

Current research

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Moher D, Tetzlaff J, Tricco AC, Sampson M, Altman DG. Epidemiology and reporting characteristics of systematic reviews. *PLoS Med.* 2007 Mar 27;4(3):e78 [Epub ahead of print]. Available at <http://medicine.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pmed.0040078>. PMID: 17388659.

Background: Systematic reviews (SRs) have become increasingly popular to a wide range of stakeholders. We set out to capture a representative cross-sectional sample of published SRs and examine them in terms of a broad range of epidemiological, descriptive, and reporting characteristics, including emerging aspects not previously examined. **Methods and findings:** We searched Medline for SRs indexed during November 2004 and written in English. Citations were screened and those meeting our inclusion criteria were retained. Data were collected using a 51-item data collection form designed to assess the epidemiological and reporting details and the bias-related aspects of the reviews. The data were analyzed descriptively. In total 300 SRs were identified, suggesting a current annual publication rate of about 2500, involving more than 33 700 separate studies, including one-third of a million participants. The majority (272 (90.7%)) of SRs were reported in specialty journals. Most reviews (213 (71.0%)) were categorized as therapeutic and included a median of 16 studies involving 1112 participants. Funding sources were not reported in more than one-third (122 (40.7%)) of the reviews. Reviews typically searched a median of three electronic databases and two other sources, although only about two-thirds (208 (69.3%)) of them reported the years searched. Most (197/295 (66.8%)) reviews reported information about quality assessment, while few (68/294 (23.1%)) reported assessing for publication bias. A little over half (161/300 (53.7%)) of the SRs reported combining their results statistically, of which most (147/161 (91.3%)) assessed for consistency across studies. Few (53 (17.7%)) SRs reported being updates of previously completed reviews. No review had a registration number. Only half (150 (50.0%)) of the reviews used the term “systematic review” or “meta-analysis” in the title or abstract. There were large differences between Cochrane reviews and non-Cochrane reviews in the quality of reporting several characteristics. **Conclusions:** SRs are now produced in large numbers, and our data suggest that the quality of their reporting is inconsistent. This situation might be improved if more widely agreed upon evidence-based reporting guidelines were endorsed and adhered to by authors and journals. These results substantiate the view that readers should not accept SRs uncritically.

de Keizer NF, Ammenwerth E. The quality of evidence in health informatics: How did the quality of healthcare IT evaluation publications develop from 1982 to 2005? *Int J Med Inform.* 2007 Jan 4; [Epub ahead of print]. PMID: 17208040.

Objective: To obtain an overview of study designs and study methods used in research evaluating IT in health care, to present a list of quality criteria by which all kinds of reported evaluation studies on IT systems in health care can be assessed, and to assess the quality of reported evaluation studies on IT in health care and its development over time (1982–2005). **Methods:** A generic 10-item list of quality indicators was developed based on existing literature on quality of medical and medical informatics publications. It is applicable to all kinds of IT evaluation papers and not restricted to randomized controlled trials. One hundred and twenty explanatory papers evaluating the effects of an IT system in health care published between 1982 and 2005 were randomly selected from PubMed, the study designs and study methods were extracted, and the quality indicators were used to assess the quality of each paper by two independent raters. **Results:** The inter-rater variability of scoring the 10 quality indicators as assessed by a pretest with nine papers was good ($K = 0.87$). There was a trend towards more multicentre studies and authors coming more frequently from various departments. About 70% of the studies used a design other than a randomized controlled trial (RCT). Forty percent of the studies combined at least two different data acquisition methods. The quality of IT evaluation papers, as defined by the quality indicators, was only slightly improving in time (Spearman correlation coefficient $r_s = 0.19$). The quality of RCTs publications was significantly higher than the quality of non-RCT studies ($p < 0.001$). **Conclusion:** The continuous and dominant number of non-RCT studies reflects the various approaches applicable to evaluate IT systems in health care. Despite the increasing discussion on evidence-based health informatics, the quality of published evaluation studies on IT interventions in health care is still insufficient in some aspects. Journal editors and referees should take care that reports of evaluation on IT systems contain all aspects needed for a sufficient understanding and reproducibility of a paper. Publication guidelines should be developed to support more complete and better publications of IT evaluation papers.

Lorenzetti DL. Identifying appropriate quantitative study designs for library research. *Evidence Based Library and Information Practice.* 2007;2(1). Available at

<http://ejournals.library.ualberta.ca/index.php/EBLIP/article/view/157/236>.

This paper is concerned with the identification of quantitative study designs suitable for library research. Identifying a researchable question and selecting a research method best suited to it are key to the successful design and execution of any research project. Each research situation is unique, and each researcher must find the method that best suits both their situation and the question at hand. Following a brief discussion of issues related to question development, the author outlines a checklist that may assist the process of selecting study designs for quantitative research projects. When faced with options in terms of study design selection, pragmatic issues such as expertise, funding, time, and access to participants may influence this decision-making process.

Foust JE, Bergen P, Maxeiner GL, Pawlowski PN. Improving e-book access via a library-developed full-text search tool. *J Med Libr Assoc.* 2007 Jan;95(1):40–5. Available at <http://www.pubmedcentral.nih.gov/articlerender.fcgi?tool=pubmed&pubmedid=17252065>. PMID: 17252065.

Purpose: This paper reports on the development of a tool for searching the contents of licensed full-text electronic book (e-book) collections. **Setting:** The Health Sciences Library System (HSLs) provides services to the University of Pittsburgh's medical programs and large academic health system. **Brief description:** The HSLs has developed an innovative tool for federated searching of its e-book collections. Built using the XML-based Vivisimo development environment, the tool enables a user to perform a full-text

search of over 2500 titles from the library's seven most highly used e-book collections. From a single "Google-style" query, results are returned as an integrated set of links pointing directly to relevant sections of the full text. Results are also grouped into categories that enable more precise retrieval without reformulation of the search. **Results/evaluation:** A heuristic evaluation demonstrated the usability of the tool and a Web server log analysis indicated an acceptable level of usage. Based on its success, there are plans to increase the number of online book collections searched. **Conclusion:** This library's first foray into federated searching has produced an effective tool for searching across large collections of full-text e-books and has provided a good foundation for the development of other library-based federated searching products.

Kerns S. Technological tools for library user education: One library's experience. *Med Ref Serv Q.* 2007;26(3). doi: 10.1300/ [prepublication].

In today's world, library users are confronted with almost too many options for using information because of the ubiquitousness of technology. Yet, libraries can harness the power of the same technologies to help users find the information they need at the time it is needed. The tools described in this article represent a starting point for librarians looking for technologies that are easy to use, inexpensive, and have a reasonable learning curve. Technologies addressed include classroom technologies such as audience response systems and Web-based technologies, including Web tutorials and screencasting. These technologies enhance and offer flexibility and variety in many educational settings.