



Evidence Summary

A Systematic Review of Librarian-Provided Services Delivered in Healthcare Settings Finds a Positive Effect on Clinician and Patient Relevant Outcomes and Identifies Gaps in the Evidence

A Review of:

Perrier, L., Farrell, A., Ayala, A. P., Lightfoot, D., Kenny, T., Aaronson, E., . . . Weiss, A. (2014). Effects of librarian-provided services in healthcare settings: A systematic review. *Journal of the American Medical Informatics Association*, 21(6), 1118-1124. <http://dx.doi.org/10.1136/amiajnl-2014-002825>

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Abstract

Objective – To assess the effects of librarian-provided services, in any healthcare setting, on outcomes important to patients, healthcare providers, and researchers.

Design – Systematic review and narrative synthesis.

Setting – MEDLINE, CINAHL, ERIC, LISA, and CENTRAL databases; library-related websites, conference proceedings, and reference lists of included studies.

Subjects – Twenty-five studies identified

through a systematic literature search.

Methods – In consultation with the review team, a librarian designed a search to be run in MEDLINE that was peer-reviewed against a published checklist. The team then conducted searches in the five identified databases, adapting the search as appropriate for each database. Authors also checked the websites of library and evidence based healthcare organisations, along with abstracts of relevant conference proceedings, to supplement the electronic search. Two authors screened the literature search results for eligible studies, and reached agreement by consensus. Studies of any librarian-delivered service in a healthcare setting, directed at either patients,

clinicians of any type, researchers, or students, along with studies reporting outcomes relevant to clinicians, patients, or researchers, were eligible for inclusion. The authors assessed results initially on the titles and abstracts, and then on the full-text of potentially relevant reports. The data from included studies were then extracted into a piloted data extraction form, and each study was assessed for quality using the Cochrane EPOC risk of bias tool or the Newcastle-Ottawa scale. The results were synthesised narratively.

Main Results – The searches retrieved a total of 25 studies that met the inclusion criteria, comprised of 22 primary papers and 3 companion reports. Authors identified 12 randomised trials, 4 controlled before-and-after studies, 3 cohorts, 2 non-randomised trials, and 1 case-control study. They identified three main categories of intervention: librarians teaching search skills; providing literature searching as a service; and a combination of the teaching and provision of search services. The interventions were delivered to a mix of trainees, clinicians, and students. None of the studies examined services delivered directly to patients or to researchers. The quality assessment found most of the studies had a mid- to high-risk of bias due to factors such as lack of random sequence generation, a lack of validated tools for data collection, or a lack of statistical analysis included in the study.

Two studies measured patient relevant outcomes and reported that searches provided by librarians to clinicians had a positive impact on the patient's length of stay in hospital. Five studies examined the effect of librarian provided services on outcomes important to clinicians, such as whether a literature search influenced a clinical decision. There was a trend towards a positive effect, although two studies found no significant difference.

The majority of studies investigated the impact of training delivered to trainees and students on their literature search skills.

Twelve of these studies found a positive effect of training on the recipients' search skills, while three found no difference. The secondary outcomes considered by this review were satisfaction with the service (8 studies), relevance of the answers provided by librarians (2), and cost (3). The majority reported good satisfaction, and relevance. A cost benefit was found in 2 of 3 studies that reported this outcome.

Conclusion – Authors report a positive effect of training on the literature search skills of trainees and students, and identified a benefit in the small number of studies that examined librarian services to clinicians. Future studies should use validated data collection tools, and further research should be conducted in the area of services provided to clinicians. Research is needed on the effect of librarian-provided services to patients and researchers as no studies meeting the inclusion criteria examining these two groups were identified by the literature search.

Commentary

Librarians work in a variety of clinical and healthcare environments, providing valuable support services to clinicians, patients, students, and researchers. The authors of this review identified four previously conducted systematic reviews seeking to evaluate librarian-provided services. These reviews were narrower in scope, and none of them considered services offered to patients. This review updates and widens the evidence base on the impact of librarian-delivered services in healthcare settings.

The article was evaluated using the AMSTAR tool for assessing the quality of systematic reviews (Shea et al., 2007). It scored highly, meeting 10 out of a possible 11 criteria. Authors established their research question prior to conducting the review, and registered the title on the PROSPERO database of systematic reviews. Two authors independently carried out the study selection and data. The study includes a comprehensive literature search, outlines the MEDLINE

strategy in the supplementary material, and indicates that the strategy was peer-reviewed. All types of publications were eligible for inclusion in the study, and the authors provide a table of included studies and their characteristics within the paper.

The authors assessed the studies for quality, and considered the appropriate method of combining the study results. Due to the different methods, interventions, and populations used in the studies, the review authors decided it was not appropriate to combine the results in a meta-analysis. Efforts were made to identify additional studies through grey literature sources such as conference proceedings and websites, although authors did not explore the possibility of publication bias from a lack of studies from unpublished. Finally, the review authors provided an explicit conflict of interest statement.

Overall, this is a high-quality systematic review conducted with methodological rigour. However, the decision to include studies based on their reported outcomes may have restricted the number of eligible studies. The authors did not contact the researchers who published the included studies for additional or unpublished data, though while it was not possible to combine the study results statistically, this may not have added anything to the findings of the review. Only the MEDLINE search strategy was included in full in the supplementary material. The authors indicated that the other search strategies were available on request, so this is a minor limitation in the reporting of the search methods.

The review is a useful overview of librarian-provided services in clinical settings. It highlights the need for validated data collection tools to evaluate these services, and the difficulties in combining results from a diverse collection of studies of different interventions. The findings of this review need to be interpreted in this context. It demonstrates the value of librarian-provided services in healthcare settings, such as search skills training, and suggests new areas for research, such as services aimed directly at researchers or patients. However, it is not clear from this review if there are studies that did not report the relevant outcomes, or if there are no studies in this area. In either case, further work is needed to identify and assess these studies, if they exist, or to conduct such studies if they do not yet exist. Future systematic reviews could consider a more focussed question and seek to compare individual interventions, such as face-to-face versus online training, to gain a coherent idea of the efficacy of specific elements of librarian-provided services in healthcare settings.

References

- Shea, B. J., Grimshaw, J. M., Wells, G. A., Boers, M., Andersson, N., Hamel, C., . . . Bouter, L. M. (2007). Development of AMSTAR: A measurement tool to assess the methodological quality of systematic reviews. *BMC Medical Research Methodology*, 7(10).
<http://dx.doi.org/10.1186/1471-2288-7-10>