

The Clinical and Economic Value of Health Libraries in Patient Care

M Peterson, L Harris and G Siemensma

Abstract

Clinicians have long recognised the value of current, authoritative information to support and inform their practice. The concept of evidence-based practice has itself gained acceptance through a substantial body of literature demonstrating how improvements in health care delivery and outcomes can be achieved through the application of the best evidence of clinical practice. Health libraries are core to the provision of information resources in all health-care settings. They have played a leading role in the adoption and dissemination of

an unprecedented range of information resources and digital services in a rapidly changing health environment. There is a substantial and growing, body of evidence that health libraries are vital to the delivery of healthcare, both financially and clinically.

Key words: best practice; cost benefit; information management; health libraries; health information; clinical decision making; evidence-based practice.

Mary Peterson

South Australia Health Library Service
South Australia Health
Adelaide, South Australia, Australia.

Lindsay Harris

South Australia Health Library Service
The Queen Elizabeth Hospital
Adelaide, South Australia, Australia.

Gemma Siemensma

Ballarat Health Services Library
Ballarat, Victoria, Australia.

Correspondence:

mary.peterson@sa.gov.au

gemmas@bhs.org.au

lindsay.harris@sa.gov.au

Health libraries managed by professional librarians are core to the provision of information resources in all healthcare settings. They have played a leading role in the adoption and dissemination of an unprecedented range of information resources and digital services in a rapidly changing health environment. There is a substantial and growing, body of evidence that health libraries and their services are vital to the delivery of healthcare, both financially and clinically.

Affirmation of these observations from an Australian perspective is demonstrated in a series of reports recently published by ALIA (Australian Library and Information Association) and HLI (Health Libraries Inc) during 2012 and 2013. ALIA commissioned the award-winning firm SGS Economics & Planning to examine the economic contribution of Australian health libraries to the health sector as part of a broader national study of industry-based libraries. SGS Economics surveyed health libraries and followed up with a selection of case studies. The resulting report: 'The community returns generated by Australian health libraries' [1] found that that Australian health libraries return on average \$9 for every dollar invested as a conservative estimate. SGS Economics assessed the benefits directly provided to health library users through the value of time saved for library users and the value of 'out of pocket' expenses saved for library users, such as subscription and access content fees. Because the study did not include the return on investment in terms of patient care, SGS

Health libraries have a vital, and measurable, impact upon safe, cost effective health care

Clinicians have long recognised the value of current, authoritative information to support and inform their practice. The concept of evidence-based practice has itself gained acceptance through a substantial body of literature demonstrating how improvements in healthcare delivery and outcomes can be achieved through the application of the best evidence of clinical practice. This short article seeks to highlight some of the more recent national and international reports on how health libraries contribute in measurable terms to safe, cost-effective healthcare.

concluded 'it is highly likely that the benefits of industry libraries outweigh their costs considerably'. [2,p.2]

Another recent research project report on the value of health libraries published in October 2012 is: 'Questions of Life and Death, an investigation into the value of health libraries and information services in Australia'. [3] Library users and staff were surveyed nationally to ascertain the impact of Australian health libraries upon the work of medical practitioners and the outcomes for patients. Amongst the report's extensive results were the key findings that 83% of respondents stated using library services had helped them improve patient health outcomes, 76% said that it had changed their thinking and improved their diagnosis or treatment plan, some 95% indicated that it assisted them in discovering new and valuable information, 86% said it kept them abreast of the latest clinical developments and 65% reported that it had confirmed their diagnosis or treatment plan. [4]

A condensed version of the original SGS Economics report was subsequently issued by ALIA in November 2013 entitled 'Worth every cent and more. An independent assessment of the return on investment of health libraries in Australia'. [5] This report is a concise summary of the findings of both the 2013 SGS Economics report and the associated 2012 report 'Questions of Life and Death'.

These Australian reports are the latest additions to a body of evidence about the value of health libraries dating back to the 1970s. Over the past five decades there has been sustained and wide ranging research to demonstrate in quantifiable ways to managers, practitioners and fund holders the benefits of health libraries for healthcare institutions, clinicians and patients. Representative of this work was a major Australian survey dating from 2000 known as the Canberra Study. Conducted by Irena Ali, this study measured the value and impact of information provided by two Canberra hospital libraries on clinical decisions and patient care management. The data from the Canberra Study indicated that the case related information provided by the librarians was of high cognitive, clinical and quality value and had an impact on many aspects of patient management. [6]

Another significant Australian study was Ruth Sladek's 2004 investigation into the value of an 'informationist' or clinical librarian working as a member of a clinical team on ward rounds in a hospital setting. The study found that doctors in an Australian acute tertiary hospital would use the service and the information supplied contributed to

the revision of treatment plans, confirmation of proposed therapies, avoided adverse events, avoided additional tests and procedures and improved clinical outcomes. [7] In 2003 Patrick O'Connor described a pilot utilising a British designed library value toolkit to assess the impact of library services upon regional Queensland clinicians. The pilot concluded library services generally have a positive impact on the quality of clinical care. Some 85% of participants in the pilot stated that the information received from the library confirmed proposed therapy, 83% said it aided the recognition of abnormal or normal conditions, 70% said it minimised treatment risks or led to revised treatment plans and 67% said it influenced the choice of diagnostic tests. [8]

Abroad, in 2008 McGowan et al implemented a randomised control trial of a library service in a primary care setting. During seven months 88 medical and nurse practitioners submitted 1,889 clinical questions and 80% of the librarian-provided answers were rated as having a positive cognitive influence on decision making as against just 20.8% for the control question responses. [9] Holst et al in 2009 undertook an in depth review of the relevant literature, combined with a previous 2002 study and solicited examples from hospital librarians, to support the hypothesis of librarians being essential in fulfilling organisations' mission-critical goals. The review found that health librarians added quantifiable value/benefits to clinical care, management of operations, education, innovation and research and customer service. Overall, the evidence supported the view that hospital librarians are an excellent return on investment. [10]

Most recently, Perrier et al, undertook a systematic review of the effects of librarian-provided services in healthcare settings. The review concluded that services provided by librarians to clinicians were shown to be effective in saving time for health professionals and providing relevant information for decision-making. Two cited studies in the review indicated that patient length of stay was reduced when clinicians requested literature searches related to a patient's case. [11]

Perhaps the largest exercise to date on the impact of health libraries has been the 2013 Value Study by Joanne Marshall et al in the United States. The Value Study encompassed 56 libraries serving 118 hospitals with a survey of physicians, residents and nurses involved in either patient care or clinical research. There were no less than 16,122 respondents including 5,379 physicians, 2123 residents and 6788 nurses, a massive amount of data. Some three fourths of these respondents reported that they had definitely or probably handled some aspect of patient care differently because of

information obtained from libraries. The Value Study found, inter alia, that using health libraries resulted in clinical staff changing the advice given to patients (48%), changing diagnosis (25%), changing choice of drugs (33%) as well as avoiding or reducing the risk of patient misunderstanding of their disease (23%), additional tests (19%), misdiagnosis (13%), adverse drug reactions (13%), medical errors (12%) and patient mortality (6%). [12]

Based on the financial data collected by SGS Economics current expenditure on Australian health libraries, including hospital libraries, account in total for just over \$100 million annually. In the context of the estimated nearly \$50 billion spent annually on public and private hospitals recurrent expenditure on hospital libraries constitutes just 0.1% of all recurrent expenditure in Australian hospitals. [13] The estimated return on investment of \$9 for every dollar invested in Australian health libraries is, as the SGS reports stresses, highly conservative and actual returns in support of cost effective patient care are certainly considerably higher than this headline figure suggests.

Relative to the massive amounts expended on health budgets health libraries are, in fact, low cost, high value return assets to their organisations. In the twenty-first century where access to, and management of, evidence based information is crucial for a safe and cost efficient health care system, professionally staffed health libraries are not an optional overhead, they are an operational necessity.

Competing interests

The authors declare that they have no competing interests.

References:

1. SGS Economics & Planning. The community returns generated by Australian health libraries. Final report. September 2013. Canberra: , SGS Economics 2013. <http://www.alia.org.au/advocacy-and-campaigns/advocacy-campaigns-0/australian-health-libraries-return-investment> (accessed December 2013)
2. SGS Economics & Planning. The community returns generated by Australian industry libraries. Final report. September 2013. Canberra: SGS Economics, 2013: 2.
3. Health Libraries Inc. Questions of life and death: an investigation into the value of health library and information services in Australia. Canberra: ALIA and Health Libraries Inc., 2012. http://www.hlinc.org.au/index.php?option=com_content&view=article&id=94&Itemid=73 (accessed December 2013)
4. Health Libraries Inc. Questions of life and death: an investigation into the value of health library and information services in Australia. Canberra: ALIA& Health Libraries Inc.,2012: 9.
5. ALIA & HLI. Worth every cent and more: an independent assessment of the return on investment of health libraries in Australia. Canberra: ALIA, October 2013. <http://www.alia.org.au/news/2124/australian-health-libraries-return-investment> (accessed December 2013)
6. Ali, I. Library provided information and clinical decision making: a study of two hospitals in Canberra. *Australian Academic and Research Libraries*. 2000; 31(1): 30-45.
7. Sladek R, Pinnock C. Phillips PA. The informationist: a prospective uncontrolled study. *Int J Qual Health Care*. 2004; 16(6): 509-515.
8. O'Connor P, Wallin M. A pilot application of the Value Toolkit: assessing the impact of information services to clinicians in regional Queensland. *Proceedings of the 10th Asia Pacific Special, Health and Law Librarians Conference*; 2003 August 24-27; Adelaide: ALIA, 2003: 1-16.
9. McGowan J. Hogg W. Campbell M et al. Just-in-time information improved decision-making in primary care: a randomized controlled trial. *PLoS One*. 2008; 3(11): e3785.
10. Holst R. Funk C. Adams H et al. Vital pathways for hospital librarians: present and future roles. *J Med Libr Assoc*. 2009; 97(4): 285-292.
11. Perrier L, Farrell A, Ayala AP, et al. Effects of librarian-provided services in healthcare settings: a systematic review *J Am Med Inform Assoc* 2014; 21:1118–1124.
12. Marshall J. Sollenberger J. Easterby-Gannett, S. et al. The value of library and information services in patient care: results of a multisite study. *J Med Libr Assoc*. 2013; 101(1): 38-46.
13. ALIA & HLI. Worth every cent and more: an independent assessment of the return on investment of health libraries in Australia. Canberra: ALIA, October 2013: 14.