The value and impact of information provided through library services for patient care: a systematic review

Weightman A L, Williamson J

CRD summary
This review assessed the value and impact of library services on health outcomes and time saved by health professionals. The authors concluded that library services have a positive impact on health outcomes for patients and may lead to savings in time. The variable quality of the primary studies reviewed means that the authors' conclusions may not be particularly robust.

Authors' objectives
To assess the value and impact of library services on health outcomes for patients and time saved by health professionals.

Searching
ERIC, LISA, MEDLINE, PREMEDLINE, EMBASE, the Cochrane Controlled Trials Register and Google were searched to September 2003; the search terms were reported. In addition, the references of relevant studies were checked and the Health Information Libraries Journal and the Journal of the Medical Library Association were handsearched (for all issues in 2003). Specific requests to centres involved in clinical librarian programmes were made, a summary of the project was published in a relevant newsletter, and an e-mail was posted on an internet discussion group site.

Study selection
Study designs of evaluations included in the review
All types of study design were eligible for inclusion. The specific designs included were controlled studies, surveys and interviews. Only studies with a response rate of 20% or more, and which met at least two of the quality criteria specified in the review, were included in the analysis.

Specific interventions included in the review
Studies examining the impact of services provided from professionally led libraries for health-care professionals, including clinical librarian projects, were eligible for inclusion. Impact studies of 'virtual' (electronic) libraries were excluded, unless these included traditional (librarian-run or mediated) services. Studies assessing the specific impact of information-skills training or specialist information services delivered to particular professional groups outside the traditional library setting were also excluded.

Participants included in the review
No inclusion criteria were stated in relation to the participants. The participants included in the review were health-care, administration and research professionals.

Outcomes assessed in the review
Studies that reported at least one outcome measure on health benefits for patients and/or members of the public, or time saved by health professionals, were eligible for inclusion. The specific outcomes assessed were the general impact on clinical care, handling of cases, diagnosis, choice of tests, choice of drugs or therapy, treatment management, length of study, advice to the patients, changes in care (alternative therapies, referral), quality of life for patients or carers, avoidance of negative outcomes, and time saved by physicians.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.
Assessment of study quality
The quality of the studies was assessed according to whether a 100% or truly random sample was surveyed, whether the sample was pre-selected or not, whether responses were made anonymously, whether the researchers were independent of the library services under study, and whether the survey was conducted prospectively or retrospectively. Where no clear information was provided in the publication, the quality measure was considered unmet. One reviewer, overseen by a second reviewer, assessed study quality. Any differences of opinion were resolved through discussion.

Data extraction
It would appear that one reviewer extracted the data and a second reviewer checked for accuracy, with any differences of opinion resolved by discussion. Data were extracted on the study type, whether the study was conducted retrospectively or prospectively, the number of participants and the response rates.

Methods of synthesis
How were the studies combined?
The studies were grouped according to whether they assessed traditional library services or clinical library services, and a narrative synthesis was undertaken.

How were differences between studies investigated?
Differences between the studies were discussed according to the type of library services provided and study quality.

Results of the review
Twenty-eight studies were included: 1 controlled study, 5 surveys, 15 questionnaires, 5 questionnaires in combination with an interview, and 2 interviews alone. Five studies (1 controlled study, 1 pilot survey, 2 questionnaires and 1 interview) were excluded from the analysis as they did not meet the pre-specified response rate and/or meet the quality criteria. The results were based on a sample of over 12,083 participants.

Seven studies scored two out of five for study quality, 5 studies scored three, 9 studies scored four, and 2 studies scored five.

Studies assessing traditional library services.
The impact of using traditional library services ranged across the different outcome measures and included studies. The range was 37 to 97% for the impact on general clinical care; 25 to 75% for cases handled differently due to available information; 10 to 93% for diagnosis; 13 to 51% for choice of tests; 13 to 45% for choice of drugs or therapy; 25 to 61% for diagnosis and treatment or management; 10 to 20% for reduced length of stay; 47 to 72% for advice to patients; and 11 to 54% for important changes in care, alternative therapies or referral. When only higher quality studies (at least 4 of the additional quality criteria were met) were considered, some of these impact ranges were narrowed: 10 to 31% for diagnosis; 20 to 51% for choice of tests; 27 to 45% for choice of therapy; and 10 to 19% for reduced length of stay.

Studies assessing clinical library services.
The impact of using clinical library services showed that the impact ranged from 37 to 95% for diagnosis; from 51 to 97% for choice of drugs or therapy; and from 30 to 85% for diagnosis and treatment or management. In addition, 4 studies showed positive but unquantified effects on time saved by professionals because of clinical librarian input, and 2 studies showed evidence of cost-effectiveness.

Cost information
Yes. Two studies assessed the costs of the clinical librarian services. The first study reported that the cost per question was approximately equivalent to that of a chest radiograph, whilst the second reported that the estimated cost-saving of a clinical librarian versus a consultant search was £26 per hour (based on 2002 costs).
Authors' conclusions
Research studies suggested that professionally led library services have an impact on health outcomes for patients and may lead to time savings for health-care professionals.

CRD commentary
The review question was reasonably defined in terms of the interventions, outcome measures and study designs. Several relevant sources were searched and efforts were made to locate unpublished studies, but it was unclear whether any language restrictions were applied. It was also unclear how the studies were selected for inclusion in the review, and whether any efforts were made to minimise reviewer bias and errors in the selection process. The quality assessment and the data extraction processes were undertaken appropriately. Some details of the included studies were presented in tabular format, thus allowing the reader to assess whether the authors’ conclusions were consistent with the evidence reviewed. The use of a narrative synthesis was appropriate given the differences between the studies, and some differences were briefly discussed in the text. Overall, the review was undertaken in a reasonable manner, but the quality of the included primary studies was variable. Therefore, whilst the authors’ conclusions are consistent with the evidence reviewed, they may not be particularly robust.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that with library services rapidly moving towards electronic services, it is important to assess and pool studies that compare traditional (librarian/clinical librarian) searches carried out on behalf of health-care staff with searches carried out by the health-care staff themselves (end-user searches). Such studies should focus on the issues of efficiency and professional time saved or cost-effectiveness, along with health outcomes. In addition, the authors stated that it would be useful to compare the various models of clinical librarian services (e.g. those offered to users in the library, on attendance at ward rounds, etc) in order to assess the most valued and cost-effective methods of delivery in terms of benefits for health-care staff and for patients.

Bibliographic details

PubMedID
15810928

DOI
10.1111/j.1471-1842.2005.00549.x

Indexing Status
Subject indexing assigned by NLM

MeSH
Biomedical Research; Cost-Benefit Analysis; Delivery of Health Care /standards; Humans; Length of Stay; Library Services; Patient Care; Quality of Health Care; Statistics as Topic

AccessionNumber
12005008277

Date bibliographic record published
31/01/2006

Date abstract record published
31/01/2006
Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.