Healthcare knowledge needs & behaviours: a bulletin for healthcare library staff: July/August 2018

Aim
This bulletin is designed to help healthcare library staff deliver Knowledge for Healthcare by keeping us up-to-date with the knowledge needs, preferences and behaviours of healthcare staff, students, patients and the public.

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Healthcare Workforce

It takes longer than you think: librarian time spent on systematic review tasks

Source: Journal of the Medical Library Association
Date of Publication: April 2018
Introduction: The authors examined the time that medical librarians spent on specific tasks for systematic reviews (SRs): interview process, search strategy development, search strategy translation, documentation, deliverables, search methodology writing, and instruction. We also investigated relationships among the time spent on SR tasks, years of experience, and number of completed SRs to gain a better understanding of the time spent on SR tasks from time, staffing, and project management perspectives. Methods: A confidential survey and study description were sent to medical library directors who were members of the Association of Academic Health Sciences Libraries as well as librarians serving members of the Association of American Medical Colleges or American Osteopathic Association. Results: Of the 185 participants, 143 (77%) had worked on an SR within the last 5 years. The number of SRs conducted by participants during their careers ranged from 1 to 500, with a median of 5. The major component of time spent was on search strategy development and translation. Average aggregated time for standard tasks was 26.9 hours, with a median of 18.5 hours. Task time was unrelated to the number of SRs but was positively correlated with years of SR experience. Conclusion: The time required to conduct the librarian’s discrete tasks in an SR varies substantially, and there are no standard time frames. Librarians with more SR experience spent more time on instruction and interviews; time spent on all other tasks varied widely. Librarians also can expect to spend a significant amount of their time on search strategy development, translation, and writing. This article has been approved for the Medical Library Association’s Independent Reading Program.
If you have access to this journal you can read the full text here

Understanding Twitter use by major LIS professional organisations in the United States

Source: Journal of Information Science
Date of Publication: January 2018
Although Twitter has been widely adopted by professional organisations, there has been a lack of understanding and research on its utilisation. This article presents a study that looks into how five major library and information science (LIS) professional organisations in the United States use Twitter, including the American Library Association (ALA), Special Libraries Association (SLA), Association for Library and Information Science Education (ALISE), Association for Information Science and Technology (ASIS&T) and the iSchools. Specifically explored are the characteristics of Twitter usage, such as prevalent topics or contents, type of users involved, as well as the user influence based on number of mentions and retweets. The article also presents the network interactions among the LIS associations on Twitter. A systematic Twitter analysis framework of descriptive analytics, content analytics, user analysis and network analytics with relevant metrics used in this study can be applied to other studies of Twitter use.
If you have access to this journal you can read the full text here
The hidden benefits of helping students with systematic reviews
Source: *Journal of the Medical Library Association*
Date of Publication: April 2018
Helping students with systematic reviews goes against the instinct of many librarians, who see it as their duty to talk researchers out of these projects rather than to assist them. My perspective on helping students with systematic reviews changed after meeting with one student a few years ago. However, the question of whether the finished product will be publication worthy or entirely free of error is secondary, in my view, to other potential benefits to the student in completing the assignment. If you have access to this journal you can read the full text [here](#).

K&IM Matters - Our skills are needed to assure quality content
Source: *Information Professional*
Publication Date: April – May 2018
Full text is available to CILIP members.

Big data handling mechanisms in the healthcare applications: A comprehensive and systematic literature review
Source: *Journal of Biomedical Informatics*
Publication Date: June 2018
Healthcare provides many services such as diagnosing, treatment, prevention of diseases, illnesses, injuries, and other physical and mental disorders. Large-scale distributed data processing applications in healthcare as a basic concept operates on large amounts of data. Therefore, big data application functions are the main part of healthcare operations, but there was not any comprehensive and systematic survey about studying and evaluating the important techniques in this field. Therefore, this paper aims at providing the comprehensive, detailed, and systematic study of the state-of-the-art mechanisms in the big data related to healthcare applications in five categories, including machine learning, cloud-based, heuristic-based, agent-based, and hybrid mechanisms. Also, this paper displayed a systematic literature review (SLR) of the big data applications in the healthcare literature up to the end of 2016. Initially, 205 papers were identified, but a paper selection process reduced the number of papers to 29 important studies. Copyright © 2018 Elsevier Inc.

If you have access to this journal you can read the full text [here](#).

Abbreviated literature searches were viable alternatives to comprehensive searches: a meta-epidemiological study
Source: *Journal of Clinical Epidemiology*.
Date of publication May 2018
Objective To assess the effects of abbreviated literature searches on evidence syntheses conclusions. Study design and setting We randomly selected 60 Cochrane reviews of clinical interventions and repeated literature searches using 14 abbreviated approaches (combinations of MEDLINE, Embase, CENTRAL with and without searches of reference lists). If abbreviated searches missed included studies, we re-calculated meta-analyses. Cochrane authors determined whether the new evidence base would change conclusions.
We assessed the non-inferiority of abbreviated searches allowing for a maximum of 10% changed conclusions.

Results We conducted 840 abbreviated literature searches. Non-inferiority varied based on the definition of “changed conclusion”. When the reduction of the certainty of a conclusion was of concern, all abbreviated searches were inferior. Searching Embase only rendered the greatest proportion of changed conclusions (27%, 95% CI 16-40%); combining MEDLINE, Embase, CENTRAL with searches of references lists the lowest (8%, 95%-CI 3-18%). When falsely reaching an opposite conclusion was of concern, combining one database with another or with searches of reference lists was non-inferior to comprehensive searches (2%, 95% CI 0-9%).

Conclusion If decisionmakers are willing to accept less certainty and a small risk for opposite conclusions, some abbreviated searches are viable options for rapid evidence syntheses. Decisions demanding high certainty require comprehensive searches.

If you have access to this journal you can read the full text here.

Strategies to optimize MEDLINE and EMBASE search strategies for anesthesiology systematic reviews. An experimental study.


Date of Publication March/April 2018

BACKGROUND: A high-quality electronic search is essential for ensuring accuracy and comprehensiveness among the records retrieved when conducting systematic reviews. Therefore, we aimed to identify the most efficient method for searching in both MEDLINE (through PubMed) and EMBASE, covering search terms with variant spellings, direct and indirect orders, and associations with MeSH and EMTREE terms (or lack thereof). DESIGN AND SETTING: Experimental study. UNESP, Brazil. METHODS: We selected and analyzed 37 search strategies that had specifically been developed for the field of anesthesiology. These search strategies were adapted in order to cover all potentially relevant search terms, with regard to variant spellings and direct and indirect orders, in the most efficient manner. RESULTS: When the strategies included variant spellings and direct and indirect orders, these adapted versions of the search strategies selected retrieved the same number of search results in MEDLINE (mean of 61.3%) and a higher number in EMBASE (mean of 63.9%) in the sample analyzed. The numbers of results retrieved through the searches analyzed here were not identical with and without associated use of MeSH and EMTREE terms. However, association of these terms from both controlled vocabularies retrieved a larger number of records than did the use of either one of them. CONCLUSIONS: In view of these results, we recommend that the search terms used should include both preferred and non-preferred terms (i.e. variant spellings and direct/indirect order of the same term) and associated MeSH and EMTREE terms, in order to develop highly-sensitive search strategies for systematic reviews. Copyright © 2018 by Associacao Paulista de Medicina. You can read the full text here.

Research trend visualization by MeSH terms from PubMed

Source: International Journal of Environmental Research and Public Health

Date of publication: May 2018

Motivation: PubMed is a primary source of biomedical information comprising search tool function and the biomedical literature from MEDLINE which is the US National Library of Medicine premier bibliographic database, life science journals and online books. Complimentary tools to PubMed have been developed to help the users search for literature and acquire knowledge. However, these tools are insufficient to
overcome the difficulties of the users due to the proliferation of biomedical literature. A new method is needed for searching the knowledge in biomedical field. Methods: A new method is proposed in this study for visualizing the recent research trends based on the retrieved documents corresponding to a search query given by the user. The Medical Subject Headings (MeSH) are used as the primary analytical element. MeSH terms are extracted from the literature and the correlations between them are calculated. A MeSH network, called MeSH Net, is generated as the final result based on the Pathfinder Network algorithm.

Results: A case study for the verification of proposed method was carried out on a research area defined by the search query (immunotherapy and cancer and "tumor microenvironment"). The MeSH Net generated by the method is in good agreement with the actual research activities in the research area (immunotherapy). Conclusion: A prototype application generating MeSH Net was developed. The application, which could be used as a "guide map for travelers", allows the users to quickly and easily acquire the knowledge of research trends. Combination of PubMed and MeSH Net is expected to be an effective complementary system for the researchers in biomedical field experiencing difficulties with search and information analysis. Copyright © 2018 by the authors. Licensee MDPI, Basel, Switzerland. You can read the full text [here](#).

Health information seeking, beliefs about abilities, and health behaviour among Finnish seniors

Source: Journal of Librarianship and Information Science
Date of Publication: 2018
Full text is available to CILIP members

Exploring the roles of the unconscious in information search behaviors

Source: Journal of Librarianship and Information Science
Date of Publication: 2018
Full text is available to CILIP members.

Information literacy skills and training of licensed practical nurses in Alberta, Canada: results of a survey

Source Health Information & Libraries Journal
Date of Publication June 2018
Abstract Background Although information literacy skills are recognized as important to the curriculum and professional outcomes of two-year nursing programs, there is a lack of research on the information literacy skills and support needed by graduates. Objective To identify the information literacy skills and consequent training and support required of Licensed Practical Nurses (LPNs) in Alberta, Canada. Method An online survey using a random sample of new graduates (graduated within 5 years) from the registration database of the College of Practical Nurses of Alberta (CLPNA). Results There was a 43% response rate. Approximately 25–38% of LPNs felt they were only moderately or to a small extent prepared to use evidence effectively in their professional practice. LPNs use the internet and websites most frequently, in contrast to library resources that are used least frequently. Developing lifelong learning skills, using information collaboratively, and locating and retrieving information are areas where LPNs desire more
effective or increased training. Conclusion The results suggest there are significant gaps in the preparedness and ability of LPNs to access and apply research evidence effectively in the workplace. There are several areas in which the training provided by Librarians appears either misaligned or ineffective.

If you have access to this journal you can read the full text here.

**Trends of infodemiology studies: a scoping review**

**Source** Health Information & Libraries Journal  
**Date of Publication**: May 2018  
Introduction The health care industry is rich in data and information. Web technologies, such as search engines and social media, have provided an opportunity for the management of user generated data in real time in the form of infodemiology studies. The aim of this study was to investigate infodemiology studies conducted during 2002–2016, and compare them based on developed, developing and in transition countries. Methods This scoping review was conducted in 2017 with the help of the PRISMA guidelines. PubMed, Scopus, Science Direct, Web of Knowledge, Google Scholar, Wiley and Springer databases were searched between the years 2002 and 2016. Finally, 56 articles were included in the review and analysed. Results The initial infodemiology studies pertain to the quality assessment of the hospital's websites. Most of the studies were on developed countries, based on flu, and published in the Journal of Medical Internet Research. Conclusion The infodemiology approach provides unmatched opportunities for the management of health data and information generated by the users. Using this potential will provide unique opportunities for the health information need assessment in real time by health librarians and thereby provide evidence based health information to the people.

If you have access to this journal you can read the full text here.

**CogStack - experiences of deploying integrated information retrieval and extraction services in a large National Health Service Foundation Trust hospital.**

**Source**: BMC Medical Informatics and Decision Making  
**Date of Publication**: June 2018  
[Here, we describe our work on creating and deploying a low cost structured and unstructured information retrieval and extraction architecture within King’s College Hospital, the management of governance concerns and the associated use cases and cost saving opportunities that such components present.] You can read the full text [here](#).
Patients and the Public

Health literacy in pressure injury: Findings from a mixed-methods study of community-based patients and carers.

Source: Nursing & Health Sciences
Date of Publication: May 2018

The present study, drawn from a larger mixed-methods case study, provides insights into the health literacy of community-based patients with pressure injuries, and their carers, and critically analyzes the patient information resources available; crucial because health literacy is associated with patient care and outcomes for patients. Two datasets were used to better understand patient literacy in relation to pressure injury: (i) narratives from patients and carers; and (ii) analysis of patient education resources available to the patients were analyzed drawing on the Simplified Measure of Gobbledygook, the National Health Service Toolkit for Producing Patient Resources, and compared to an internationally-advocated pressure injury leaflet. The study findings indicated that despite leaflets broadly meeting required production and content guidelines, patients appeared to poorly engage with these materials and demonstrated limited health literacy in relation to pressure injury. Although improvements in leaflet production and readability might be advantageous, emphasis should remain on quality patient-healthcare professional relationships to enable tailored patient education that can enhance awareness and engagement with treatment and prevention interventions.

If you have access to this journal you can read the full text here

Expressed information needs of patients with osteoporosis and/or fragility fractures: a systematic review

Source: Archives of Osteoporosis
Date of publication: May 2018

This systematic review identified patients have unmet information needs about the nature of osteoporosis, medication, self-management and follow-up. Clinician knowledge and attitudes appear to be of key importance in determining whether these needs are met. Unmet information needs appear to have psychosocial consequences and result in poor treatment adherence.

Patient education is an integral component of the management of osteoporosis, yet patients are dissatisfied with the information they receive and see this as an area of research priority. This
study aimed to describe and summarise the specific expressed information needs of patients in previously published qualitative research.

Using terms relating to osteoporosis, fragility fracture and information needs, seven databases were searched. Articles were screened using predefined inclusion and exclusion criteria. Full-text articles selected for inclusion underwent data extraction and quality appraisal. Findings were drawn together using narrative synthesis.

The search identified 11,024 articles. Sixteen empirical studies were included in the review. Thematic analysis revealed three overarching themes relating to specific information needs, factors influencing whether information needs are met and the impact of unmet information needs. Specific information needs identified included the following: the nature of osteoporosis/fracture risk; medication; self-management and understanding the role of dual energy x-ray absorptiometry and follow-up. Perceived physician knowledge and attitudes, and the attitudes, beliefs and behaviours of patients were important factors in influencing whether information needs were met, in addition to contextual factors and the format of educational resources. Failure to elicit and address information needs appears to be associated with poor treatment adherence, deterioration of the doctor-patient relationship and important psychosocial consequences.

This is the first study to describe the information needs of patients with osteoporosis and fracture, the impact of this information gap and possible solutions. Further research is needed to co-design and evaluate educational interventions with patients.

You can read the full text [here](#).

**Preparation, validation and user-testing of pictogram-based patient information leaflets for tuberculosis**

**Source:** *Pulmonary Pharmacology and Therapeutics*
**Date of Publication:** Aug 2018

Abstract

Introduction: Patient education is of paramount importance with regard to the condition of the disease and the treatment given besides lifestyle remodelling in order to get the desired therapeutic outcomes. When verbal information is provided to the patients, they often tend to forget it. Pictorial aids or pictograms, as they are commonly known, are tools that are widely used for imparting knowledge to the patients. The aim of the study is to prepare and validate a Pictogram-based Patient Information Leaflet (P-PILs) on Tuberculosis (TB).

Methods: P-PILs have been prepared from tertiary, secondary and primary sources. The knowledge-based questions are prepared with respect to the P-PILs. The baseline knowledge of the volunteers and patients has been analyzed before administering the P-PILs by using the validated questionnaire. The post-knowledge of the volunteers and patients has been analyzed after administering the P-PILs (20 minutes) by using the same questionnaire and the user-opinion
has also been obtained at the end. Results: The study results show that the mean scores of the overall user-testing knowledge assessment are found to have improved significantly from the pre-P-PILs administration score of 62.67 to the post-P-PILs administration score of 91. The overall user opinion about the P-PILs has been found to be good (75%) followed by average (25%). Conclusion: The present study shows that there is significant improvement in the knowledge levels of the patients and volunteers after reading the validated leaflets. The P-PILs are found to be an effective educational tool for TB patients.
If you have access to this journal you can read the full text [here](#).

Online health information seeking by adults hospitalized for acute coronary syndromes: Who looks for information, and who discusses it with healthcare providers?

**Source:** Patient Education and Counseling

**Publication Date:** June 2018

Objective: To describe characteristics associated with online health information-seeking and discussing resulting information with healthcare providers among adults with acute coronary syndromes (ACS).

Methods: Consecutive patients hospitalized with ACS in 6 hospitals in Massachusetts and Georgia who reported Internet use in the past 4 weeks (online patients) were asked about online health information-seeking and whether they discussed information with healthcare providers. Participants reported demographic and psychosocial characteristics; clinical characteristics were abstracted from medical records. Logistic regression models estimated associations with information-seeking and provider communication. Results: Online patients (N = 1142) were on average aged 58.8 (SD: 10.6) years, 30.3% female, and 82.8% non-Hispanic white; 56.7% reported online health information-seeking. Patients with higher education and difficulty accessing medical care were more likely to report information-seeking; patients hospitalized with myocardial infarction, and those with impaired health numeracy and limited social networks were less likely. Among information-seekers, 33.9% discussed information with healthcare providers. More education and more frequent online information seeking may enhance communication including referral to evidence-based online resources were associated with provider discussions. Conclusion: Over half of online patients with ACS seek health information online, but only 1 in 3 of these discuss information with healthcare providers. Practice implications: Clinician awareness of patient information-seeking may enhance communication including referral to evidence-based online resources.