

The community returns generated by Australian health libraries

Final report

September 2013



Independent insight.



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EXECUTIVE SUMMARY

This report has attempted to quantify the costs and benefits of health libraries across Australia.

It is clear that health libraries provide an array of benefits to their users and, in turn, to the end-clients of these users. There is no doubt that these end-client benefits are likely to overshadow any other benefits, if they could be appropriately quantified. However, quantifying these benefits is difficult.

As a second best solution, SGS valued the benefits provided directly to health library users. These user benefits include:

- The value of ‘time’ saved for library users, and
- The value of ‘out of pocket expenses’ saved for library users (e.g. subscription fees/ content access fees).

The value of user time savings will reflect the ‘efficiency’ of health library staff in locating, distilling and delivering information to users, as well as the ‘opportunity cost’ of user time. The value of out of pocket expenses represents the subscription/ access fees that individual library users would need to pay in order to access the content that health libraries centrally provide.

SGS completed an initial survey of health libraries, which generated 48 responses. Subsequently the research focus turned to examining 10 case studies that reflected the diversity of health libraries.

Collectively the results enable us to broadly conclude the following:

- There is a broad diversity of health libraries across Australia, with annual resourcing levels ranging from less than \$40,000 through to \$1.5 million
- User servicing levels are perceived to be high in the areas of research/ literature review, document delivery and library staff expertise, but are low in more traditional library services such as print journals and spaces to meet and/ or study
- Service levels changes over the past 3 years echo this theme, with access to electronic resources improving significantly, while the range of print journals has deteriorated
- Resourcing levels in terms of floorspace and staff hours have decreased over the last 3 years
- The case studies suggest that industry library staff are much more efficient than their users when it comes to the time it takes to perform research, literature review, document delivery and referencing tasks (i.e. 3.3 time faster)
- The BCR results generated by the survey:
 - Health library BCR average 9.0, median 2.4 (based on 27 responses)

The above results exclude any quantified benefits in relation to the out of pocket expenses saved for library users due to the central purchasing of content, rendering them as conservative.

Given that this quantitative analysis has only focussed on quantifying benefits to the health library users, not their end clients, it is highly likely that the benefits of industry libraries outweigh their costs considerably.

1 INTRODUCTION

1.1 Research brief

The Australian Library and Information Association, Health Libraries Australia and Health Libraries Inc worked with SGS Economics & Planning Pty Ltd (SGS) to contrast the costs and benefits associated with the operation of health libraries across Australia; the aim of this research being to demonstrate the net benefits these libraries confer.

1.2 Cost benefit framework

It is clear that health libraries provide an array of benefits to their users and, in turn, to the end-clients of these users. A prime example of this end-client benefit is the improved health outcomes enjoyed by patients due to the enhanced knowledge their doctors have at their disposal (i.e. regarding diagnosis, treatment plans, etc.) because of the research services provided by health libraries.

There is no doubt that these end-client benefits are likely to overshadow any other benefits, if they could be appropriately quantified. However, quantifying these benefits is extremely difficult without an intensive research process (and budget); collecting information from end-clients and library users before attempting to attribute a degree of end-client benefits with the services provided by health libraries.

As a second best solution, SGS valued the benefits provided directly to health library users. These user benefits include:

- The value of ‘time’ saved for library users, and
- The value of ‘out of pocket expenses’ saved for library users (e.g. subscription fees/ content access fees).

The value of user time savings reflects the ‘efficiency’ of health library staff in locating, distilling and delivering information to users, as well as the ‘opportunity cost’ of user time. For example, a doctor doing his/ her own research might take three times as long as a health librarian, and the cost of this time, by referencing their comparative salary levels, is extremely expensive.

The value of out of pocket expenses represents the subscription/ access fees that individual library users would need to pay in order to access the content that health libraries centrally provide. The users may choose not to pay for this ‘content’ themselves. If this was the case, some of the aforementioned end-client benefits would clearly be undermined, rendering the quantification techniques as highly conservative in terms of benefit estimation.

1.3 Research process

To ensure the research was appropriately conceived, SGS completed an initial survey of health libraries to gather information on the diversity of health libraries across Australia. This research highlighted that it would be extremely difficult to assess the aggregate level of expenditure on health libraries in Australia, i.e. there is no central repository of industry information. Consequently, an overarching assessment of the costs and benefits of health libraries is not possible.

The research focus thus turned to examining a selection of case studies, which reflected the diversity of health libraries, to assess the library costs and benefits. While aggregate conclusions cannot be made from this process, the net community contributions of a diverse sample can be assessed, enabling conclusions to be drawn.

1.4 Report structure

The remainder of this report is structured as follows:

Section 2 provides some headline results of the health library survey undertaken, demonstrating the diversity of the sector, and reporting on self assessed user servicing levels and resourcing arrangements.

Section 3 draws together the case study results, profiling the costs and benefits of 10 health libraries across Australia.

2 INDUSTRY SURVEY

2.1 Surveying process

To gather the information necessary to examine the likely costs and benefits of health libraries, a web-based survey was administered.

To this end introductory emails with links to the web-based survey were despatched from each of the project's partner organisations, ensuring a wide network of health libraries were contacted.

The survey included questions about library resourcing levels, and how these have changed over recent years, as well as user serving levels and the user time saved. Specific questions and the results generated are included within the sub-sections that follow.

2.2 Survey response rate

The library associations advise that definitive estimates of the composition of industry libraries across Australia are elusive. However, based on the intelligence to hand, the best estimate is that there are at least 300 health libraries

TABLE 1 LIBRARY POPULATION AND SURVEY RESPONSE RATES

	Health
Number of industry libraries	300
Overall number of survey responses	48
Overall survey response rate	16%
Responses to questions about costs and benefits	27
Response rate to questions about costs and benefits	9%

2.3 User market penetration levels

The health libraries were asked to assess the degree to which they serve their potential user base, i.e. through two successive questions:

Q3. What is the approximate total number of potential library users (for example all staff, contractors, temporary and non-ongoing staff, students, other stakeholders)?

Q4. Approximately how many library users do you have?

Table 2 highlights that there is an extraordinary variety in potential and actual user numbers. On average health libraries service about 36% of potential users.

TABLE 2 HEALTH LIBRARY POTENTIAL AND ACTUAL USER NUMBERS

	Health libraries
(Q3) Potential users	
Min	100
Max	15,000
Average	3,350
Median	2,000
(Q4) Actual users	
Min	50
Max	11,000
Average	1157
Median	500
(Calculation) User capture rate	
Min	7%
Max	90%
Average	36%
Median	30%

2.4 Mode of user servicing

The health libraries were asked to estimate how they serviced users by different modes, i.e.

Q7: Approximately what percentage of your interaction with users is face to face, telephone or electronic?

Table 3 summarises the results, showing that the majority of servicing was done electronically. Surprisingly face to face servicing came in second, ahead of telephone based servicing.

TABLE 3 HEALTHLIBRARY USER SERVICING MODES

	Health libraries
(Q7) User interaction	
Face to face	26%
Telephone	16%
Electronic	59%

The survey responses also suggest that the growth in electronic serving has been stark in recent years, and this has come at the expense of other modes.

2.5 Servicing levels

Health libraries were asked to assess how well they believed users were serviced and how this serving level had changed in recent years, i.e. via the following questions:

Q19. How would you estimate your current service level for library users? (100% is the ability to offer users everything they need). Respondents were given the following ranges to make this assessment:

- 100%
- 75-99%
- 50-74%
- 25-49%
- 0-24%, or
- Not applicable

Q18. Over the last three years, how would you estimate your service level for library users has changed? (Respondents were given the following response categories)

- Improved/increased (+1)
- Stayed the same (0)
- Lessened/decreased (-1), or
- Not applicable (excluded).

The data points to relatively lower service levels for provision of print journals and quiet spaces for meetings, group work and study. However, service levels for provision of electronic resources have higher scores, suggesting a better ability of industry libraries to meet demands for these services. High scores for literature reviews and document delivery services reflect the proficiency of library staff to meet user needs.

Responses to Q18 indicate improving services for electronic resources and decreasing service levels for print journal services, in line with the findings from Q17.

2.6 Recent changes in resourcing

Health libraries were asked to assess how their resourcing levels had changed over the last three years, via three questions:

Q12. Over the last three years, has your total annual expenditure...?

Q15. Over the last three years, has your library paid qualified staffing level...?

Q17. Over the last three years, has your library floor area ...?

For each question, the available response categories were:

- Increased (+1)
- Kept pace with CPI/Stayed the same (0), or
- Decreased (-1).

The results suggest that on average, over the last 3 years there has been a reduction in annual expenditure, staff hours and floorspace.

Health libraries

Changing service levels and resourcing

FIGURE 1 HEALTH LIBRARY SERVICE LEVELS

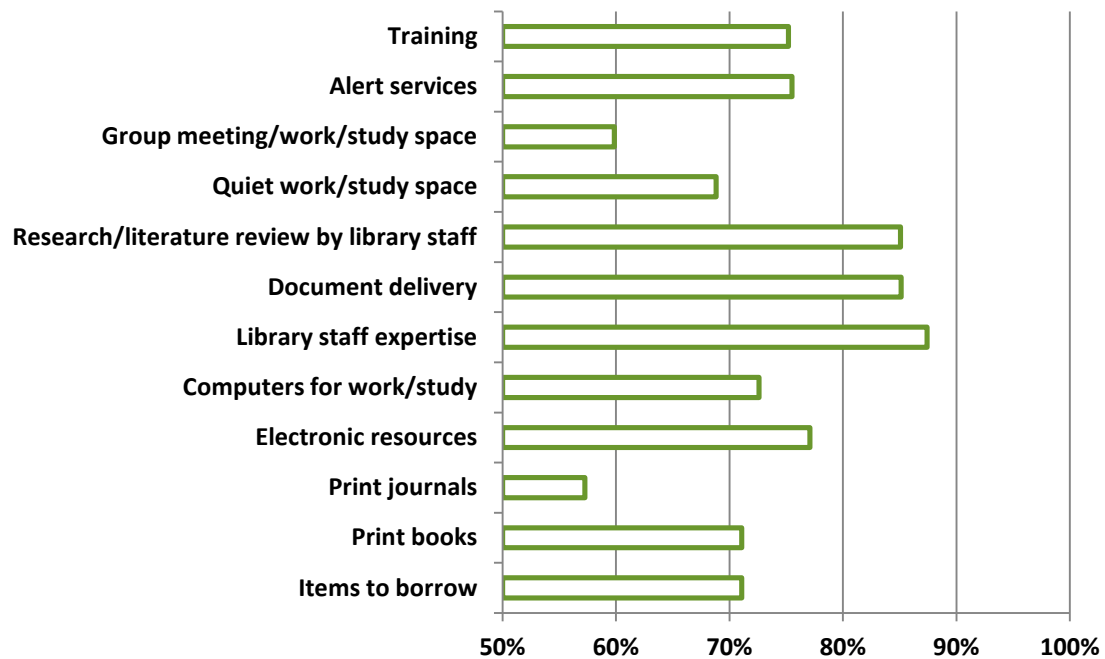


FIGURE 2 CHANGE IN HEALTH LIBRARY SERVICE LEVELS BY SERVICE TYPE, 2010-2013

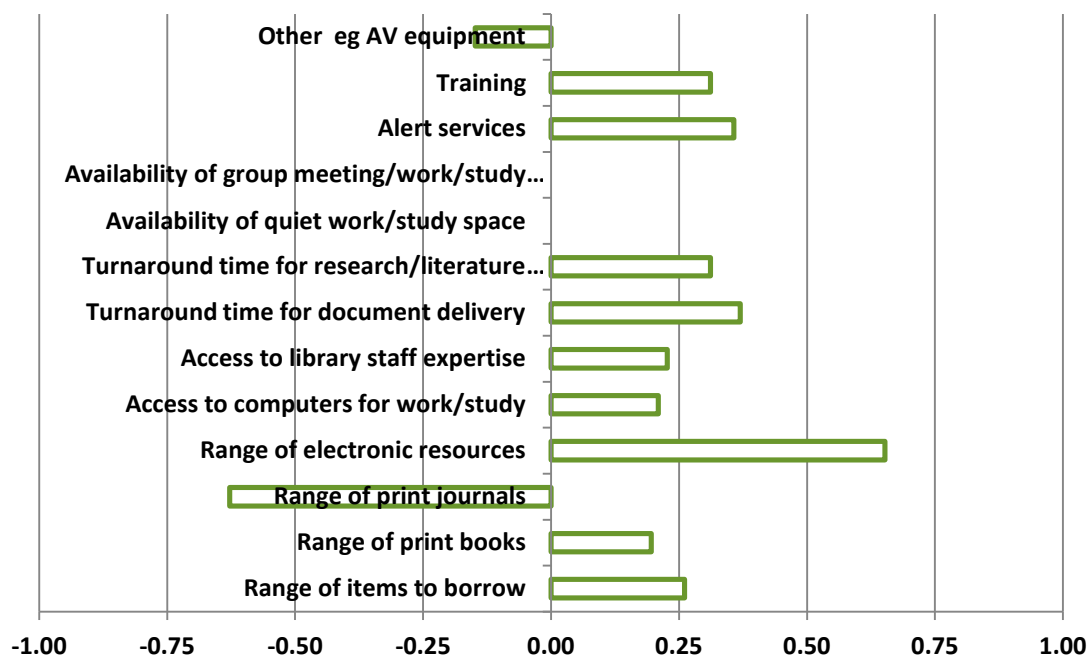
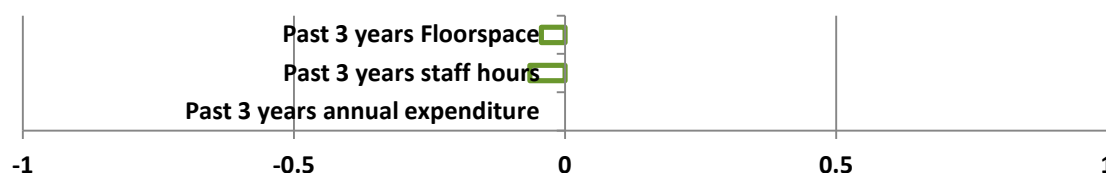


FIGURE 3 HEALTH LIBRARY RESOURCING LEVELS, 2010-2013



Out of the 48 responses from health libraries, 27 respondents provided detailed information on annual budgets, number and type of service requests, time dedicated to each request and average salary of user groups. Only detailed responses have been used to estimate the costs and benefits of Health industry libraries.

Costs

The annual expenditure (budget) of health libraries was asked in Q11. The responses are summarised as follows:

- Min - \$37,000
- Max - \$1,500,000
- Average - \$335,226
- Median - \$210,000

Benefits

To assess the annual benefits generated by health libraries, the number of service requests per week (annualised) was multiplied by the time taken to service each request (by major user group). This generated an estimate of the total time saved for doctors/ surgeons, nurses/ midwives, medical students, scientists/ researchers, allied health professionals, and others that could be dedicated to more productive uses.

The value of this time was then monetised using the respondent supplied average salary levels of each major user group, with SGS generated a weighted average of the responses provided using the available response ranges.

The following tables summarise the inputs to these calculations:

TABLE 4 AVERAGE NUMBER OF WEEKLY SERVICE REQUESTS AND TIME (HOURS)

	Research	Literature Review	Document Delivery	Reference
Number of Requests	14	15	59	29
Time (hours)	2	3	1	1

TABLE 5 AVERAGE ANNUAL SALARY OF MAJOR USER GROUPS

Doctor/ Surgeon	Nurse/ Midwife	Medical Student	Scientist/ Researcher	Allied Health Professional	Other
\$250,000	\$87,500	\$35,000	\$87,500	\$87,500	\$62,500

In our assessment of benefits, it was initially assumed that the time taken by health library users to undertake the tasks would be the same as that taken by specialist library staff. However, feedback from industry librarians highlights that this was a highly optimistic assumption on behalf of the users, which would materially undercount the value of time saved. Consequently we have utilised a range of time saving factors to estimate benefits, with the:

- Low scenario assuming time saved for users equals time spent by industry library staff, and
- High scenario assuming the time saved for users is 3.3 times the time spent by industry library staff.

The annual benefits of health libraries estimated using the aforementioned process and scenarios is summarised as follows:

The annual benefits of health libraries estimated using the aforementioned process re summarised as follows:

Low	High
– Min \$11,658	Min \$38,473
– Max \$2,401,250	Max \$7,924,125
– Average \$339,237	Average \$1,119,481
– Median \$167,767	Median \$537,130

By contrasting these annual benefits against the earlier estimated annual costs, the assessed annual net benefits are as follows:

Low	High
– Min (\$1,398,650)	Min (1,165,545)
– Max \$2,346,250	Max \$7,869,125
– Average \$4,011	Average \$784,255
– Median (\$58,400)	Median \$262,130

The relationship between these benefits and costs can also be expressed as a ratio, a Benefit Cost Ratio (BCR), as follows:

Low	High
– Min 0.07	Min 0.2
– Max 43.7	Max 144.1
– Average 2.7	Average 9.0
– Median 0.7	Median 2.4

It is noted that this assessment of net benefit excludes the savings in content access fees that industry libraries enable users to avoid, as well as the end-client outcome improvements (or qualitative benefits) generated, such as improved patient health given better diagnoses and treatment plans.

3 CASE STUDIES

3.1 Case study template

Library associations distributed the case study template throughout the health library sector (refer Appendix A).

3.2 Case study response

Ten health libraries provided case study responses. These results have been summarised in the table overleaf.

In addition to financial savings (due to time savings and cost savings associated with access to content), other key benefits have been identified in case studies. These include:

- Role of library staff in training end-users, and
- Members have 24/7 access to online resources and library can provide remote delivery of services.

Case study responses also provided an insight into time efficiencies created by librarians undertaking tasks (research, literature review, document delivery and referencing) for end users. Time efficiency or 'Productivity Factor' refers to the ratio between the time taken by librarians and time taken by end users to undertake a task.

SGS calculated the weighted average of case study responses, and estimate the overall Productivity Factor as 3.3. It is this factor that has been applied in Section 2 to the survey results.

TABLE 6 CASE STUDIES - HEALTH LIBRARIES

Case Study	Annual Expenditure	Requests per year					Repeat Usage	Estimated Value of time savings	Content Savings by unique users	Benefits	BCR	Comments/Other Benefits
			Research	Literature Review	Document Delivery	Reference Requests						
1	\$220,000	Number of requests	884	364	1,976	1,976	30%	\$450,325	\$618,800	\$1,069,125	4.86	Library services impact clinicians' client practices and patient outcomes; Access to materials is not available without library access.
		Time taken per request	0.75 hours	3.5 hours	0.25 hours	0.18 hours						
		Productivity Factor	3	3	2	3						
2	\$452,000	Number of requests	213	312	1,040	1,352	25%	\$121,096	\$639,000	\$760,696	1.68	Information provided by the library contributes to publications by users.
		Time taken per request	1 hour	1.5 hours	0.15 hours	0.1 hours						
		Productivity Factor	3	3	2	1						
3	\$1,145,230	Number of requests	120	243	481	1,820	40%	\$336,187	\$106,348	\$442,535	0.39	
		Time taken per request	8 hours	4 hours	0.15 hours	0.15 hours						
		Productivity Factor	3	3	2	1						
4	\$145,000	Number of requests	66	5	158	60	80%	\$27,202	NA	\$27,202	0.19	Content were not estimated.
		Time taken per request	1 hour	1 hour	0.1 hours	0.2 hours						
		Productivity Factor	5	3	4	3						
5	\$344,000	Number of requests	0	133	1,500	0	40%	\$206,673	NA	\$206,673	0.60	Content savings made were not estimated; the library space has been integrated into an education centre, therefore maximising resources.
		Time taken per request	0	4 hours	0.25 hours	0						
		Productivity Factor	6	5	5	1						
6	\$460,000	Number of requests	100	100	1,500	1,000	50%	\$1,266,276	\$335,000	\$1,601,276	3.48	The library provides professional development and training resources and support.
		Time taken per request	3 hours	6 hours	0.25 hours	0.25 hours						
		Productivity Factor	6	8	5	5						
7	\$2,428,487	Number of requests	2,180	0	3,205	0	45%	\$530,515	\$239,800	\$770,315	0.32	Library provides training sessions (including one-on-one training) which can also be accessed online.
		Time taken per request	2 hours	0	0.12 hours	0						
		Productivity Factor	2	1	2	1						

Case Study	Annual Expenditure	Requests per year					Repeat Usage	Estimated Value of time savings	Content Savings by unique users	Benefits	BCR	Comments/Other Benefits
			Research	Literature Review	Document Delivery	Reference Requests						
8	\$360,000	Number of requests	55	280	845	8,500	30%	\$304,297	\$57,750	\$362,047	1.01	Library provides training to users.
		Time taken per request	3 hours	1 hours	0.15 hours	0.05 hours						
		Productivity Factor	8	4	3	5						
9	\$2,842,195	Number of requests	0	595	4,949	0	20%	\$171,944	NA	\$171,995	0.06	Content savings made by unique users were not estimated; Library provides access to e-resources to users regardless of location or position; library provides end-user training.
		Time taken per request	0	1.3 hours	0.15 hours	0						
		Productivity Factor	1	2	3	1						
10	\$260,000	Number of requests	0	90	1,070	25	70%	\$46,628	\$40,500	\$87,128	0.34	Library provides training to users.
		Time taken per request	0	2 hours	0.25 hours	0.25 hours						
		Productivity Factor	2	2	2	2						

Source: ALIA and SGS, 2013

APPENDIX A

Case study instructions

The case study template below aims to generate the information required to 'value' user time and out of pocket expense benefits linked with health libraries. It also aims to gather the information necessary to appropriately 'describe' health libraries and to 'tell the stories' behind the numbers, e.g. to help clearly articulate the benefits provided to end-clients.

While we have asked for the library name, this will not be reported. ***The case studies will be treated confidentially, and any reporting will disguise the industry library in question.***

We have asked for the respondent's name so we can call back, if there are any questions we have concerning your response, or if we need further assistance in interpreting the response provided.

If you have any questions, please contact Tania Barry on taniabarry@optusnet.com.au or via 03 9437 8186 or 0412 122 168.

Case study response template

Q.	Question	Please type responses in this grey area
Q1.	What is your library's name?	
Q2.	What is your library's website?	
Q3.	What are your contact details?	Name: Telephone: Email:
Q4.	What industry does your library serve?	
Q5.	Please provide a description of the type of services you provide to library users?	
Q6.	Please provide a description of the types of resources you enable your users to access?	
Q7.	Please provide a description of the types of benefits you provide to your users?	

Q.	Question	Please type responses in this grey area			
Q8.	Please provide a description of any impacts that your service has on end users (for example, patients)?				
Q9.	Are there any funding or operating issues you face?				
Q10.	What was your library's total annual expenditure last year, including materials, eresources, staff salaries, rent and any other costs associated with your budget?				
Q11.	Approximately how many research/literature review/document delivery/reference requests does your library respond to each year for each of your user groups?	Research	Literature review	Document delivery	Reference requests
	Doctor/surgeon				
	Nurse/midwife				
	Medical student				
	Scientist/researcher				
	Allied health professional				
	Other				
Q12.	On average, how much time in hours do you spend on each request? (e.g. express quarter of an hour as 0.25 and half an hour as 0.5)	Research	Literature review	Document delivery	Reference requests
Q13.	On average, what is the ratio of time that your major user groups would spend compared to what you spend on each request? (e.g. If they'd spend 3 times as long as you if they did it themselves, then respond with 3).	Research	Literature review	Document delivery	Reference requests

Q.	Question	Please type responses in this grey area					
Q14.	What percentage of these collective requests are requests from repeat users? (e.g. If 30% are repeat users, then 70% are unique users).						
Q15:	If your unique users had to pay subscriptions to access the 'content' they desired, what would it cost them individually each year?						
Q16:	What is the annual salary range of your major user groups? (Please indicate which range is most appropriate).	\$0-\$50,000 per annum	\$50,000 - \$75,000 per annum	\$75,000-\$100,000 per annum	\$100,000 - \$150,000 per annum	\$150,000 - \$200,000 per annum	More than \$200,000 per annum
	Doctor/surgeon						
	Nurse/midwife						
	Medical student						
	Scientist/researcher						
	Allied health professional						
	Other						

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