnaires). A weighted average of 89% of users in twelve studies found CML services useful and of high quality, and 65% of users in another overlapping, but not identical, twelve studies said these services contributed to improved patient care.

**CONCLUSIONS:** The total amount of research evidence for CML program effectiveness is not great and most of it is descriptive rather than comparative or analytically qualitative. Standards are needed to consistently evaluate CML or informationist programs in the future. A carefully structured multiprogram study including three to five of the best current programs is needed to define the true value of these services.

**Keeping up to date with the knowledge base**, Andrew Booth, 2000.

**Abstract:** Healthcare organizations are being required to develop knowledge management to enable clinicians to retrieve information at the point of need, as well as to facilitate tailored periodic update. The imperative for clinical governance, a recent feature of the British National Health Service, requires targeting of clinical effectiveness information. As Richardson (1999) states: 'Widespread awareness of research evidence is central to improving clinical effectiveness. But if information is not disseminated, the process breaks down.'

This chapter provides guidance on how to monitor the knowledge base and keep up to date with advances in research and practice. Methods of setting up selective dissemination of information (SDI) services, and using contents page delivery services, are described. Use of the Internet will be discussed, including various current awareness systems and intelligent agents. The aim of this chapter is to equip readers with the information and skills required to keep their knowledge base refreshed with relevant, timely and accurate information.

**Clinical librarianship in the UK: temporary trend or permanent profession? Part II: present challenges and future opportunities**, Harrison Janet, Sargeant Sally JE., Health Information and Libraries Journal, 2004, 21(4):220-6.

**Abstract:** BACKGROUND: This article is the second part of a two-part series reporting a study of the role of the Clinical Librarian (CL) in the UK.

METHODS: A qualitative method of semi-structured interviews was used to explore in-depth the role of the CL. The interviews provided a rich source of data and give insight into this new and emerging role as practised in the National Health Service (NHS). Similarities and differences are examined between the CL population and reported within themes, specifically: personal qualities and skills required, training for the CLs, marketing the CL

service, working in the clinical environment, monitoring and evaluation and the acceptance of the CL in the NHS.

**RESULTS:** A common understanding of the skills and knowledge required to undertake the CL role was shared by the respondents. However, practice differed as this was often dictated by local circumstances. The study confirmed the need for the CLs to work with clinical colleagues in the clinical setting to enhance patient care.

**CONCLUSION:** The importance of using best evidence to support patient care is a message that is slowly becoming the norm in the NHS and the CL role in this practice is demonstrated by this study.

**Clinical medical librarian to clinical informationist**, Brown, HA., Reference Services Review, 2004, 32(1): 45-49.

**Abstract:** Clinical medical librarians stepped out of the library and joined the patient care team in the early 1970s, beginning in Kansas City, Missouri and then Hartford, Connecticut. Now they are present to report the literature, take literature search requests and, most importantly, perceive information needs at Morning Report, bedside rounds, or weekly conferences. Within 24 hours or less, they return to the patient care team with literature to aid in patient planning. Clinical medical librarians also teach online searching in an evidence-based way and help patient care team members with other research needs. In 2000, the concept of the informationist was introduced. It can begin with clinical medical librarianship and expand to this information specialist in context, being based and salaried in a clinical setting, having information-seeking skills, knowledge of informatics and the clinical subject area. Both the clinical medical librarian and the clinical informationist contribute to better patient care, medical education and clinical research.

**Clinicians, librarians and patient safety: opportunities for partnership**, Zipperer L., Quality and Safety in Health Care, 2004, 13(3): 218-22.

**Abstract:** Librarians could improve the safety of medical care through greater participation in patient safety initiatives. A librarian's expertise in accessing the evidence base could enhance the safety and appropriateness of care in a clinical environment. In addition, librarians could apply specific technical knowledge management skills to medicine. To realize improvements from these skill sets, healthcare leaders must consider ways of working with librarians to enhance patient safety.

**Partnership working in the production of clinical guidelines**, Keating Liza, Carter Helen, Darwent Melanie, Bateman Sally, Mackay Donald M, Pullinger Rick, Health Information and Libraries Journal, 2004, 21(Suppl 1): 46-51.

**Abstract:** This article describes a working partnership between the Cairns Clinical Librarian Service, Health Care Libraries, University of Oxford and the Emergency Department (ED) at the John Radcliffe Hospital, Oxford. This collaboration resulted in the establishment of a guideline development group in June 2002. The aim of the group is to produce a set of easily accessible, user-orientated, evidence-based guidelines for the use of clinicians in the Emergency Department, within a realistic timescale. The Cairns Clinical Librarian Project was built on previous models of clinical librarianship and incorporated an evaluation of previous programmes. The objective was to provide information to clinicians at the time and point of need. Consultation with the ED from the outset determined the approach adopted by the Cairns team. Clinical guidelines have been shown to improve clinical practice. Pending the introduction of nationally available protocols, we have begun to establish a collection of evidence-based guidelines using web-based architecture in conjunction with the Oxford Radcliffe Hospitals NHS Trust's IT department. A piece of diagnostic analysis was undertaken to ensure a coherent strategy was developed for the guideline project. An 'intermediate approach' was adopted, where existing valid guidelines were modified to fit local circumstances. We strove to be transparent at all times about all aspects of the guideline development process. Formative evaluation has shown how the application of evidence-based health care needs adequate resources and requires people with appropriate knowledge and skills. This article charts the progress of the project and highlights how the partnership between the clinical team and the Clinical Librarian has been deemed to be essential to the success of the project.

**The informationist: a prospective uncontrolled study**, Sladek Ruth M, Pinnock-Carole, Phillips-Paddy-A., International journal for quality in health care, 2004, 16(6): 509-15.

**Abstract:** OBJECTIVE: To determine whether doctors in an Australian tertiary hospital would use an informationist service, and to identify how the service would influence care.

DESIGN: A prospective uncontrolled pilot study July 2002-January 2003.

SETTING: A teaching hospital in South Australia.

STUDY PARTICIPANTS: Fourteen doctors working in the selected units.

INTERVENTION: An informationist attended specified medical in-patient ward rounds and clinical meetings in the Respiratory Medicine, Sleep Disorders, and Rheumatology units. Main outcomes measures. Clinician self-assessed impact of information on a range of

outcomes relating to clinical decision-making, clinician education, and avoidance of adverse events.

**RESULTS:** In 23 weeks, 52 questions were generated by nine of 14 eligible doctors. Forty-eight of 52 (92%) feedback forms were completed, indicating an average of 5.7 impacted outcomes per response. Twenty-five of 48 (52%) provided new information to doctors, and 24/48 (50%) provided at least some information that could be used immediately. Most common contributions of the service to patient care were revision of treatment plan (21/48, 44%) and confirmation of proposed therapy (18/48, 38%). Thirteen of 48 (27%) contributed to avoiding adverse events, and 10/48 (21%) contributed to avoiding additional tests and procedures. Eleven of 11 (100%) doctors who used the service assessed that it contributed or probably contributed to their professional development, with 8/10 (80%) indicating a similar impact on improving clinical outcomes.

**CONCLUSION:** Medical staff will use an informationist service, which contributes substantially to a multiplicity of outcomes relating to medical decision-making, clinician education, and clinical outcomes.

**The informationist in Australia: a feasibility study**, Sladek Ruth M, Pinnock Carole, Phillips Paddy A., Health Information and Libraries Journal, 2004, 21(2): 94-101.

**Abstract:** **OBJECTIVES:** A clinical informationist could provide the best available published evidence in response to clinicians' questions identified during the process of care. This study sought to assess the feasibility of an informationist service and to propose a model for its delivery in an Australian teaching hospital. Whilst similar services are increasing in the UK, with a long history in the USA, this is the first Australian study in an acute public hospital.

**METHODS:** The views of 40/49 (82%) medical staff at the Daw Park Repatriation General Hospital, South Australia were canvassed using a questionnaire designed to address key issues relating to a proposed service.

**RESULTS:** Doctors were receptive to its potential benefits, perceived it as relevant and likely to be used, and were interested in a pilot. They typically indicated a required response time of 24 h. They expressed limited concerns other than a likely high workload for such a service, and reported currently searching infrequently for evidence in response to clinical questions, citing time issues and unavailability of computers as current key barriers to pursuing clinical questions.

**CONCLUSIONS:** An informationist service is feasible. Results suggest that a pilot could be run in an area of acute medicine where questions about therapy and diagnosis are likely to proliferate, and the informationist should attend consultant ward rounds and clinical meetings, aiming to provide a response within 24 h.



## 2003

**Personal reflections on the role of librarians in the teaching of evidence-based healthcare,** Bexon N, Falzon L, Health Information and Libraries Journal, June 2003, 20(2): 112-5.

**No abstract available.**

**Facilitating evidence-based librarianship: a UK experience,** Liz Doney and Wendy Stanton, Health Information and Libraries Journal, June 2003, 20(Suppl.1): 72-8.

**No abstract available.**

**Clear-cut?: facilitating health librarians to use information research in practice,** Booth A, Brice A, Health Information and Libraries Journal, June 2003, 20(Suppl.1): 45-52.

**Abstract:** In 1999, staff at the universities of Sheffield and Oxford commenced an unfunded project to examine whether it is feasible to apply critical appraisal to daily library practice. This aimed to establish whether barriers experienced when appraising medical literature (such as lack of clinical knowledge, poor knowledge of research methodology and little familiarity with statistical terms) might be reduced when appraising research within a librarian's own discipline. Innovative workshops were devised to equip health librarians with skills in interpreting and applying research. Critical Skills Training in Appraisal for Librarians (CRISTAL) used purpose-specific checklists based on the Users' Guides to the Medical Literature. Delivery was via half-day workshops, based on a format used by the Critical Appraisal Skills Programme. Two pilot workshops in Sheffield and Oxford were evaluated using a brief post-workshop form. Participants recorded objectives in attending, their general understanding of research, and whether they had read the paper before the workshop. They were asked about the length, content and presentation of the workshop, the general format, organization and learning environment, whether it had been a good use of their time and whether they had enjoyed it. Findings must be interpreted with caution. The workshops were enjoyable and a good use of time. Although the scenario selected required no clinical knowledge, barriers remain regarding statistics and research methodology. Future workshops for librarians should include sessions on research design and statistics. Further developments will take forward these findings.

**Implementing PDA technology in a medical library: experiences in a hospital library and an academic medical center library,** Morgen EB, Medical Reference Services Quarterly, Spring 2003, 22(1):11-9.

**Abstract:** Personal digital assistants (PDAs) have grown from being a novelty in the late 1990s to an essential tool for healthcare professionals in the 2000s. This paper describes the experiences of a librarian who implemented PDA technology first in a hospital library, and then at an academic medical center library. It focuses on the role of the library in supporting PDA technology and resources. Included are programmatic issues such as training for library staff and clinicians, and technical issues such as Palm and Windows operating systems. This model could be used in either a hospital or academic health sciences library.

**Effectiveness of training health professionals in literature search skills using electronic health databases--a critical appraisal**, Garg A, Turtle KM, Health Information and Libraries Journal, March 2003, 20(1):33-41.

**Abstract:** The objective was to assess the effect on health professionals' skills of one to eight hours literature search and retrieval training from electronic health databases. We searched: Cochrane library (2002; Issue 3), MEDLINE (1977-2002/5), EMBASE (1980-2002/7); CINAHL (1982-2002/5); ASSIA (1982-2002/7), BNI (1994-2002/5), ERIC (1985-2002/6); LISA (1969--current), NRR (2002, Issue 2), the world-wide-web and references. The selection criteria consisted of randomised controlled trials, controlled before and after, and controlled cohort studies in comparison with no training. The intervention had to be one to eight hours training in literature search and retrieval skills for health professionals. The outcome was the effect on health professionals' literature search and retrieval skill levels measured through reliable instruments. For data collection and analysis, one reviewer extracted data and assessed the quality of the studies and the second reviewer checked it. The results indicate that there is some evidence of positive impact on health professionals' skill levels in literature searching and they find the training useful. In conclusion, the size of the positive effect is debatable as only three small and methodologically weak studies met the inclusion criteria and out of those only two showed the positive effect.

**Information skills training: a systematic review of the literature**, Alison Brettell, Health Information and Libraries Journal, June 2003 20(Suppl.1): 3-9.

**Abstract:** The objectives of this study were to undertake a systematic review to determine the effectiveness of information skills training, to identify effective methods of training and to determine whether information skills training affects patient care. A systematic review, using an iterative approach to searching, was employed. Studies selected for inclusion in the review were critically appraised using a tool used in previous reviews. A tabular approach was used to provide a summary of each paper allowing synthesis of results. One thousand, three hundred and fifty-seven potentially relevant papers were located. On the basis of titles and abstracts, 41 potentially relevant studies were identified for potential inclusion.

Further reading and application of the inclusion criteria left 24 studies for critical appraisal and inclusion in the review. Study designs included randomised controlled trials, cohort designs and qualitative studies. The majority of studies took place in US medical schools. Wide variations were found in course content and training methods. Eight studies used objective methods to test skills, two compared training methods and two examined the effects on patient care. There was limited evidence to show that training improves skills, insufficient evidence to determine the most effective methods of training and limited evidence to show that training improves patient care. Further research is needed in a number of areas.

**Developing and Managing a Virtual Knowledge Service for Health Professionals in England,** Alison Turner, *Journal of Electronic Resources in Medical Libraries*, 2003, 1(1):51-67.

**Abstract:** The National electronic Library for Health (NeLH) is a service for health professionals working in the National Health Service (NHS) in England. The NeLH offers health professionals access to high quality accredited sources of evidence and know-how, with the aim of facilitating decision-making. The service, currently running as a pilot, is working to secure long-term funding and was scheduled to re-launch as a full service in early 2003. This article considers some of the issues involved in developing, delivering, and managing the service since its initial launch in November 2000. Partnerships have been developed with other knowledge services, in particular with NHS librarians, to encourage the integration of local and national knowledge resources. Support for librarians has been created, in the form of a Librarian Portal and a Librarian Development Programme. An area where this partnership approach has been particularly important relates to promotion and publicity, which is discussed in some detail.

**Case studies from morning report: librarians' role in helping residents find evidence-based clinical information,** Atlas MC. Smigielski EM. Wulff JL. Coleman MT, *Medical Reference Services Quarterly*, 2003, 22(3):1-14.

**Abstract:** In primary care specialties, Morning Report is a traditional vehicle for expanding medical residents' training in diagnosis and treatment. At one academic medical center, residents and faculty in the Department of Family and Community Medicine use case-based teaching, centered around planning and reviewing patient management, to review intriguing cases from patient encounters in the department's hospital service. Seeking to improve the level of evidence-based information exchanged at Morning Report, department leaders invited reference librarians from the health sciences library to attend weekly Morning Report. The librarians saw this as an opportunity not only to improve residents' information-seeking skills, but also to improve librarians' teaching skills and understanding

of the needs of users in clinical settings. This paper describes the evolution of librarians' involvement in Morning Report, examples of the kinds of contributions librarians have made in this setting, and changes made in Morning Report sessions to facilitate this activity.

**Clinical librarianship: a systematic review of the literature**, Winning MA. Beverley CA., Health Information and Libraries Journal, June 2003, 20(supp 1):10-21.

**Abstract:** Clinical librarianship (CL), currently receiving renewed interest world-wide, seeks to provide quality-filtered information to health professionals at the point of need to support clinical decision-making. This review builds upon the work of Cimprl (Bulletin of the Medical Library Association 1985, 73, 21-8) and attempts to establish the evidence base for CL. The objectives were to determine, from the literature, whether CL services are used by clinicians, have an effect on patient care, and/or clinicians' use of literature in practice and/or are cost-effective. The methodology used was a systematic review of the literature, following, where possible, the NHS Centre for Reviews and Dissemination (CRD) framework. Modifications to this methodology included the resources searched, and the critical appraisal checklist (CriSTAL) used. Two hundred and eighty-four unique references were retrieved. Seventeen (16 unique) evaluative and a further 33 descriptive studies met the inclusion criteria. The quality of reporting of the literature was generally poor. CL programmes appear to be well-used and received by clinicians. However, there is insufficient evidence available on their effect on patient care, clinicians' use of literature in practice, and their cost-effectiveness, thus highlighting the need for further high-quality research.

**The randomised controlled trial design: unrecognized opportunities for health sciences librarianship**, Eldredge JD., Health Information and Libraries Journal, June 2003, 20 (Suppl. 1):34-44.

**Abstract:**

**OBJECTIVE:** to describe the essential components of the Randomised Controlled Trial (RCT) and its major variations; to describe less conventional applications of the RCT design found in the health sciences literature with potential relevance to health sciences librarianship; to discuss the limited number of RCTs within health sciences librarianship.

**METHODS:** narrative review supported to a limited extent with PubMed and Library Literature database searches consistent with specific search parameters. In addition, more systematic methods, including handsearching of specific journals, to identify health sciences librarianship RCTs.

**RESULTS:** While many RCTs within the health sciences follow more conventional patterns, some RCTs assume certain unique features. Selected examples illustrate the adaptations of this experimental design to answering questions of possible relevance to health sciences librarians. The author offers several strategies for controlling bias in library and informatics applications of the RCT and acknowledges the potential of the electronic era in providing many opportunities to utilize the blinding aspects of RCTs. RCTs within health sciences librarianship inhabit a limited number of subject domains such as education. This limited scope offers both advantages and disadvantages for making Evidence-Based Librarianship (EBL) a reality.

**CONCLUSIONS:** The RCT design offers the potential to answer far more EBL questions than have been addressed by the design to date. Librarians need only extend their horizons through use of the versatile RCT design into new subject domains to facilitate making EBL a reality.

**Clinical Librarianship: a systematic review of the literature**, Winning MA, Beverley CA, Health Information and Libraries Journal, June 2003, 20 (Suppl.1): 10-21.

**Abstract:** Clinical librarianship (CL), currently receiving renewed interest world-wide, seeks to provide quality-filtered information to health professionals at the point of need to support clinical decision-making. This review builds upon the work of Cimprl (Bulletin of the Medical Library Association 1985, 73, 21-8) and attempts to establish the evidence base for CL. The objectives were to determine, from the literature, whether CL services are used by clinicians, have an effect on patient care, and/or clinicians' use of literature in practice and/or are cost-effective. The methodology used was a systematic review of the literature, following, where possible, the NHS Centre for Reviews and Dissemination (CRD) framework. Modifications to this methodology included the resources searched, and the critical appraisal checklist (CriSTAL) used. Two hundred and eighty-four unique references were retrieved. Seventeen (16 unique) evaluative and a further 33 descriptive studies met the inclusion criteria. The quality of reporting of the literature was generally poor. CL programmes appear to be well-used and received by clinicians. However, there is insufficient evidence available on their effect on patient care, clinicians' use of literature in practice, and their cost-effectiveness, thus highlighting the need for further high-quality research.

**Informatics education. Beyond the literature: bioinformatics training for medical librarians**, Lyon J., Medical Reference Services Quarterly, 2003, 22(1):67-74.

**No abstract available.**

## 2002

**The informationist-two years later**, Plutchak TS, Journal of the Medical Library Association, October 2002, 90(4): 367-9.

**No abstract available.**

**Clinical librarians: a journey through a clinical question**, Rigby E, Reid L, Schipperheijn JA, Weston L, Ikkos G., Health Information and Libraries Journal, September 2002, 19(3):158-60.

**No abstract available.**

**MedReach: building an Area Health Education Center medical information outreach system for northwest Ohio**, Steiner V, Hartmann J, Ronau T, Journal of the Medical Library Association, July 2002, 90(3): 317-22.

**Abstract:** In collaboration with regional partners in northwest Ohio, the Area Health Education Center (AHEC) program at the Medical College of Ohio (MCO) at Toledo is reaching out to underserved areas, helping to provide educational opportunities to health care professionals in these communities. This paper describes the development of MedReach, a medical information outreach system that connects regional AHEC sites to MCO via the Internet. MedReach provides physicians and other health care professionals access and support to search computerized textbooks and databases for current information on medical diagnoses, treatments, and research. A unique aspect of the MedReach project is that users are able to receive personal help with information retrieval by calling or emailing MCO's outreach librarian. Periodically, the AHEC program and the Mulford Library at MCO also sponsor an educational program, titled "Medical Applications of Computers," for regional practitioners. Current feedback on both the medical information outreach system and the educational program has been positive.

**Bringing the best of medical librarianship to the patient team**, Shearer BS, Seymour A, Capitani C, Journal of the Medical Library Association, January 2002, 90(1): 22-31.

**Abstract:** This article introduces a series of articles examining the state of the medical library profession as practiced in the clinical context. It is widely understood that many changes across the spectrum of medical librarianship practice have been brought about by both technological advances and economic realities. These changes have created strains felt by many in the profession. Discussions of evolving roles for medical librarians that have

gone on for years have taken on a new sense of urgency, not just because support of library services is at stake, but also because new opportunities, which many are eager to explore, await librarians. In June 2000, an editorial appearing in a mainstream medical journal proposed a reinvention of clinical librarianship that, if designed as presented in the editorial, would have a dramatic effect on current hospital-based library practice. This series of articles was developed in an effort to provide thoughtful consideration of the "informationist" model and to present new ways to look at the core competencies that define the profession.

**Medical informatics education: an alternative pathway for training informationists**, Hersh W, Journal of the Medical Library Association, January 2002, 90(1): 76-9.

**Abstract:** Recognition of the growing complexity of health information needs has led to a call for the creation of a new health care professional, the informationist. Controversy exists as to the role of such individuals and what their training should be. A library science degree, augmented with clinical background or experience, is one pathway. Another to consider is training in medical informatics. With the right coursework, individuals trained in medical informatics should be equally well qualified to assume the role of informationists.

**Hospital librarianship in the United States: at the crossroads**, Wolf DG, Chastain-Warheit CC, Easterby-Gannett S, Chayes MC, Long BA, Journal of the Medical Library Association, January 2002, 90(1): 38-48.

**Abstract:** This paper examines recent developments in hospital librarianship in the United States, including the current status of hospital-based clinical library services. Several examples of hospital library services are presented that demonstrate some characteristics of struggling and thriving services. The implications of the informationist concept are considered. The continuation of the hospital librarian's primary role in support of patient care is explored, as core competencies are reexamined for relevancy in the new millennium.

**A comparative case study of two models of a clinical informaticist service**, Greenhalgh T. et al., BMJ, 2002, 324(7336):524-9.

**Abstract:** Objectives: To describe and evaluate two different models of a clinical informaticist service.

Design: A case study approach, using various qualitative methods to illuminate the complexity of the project groups' experiences.

Setting: UK primary health care.

**Interventions:** Two informaticist projects to provide evidence based answers to questions arising in clinical practice and thereby support high quality clinical decision making by practitioners.

**Results:** The projects took contrasting and complementary approaches to establishing the service. One was based in an academic department of primary health care. The service was academically highly rigorous, remained true to its original proposal, included a prominent research component, and involved relatively little personal contact with practitioners. This group achieved the aim of providing general information and detailed guidance to others intending to set up a similar service. The other group was based in a service general practice and took a much more pragmatic, flexible, and facilitative approach. They achieved the aim of a credible, acceptable, and sustainable service that engaged local practitioners beyond the innovators and enthusiasts and secured continued funding.

**Conclusion:** An informaticist service should be judged on at least two aspects of quality—an academic dimension (the technical quality of the evidence based answers) and a service dimension (the facilitation of questioning behaviour and implementation). This study suggests that, while the former may be best achieved within an academic environment, the latter requires a developmental approach in which pragmatic service considerations are addressed.

**Can the profession of pharmacy serve as a model for health informationist professionals?,** Byrd, GD., *Journal of the Medical Library Association*, 2002, 90(1):68-75.

**Abstract:** Pharmacy could serve as a model for the health informationist profession proposed by Davidoff and Florance in their 2000 editorial in the *Annals of Internal Medicine*. The current training and practice roles for pharmacists suggest a way to prepare health sciences librarians for work with clinical health care teams. The influences that spurred the transformation of pharmacy parallel in many respects those suggesting the need for more information professionals prepared to practice in clinical health care settings. During the same decades that health sciences librarians have been debating and experimenting with new professional roles such as clinical medical librarians, pharmacy has undergone an intensive review of its core values, mission, practice roles, and educational preparation methods. Until recently, most pharmacists graduated from five-year baccalaureate programs preparing them to understand drug products, sources of supply, and effective ways to dispense them to patients as prescribed by physicians. Today, almost all pharmacy students graduate from six-year doctor of pharmacy programs that prepare them to be the primary providers of what their profession calls “pharmaceutical care.” The pharmaceutical care model suggests that health information professionals in clinical settings could be educated and trained to provide what we might call health information care.



**Clinical librarians at Barnet Primary Care NHS Trust: addressing the information requirements of clinical governance**, Reid L. Ikkos G. Hopkins W., Health Information and Libraries Journal, 2002, 19(1):52-5.

**No abstract available.**

**Conference report. The first UK Clinical Librarian Conference, University Hospitals of Leicester NHS Trust, Leicester, UK, 15th March 2002**, Ward LM. Honeybourne CJ., Bibliotheca Medica Canadian, 2002, 24(1):23-25.

**No abstract available.**

**Information in context: integrating information specialists into practice settings**, Florance V. Giuse NB. Ketchell DS., Journal of the Medical Library Association, 2002, 90(1):49-58.

**Abstract:** An information need (the problem) cannot be divorced from its context. The problem context determines the urgency, granularity of detail, authority, and level of certainty required for an acceptable answer and dictates the expertise and resources that can be brought to bear. The size and diversity of the sources that can be marshaled during clinical problem solving is cognitively unmanageable—too large and too complex for a single person to process effectively in a constrained timeframe. Can the clinical team, as currently constituted, collectively handle this information-processing task, or is there a need for special information expertise on the team? If there is such a need, what is the best way to prepare information specialists to participate in context-based problem solving? This article explores preparation for work in information-rich, problem-solving environments. The authors provide two case studies, one clinical and one bioscientific, that elucidate knowledge and training requirements for information specialists who work as peers in patient care and research settings.

**Medical and health applications for PDAs**, McGowan J. Sidlofsky M. Bibliotheca Medica Canadiana, 2002; 23(4):128-30.

**No abstract available.**

**Notes from morning report: a hospital librarian on the bleeding edge of medicine**, Schott MJ., Journal of Hospital Librarianship, 2002, 2(1):77-85.

**No abstract available.**

**Patient-centered librarianship: the informationist and beyond: a symposium to honor the fiftieth anniversary of the Philadelphia Regional Chapter of the Medical Library Association**, Anonymous, Journal of the Medical Library Association, 2002, 90(1):22-8.

**No abstract available.**

**The education of informationists, from the perspective of a library and information science educator**, Detlefsen EG., Journal of the Medical Library Association, 2002, 90(1):59-67.

**Abstract:** This article explores the background of, and some of the current models for the education of, the individuals known as "informationists." A definition, an historical overview, and a literature review are followed by a description of the current practices in a variety of institutions and organizations. A series of five "case reports" illustrates some of the possible tracks that individuals seeking education as informationists may follow. A proposal for a rigorous planning process is made, followed by a list of recommendations for this planning process.

**The Informationist Conference report**, Shipman Jean P, et al., Journal of the Medical Library Association, 2002, 90(4):458-464.

**No abstract available.**

**The informationist: extreme opportunities for extreme librarians**, Watson L. Moore C., National Network. 2002, 27(2):10.

**No abstract available.**

**The Medical Library Association: promoting new roles for health information professionals**, Howman JM. McGowan JJ., Journal of the Medical Library Association, 2002, 90(1):80-85.

**Abstract:** As the Medical Library Association (MLA) enters its second century, its role in providing leadership and focus for the education of health information professionals in a changing environment will be critical. MLA members face dramatic changes in the health

care environment as well as significant opportunities and must position themselves to thrive in the new environment. This paper examines new roles for health information professionals, new approaches to education and training, and related issues of credentialing, certification, and licensure.

[Video clips from the April 2002 Informationist Conference](#), National Library of Medicine, US. Speakers: Carol Jenkins, Frank Davidoff and Valerie Florance.

**When less is more: a practical approach to searching for evidence-based answers**, Grandage KK, Slawson DC, Shaughnessy AF., Journal of the Medical Library Association, 2002, 90(3):298-304.

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

## 2001

**Critical appraisal in clinical practice: sometimes irrelevant, occasionally invalid**, Aravinthan Coomarasamy, Pallavi Latthe, Spyros Papaioannou, Mary Publicover, Harry Gee, Khalid S Khan, Journal of the Royal Society of Medicine, November 2001, 94(11): 573-77.

**Abstract:** A core activity of evidence-based practice is the search for and appraisal of evidence on specific clinical issues. Clinicians vary in their competence in this process; we therefore developed a 16-item checklist for quality of content (relevance and validity) and presentation (useability, attribution, currency and contact details). This was applied to a set

of 55 consecutive appraisals conducted by clinicians and posted at a web-based medical journal club site.

Questions were well formulated in 51/55 (92%) of the appraisals. However, 22% of appraisals missed the most relevant articles to answer the clinical question. Validity of articles was well appraised, with methodological information and data accurately extracted in 84% and accurate conversion to clinically meaningful summary statistics in 87%. The appraisals were presented in a useable way with appropriate and clear bottom-lines stated in 95%.

The weakest link in production of good-quality critical appraisals was identification of relevant articles. This should be a focus for evidence-based medicine and critical appraisal skills.

**Increasingly the health information professional's role in supporting evidence-based practice requires familiarity with critical appraisal skills, resources and techniques**, Booth A, Brice A, Health Information and Libraries Journal, September 2001, 18(3):175-7.

**No abstract available.**

**Information Services: Read between the lines**, Ikkos G, Rigby L, Terry Gill., Health Service Journal, 9 August 2001, 111(5767):33.

**No abstract available.**

**Information needs of clinical teams: analysis of questions received by the Clinical Informatics Consult Service**, Jerome RN, Giuse NB, Gish KW, Sathe NA, Dietrich MS, Bulletin of the Medical Library Association, April 2001, 89(2): 177-84.

**Abstract:** OBJECTIVES: To examine the types of questions received by Clinical Informatics Consult Service (CICS) librarians from clinicians on rounds and to analyze the number of clearly differentiated viewpoints provided in response.

DESIGN: Questions were retrieved from an internal database, the CICS Knowledge Base, and analyzed for redundancy by subject analysis. The unique questions were classified into ten categories by subject. Treatment-related questions were analyzed for the number of viewpoints represented in the librarian's response.

RESULTS: The CICS Knowledge Base contained 476 unique questions and 71 redundant questions. Among the unique queries, the top two categories accounted for 67%: treatment

(36%) and disease description (31%). Within the treatment-related subset, 138 questions (59%) required representation of more than one viewpoint in the librarian's response.

**DISCUSSION:** Questions generated by clinicians frequently require comprehensive, critical appraisal of the medical literature, a need that can be filled by librarians trained in such techniques. This study demonstrates that many questions require representation of more than one viewpoint to answer completely. Moreover, the redundancy rate underscores the need for resources like the CICS Knowledge Base. By critically analyzing the medical literature, CICS librarians are providing a time-saving and valuable service for clinicians and charting new territory for librarians.

**A clinical librarian can support clinical governance,** Ward LM, Honeybourne CJ. Harrison J., British Journal of Clinical Governance, 2001, 6(4): 248-251.

**Abstract:** Tests the feasibility of an outreach clinical librarian service in an acute hospital setting, providing quality filtered research evidence at the point of clinical need. The design was based on a six-month pilot with professional librarians attending clinical meetings responding to information needs raised there by providing appraised summaries of the published evidence, with full text and bibliographic material as appropriate. The main outcomes were usage statistics and clinicians' evaluation via a 23-question questionnaire completed each month seeking overall views of the service. Practical issues regarding the provision of the service were tested. Concludes that an outreach information service in the clinical setting can meet the clinical governance agenda of the Trust by supporting evidence-based practice, teaching and learning and continuing professional development. Earlier models of service are adapted to make the service cost-effective.

**Clinical Librarianship,** Fikar CR., Annals of Internal Medicine, 2001, 135(11):1009-10.

**No abstract available.**

**Clinical Librarianship: its value in medical care,** Schacher, LF., Annals of Internal Medicine, 2001, 134(8):717-20.

**No abstract available.**

**Clinical notes... information service delivery in the healthcare section,** Hernando S. Mackay D., Library Association Record, 2001, 103(11):690-1.

**No abstract available.**

**The impact of clinical governance on the library and information service: clinical librarian case study**, Reid L, Ikkos G, Hopkins W., IFMH Inform, 2001, 12(1): 1-3.

**No abstract available.**

**'The informationist' article sparks debate on education for medical librarianship**, Siess, JA., One-Person Library, 2001, 17(11):1-4.

**No abstract available.**

## **2000**

**Clinical librarianship**, Lipscomb CE, Bulletin of the Medical Library Association, October 2000, 88(4): 393-5.

**No abstract available.**

**The information needs of doctors-in-training: case study from the Cairns Library, University of Oxford**, Forrest M, Robb M, Health Libraries Review, September 2000, 17(3):129-35.

**Abstract:** The objective of this study was to find out more about the information needs of doctors-in-training and to identify their preferred sources of information. The methodology included interviews with consultants and administrators, a focus group discussion with library staff and a postal questionnaire sent to 347 doctors-in-training (there was a 43% return). The shortcomings of a questionnaire primarily composed of closed questions were addressed by the inclusion of one-to-one interviews which offered the opportunity for more in-depth commentary on specific issues highlighted in the questionnaire. Results indicated the frequency with which various types of information sources were consulted and how this related to the 'ease of access' of each information source. There was also the opportunity to comment on future information needs. It was clear from the interviews as well as comments made on the questionnaire that the two most important requirements for doctors-in-training were 'more time to find and obtain information' and 'better access to information sources when and where they are needed'. The results, although not surprising, included specific suggestions that have been used for the strategic planning of the library service to

deliver the best possible support to users within the current framework of evidence-based medicine.

**Modernizing the journal club**, Dwarakanath LS, Khan KS, Hospital Medicine, June 2000, 61(6):425-7.

**Abstract:** Traditionally journal clubs provide a forum to learn presentation skills. We propose a new approach to teaching and learning in journal clubs, focusing on literature acquisition and critical appraisal skills. This approach will enable trainees to use journal clubs for personal professional development as well as for application of new knowledge in clinical medicine to improve patients' outcomes.

**1999**

**Providing library support for the development of clinical guidelines**, R Marriott, Health Libraries Review, June 1999, 16(2): 132-4.

**No abstract available.**

**Does doctor know best - a discussion of clinical librarianship. Advances in clinical knowledge management.**, Harrison J, Lewis S., Conference paper, British Medical Informatics Society / Health Libraries Group. London, April 1999.

**No abstract available.**

**Adapting clinical librarianship**, Gilbert CM., Medical Reference Services Quarterly, 1999, 18(1):69-72.

**No abstract available.**

**Developing a culture of lifelong learning in a library environment**, Guise NB, Kafantaris SR, Huber JT, et al., Bulletin of the Medical Library Association, 1999, 87(1):26-36.

**Abstract:** Between 1995 and 1996, the Annette and Irwin Eskind Biomedical Library (EBL) at Vanderbilt University Medical Center (VUMC) radically revised the model of service it provides to the VUMC community. An in-depth training program was developed for librarians, who began to migrate to clinical settings and establish clinical librarianship and information brokerage services beyond the library's walls. To ensure that excellent service would continue within the library, EBL's training program was adapted for library assistants,

providing them with access to information about a wide variety of work roles and processes over a four to eight-month training period. Concurrently, customer service areas were reorganized so that any question--whether reference or circulation--could be answered at any of four service points, eliminating the practice of passing customers from person to person between the reference and circulation desks. To provide an incentive for highly trained library assistants to remain at EBL, management and library assistants worked together to redesign the career pathway based on defined stages of achievement, self-directed participation in library-wide projects, and demonstrated commitment to lifelong learning. Education and training were the fundamental principles at the center of all this activity.

**Getting evidence to the bedside: role of the clinical librarian. Libraries without limits: changing needs - changing roles**, Lusher A. , Proceeding of the 6th European Conference of Medical and Health Libraries, Utrecht 22-27th June 1998. Dordicht: Kluwer, 1999.

**Abstract:** The role of the clinical librarian, as developed by Lamb in 1971, was to provide highly specific, patient-centred information to clinicians in support of patient care.<sup>1</sup> The clinical librarian would usually attend bedside rounds or clinical meetings where individual patients were discussed, questions on care were raised and specific information sought. The objectives of the clinical librarian were to conduct literature searches for clinical problems and continuing educational requirements, and to provide same-day or next-day access to quality-filtered information in the form of articles or reference material

**Librarians, clinicians, evidence-based medicine, and the division of labour**, Holtum EA., Bulletin of the Medical Library Association, 1999, 87(4):404-7.

**Abstract:** Have librarians promoted end user searching to the detriment of the profession and promoted clinical inefficiency from causally trained health practitioners? Issues related to the complexity of bibliographic retrieval in the networked environment are explored within the context of evidence-based medicine and the division of labor.

**Meeting the information needs of clinicians for the practice of evidence-based healthcare**, Pyne T, Newman K, Leigh S, et al., Health Libraries Review, 1999, 16(1):13-14.

**Abstract:** This article reports on clinicians' use of library resources and the competencies they require to access information necessary for the practice of evidence-based healthcare. It is based on the results of a study commissioned by North Thames Region to identify the training needs of clinicians for the adoption and practice of evidence-based healthcare.



Participants in this qualitative research study included librarians, clinicians (doctors, nurses and PAMs) and managers from four Acute and Community Trusts in and around London.

**The evolving role of the librarian in evidence-based medicine**, Scherrer CS, Dorsch JL., Bulletin of the Medical Library Association, 1999, 87(3):322-328.

**Abstract:** Librarians' participation in evidence-based medicine (EBM) is rooted in past practices, most notably in clinical medical librarianship. EBM extends the librarians' role beyond identification of the literature to involvement in practicing and teaching quality filtering and critical appraisal of the literature. These activities require librarians to acquire new knowledge and develop new skills. A professional development program for librarians at the Library of the Health Sciences (LHS) at the University of Illinois at Chicago (UIC) is described. The program's goals are to increase librarians' skills and support the EBM curricular initiative at the UIC College of Medicine (COM). The unique program has been a collaborative effort of the LHS and the COM. The locally developed classes provide librarians with instruction in clinical study designs, statistical concepts, and critical appraisal of the literature. Other interventions such as an EBM round table are also described. The programs' success is measured by librarians' growing involvement in EBM medical curricula, journal clubs, and morning reports. Additionally, librarians gained competence in new skills and professional satisfaction from working collegially with COM students, residents, and faculty.

## 1998

**The role of the journal club in surgical training**, Spillane AJ, Crowe PJ, the Australian and New Zealand Journal of Surgery, April 1998, 68(4):288-91.

**Abstract:** BACKGROUND: The development of skills in critical appraisal of the medical literature is an important aspect of surgical training.

METHODS: At the Prince of Wales Hospital a journal club has been conducted for more than 5 years to improve the registrars' training in this area. A questionnaire was circulated regarding the success of the journal club at achieving adequate review of the important current literature, development of critical appraisal skills by registrars and providing a convivial social gathering.

RESULTS: A total of 28 out of 39 current or previous journal club members responded to the questionnaire. Twenty-three of the respondents felt that the journal club provided a good to excellent review of current literature, 26 felt that the journal club facilitated development of critical appraisal skills and all 28 said that the journal club was a convivial social forum. Eight research projects developed from journal club reviews, 19 of the respondents reported that their clinical practice had changed, and 19 had been stimulated to further

review a topic as a result of the journal club. Many of the respondents had specific criticisms of the journal club, and these have been used to improve the journal club format.

**CONCLUSIONS:** The present study has highlighted the strengths and weaknesses of our journal club. The journal club is a valuable component of surgical education.

**Clinical medical librarianship: the Vanderbilt experience**, Guise NB, Kafantaris SR, Miller MD, et al., Bulletin of the Medical Library Association, 1998 86(3):412-6.

**No abstract available.**

**Evidence-based medicine and the clinical medical librarian**, Waterman E., National Network, 1998, 22(4):16.

**No abstract available.**

## **1997**

**A new role for the clinical librarian as educator**, Turman LU, Koste JL, Horne AS, et al., Medical Reference Services Quarterly, 1997, 16(1):15-23.

**Abstract:** The Clinical Medical Librarian (CML) Program of the Tompkins-McCaw Library is a special instructional initiative to teach third-year medical students the use of information resources in the clinical setting. Librarians spend one week with selected internal medicine teams participating in work rounds and instructing team members in the use of the medical literature. The librarian assists team members to identify and retrieve relevant information through computer workstations located in the hospital. Photocopies of journal articles are made available to team members through the CML document delivery program.

**Advancing the practice of clinical medical librarianship**, Guise NB. , Bulletin of the medical library association, 1997, 85(4):437-8.

**No abstract available**