How's our impact?
Developing a survey toolkit to assess how health library services impact on patient care

Alison Weightman
& Chris Urquhart
AWHILES Conference
July 2008
The value and impact of information provided through library services for patient care: a systematic review

Weightman, A. L. & Williamson, J.

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

Health Information and Libraries Journal 2005, 22, 4-25.
Methodology of the review

- Comprehensive systematic search to September 2003
- Databases plus snowballing techniques – expert contacts, reference lists
- 28 research studies of professionally led libraries for healthcare staff, including clinical librarian projects, met the inclusion criterion of at least one health or ‘time saved’ outcome
- Critical appraisal using internationally accepted criteria by one author/checked by second
- Narrative summary of results since heterogeneous mix
### Changes in patient care: Traditional library

#### Table 4: Impact measures
(a) Reported changes in patient care: traditional library

<table>
<thead>
<tr>
<th>% response</th>
<th>Urquhart &amp; Hepworth, 1995&lt;sup&gt;28&lt;/sup&gt;</th>
<th>Davies et al., 1997&lt;sup&gt;19&lt;/sup&gt;</th>
<th>Lovas et al., 1991&lt;sup&gt;23&lt;/sup&gt;</th>
<th>Qual. Devol. Team, 2003&lt;sup&gt;25&lt;/sup&gt;</th>
<th>King, 1987&lt;sup&gt;21&lt;/sup&gt;</th>
<th>Wilson et al., 1989&lt;sup&gt;29&lt;/sup&gt;</th>
<th>Marshall, 1992&lt;sup&gt;24&lt;/sup&gt;</th>
<th>Scarrow, 1995&lt;sup&gt;26&lt;/sup&gt;</th>
<th>Ali, 2000&lt;sup&gt;14&lt;/sup&gt;</th>
<th>Webster Fischer &amp; Reel, 1992&lt;sup&gt;7&lt;/sup&gt;</th>
<th>Burton, 1995&lt;sup&gt;16&lt;/sup&gt;</th>
<th>Johnson, 1995&lt;sup&gt;20&lt;/sup&gt;</th>
<th>Casado Urquizen et al., 1994&lt;sup&gt;17&lt;/sup&gt;</th>
<th>Range (range in studies meeting 4–5 quality criteria)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General impact on clinical care</td>
<td>79</td>
<td>—</td>
<td>47</td>
<td>89</td>
<td>94</td>
<td>—</td>
<td>97</td>
<td>37 ILL 62 LIt &amp;s</td>
<td>82</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>37–97% (37–97%)</td>
<td></td>
</tr>
<tr>
<td>Handled case differently (definitely/probably)</td>
<td>25</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>74</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>75</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>25–75% (25–75%)</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>31</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>16</td>
<td>29</td>
<td>—</td>
<td>10</td>
<td>—</td>
<td>—</td>
<td>93</td>
<td>14</td>
<td>58</td>
</tr>
<tr>
<td>Choice of tests</td>
<td>22</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>51</td>
<td>—</td>
<td>20 lab 24 other</td>
<td>48</td>
<td>35</td>
<td>13</td>
<td>—</td>
<td>13–51% (20–51%)</td>
</tr>
<tr>
<td>Choice of drugs/therapy</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>45</td>
<td>—</td>
<td>27</td>
<td>—</td>
<td>—</td>
<td>40</td>
<td>13</td>
<td>—</td>
</tr>
<tr>
<td>Diagnosis and treatment/management</td>
<td>32</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>25</td>
<td>—</td>
<td>—</td>
<td>57</td>
<td>50</td>
<td>—</td>
<td>38</td>
<td>61</td>
<td>—</td>
</tr>
<tr>
<td>Reduced length of stay</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>19</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>10–20% (10–19%)</td>
</tr>
<tr>
<td>Advice to patients</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>72</td>
<td>—</td>
<td>47</td>
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<tr>
<td>Important changes in care/alternative therapies/referral</td>
<td>35</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>11</td>
<td>—</td>
<td>—</td>
<td>54</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Initial assessment</td>
<td>—</td>
<td>45</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Improved quality of life for patient/carer</td>
<td>—</td>
<td>68</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
<td>—</td>
<td>—</td>
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</tr>
</tbody>
</table>
## Changes in patient care: Traditional library

### (b) Reported benefits: traditional library

<table>
<thead>
<tr>
<th>%</th>
<th>Wilson et al., 1989&lt;sup&gt;29&lt;/sup&gt;</th>
<th>Marshall, 1992&lt;sup&gt;24&lt;/sup&gt;</th>
<th>Ai, 2000&lt;sup&gt;14&lt;/sup&gt;</th>
<th>Burton, 1995&lt;sup&gt;16&lt;/sup&gt;</th>
<th>Casado Urquyen et al., 1994&lt;sup&gt;17&lt;/sup&gt;</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoided:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital admission</td>
<td>1.6</td>
<td>12</td>
<td>11</td>
<td>10</td>
<td>17</td>
<td>1.6–17%</td>
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<tr>
<td>Patient mortality</td>
<td>—</td>
<td>19</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Hospital-acquired infection</td>
<td>—</td>
<td>8</td>
<td>8</td>
<td>—</td>
<td>25</td>
<td>8–25%</td>
</tr>
<tr>
<td>Surgery</td>
<td>—</td>
<td>21</td>
<td>19</td>
<td>—</td>
<td>34</td>
<td>19–34%</td>
</tr>
<tr>
<td>Additional/unecessary tests or procedures</td>
<td>13</td>
<td>49</td>
<td>23</td>
<td>30</td>
<td>28</td>
<td>13–49%</td>
</tr>
<tr>
<td>Additional outpatient visits</td>
<td>—</td>
<td>26</td>
<td>12</td>
<td>—</td>
<td>40</td>
<td>12–40%</td>
</tr>
<tr>
<td>Transfer to another hospital</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>12</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>... or reduced risks</td>
<td>7</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Saved:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physicians' time</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>49</td>
<td></td>
</tr>
</tbody>
</table>

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Changes in patient care: Clinical librarian

Table 5  Impact measures: clinical librarian
(a) Reported changes in patient care: clinical librarian

<table>
<thead>
<tr>
<th>Multiple responses allowed in studies (%)</th>
<th>Giuse et al., 1998(^{35})</th>
<th>Booth et al., 2002(^{32})</th>
<th>Scura &amp; Davidoff, 1981(^{38})</th>
<th>Veenstra et al., 1992(^{42})</th>
<th>Schall &amp; Wilson, 1976(^{37})</th>
<th>Barbour &amp; Young, 1986(^{31})</th>
<th>Freeth &amp; Smith, 2002(^{33})</th>
<th>Freeth &amp; Smith, 2003(^{34})</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact on clinical care/higher quality care/better informed decisions</td>
<td>√</td>
<td>—</td>
<td>20</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>—</td>
<td>62</td>
<td>—</td>
<td>37</td>
<td>—</td>
<td>95</td>
<td>—</td>
<td>—</td>
<td>37–95%</td>
</tr>
<tr>
<td>Choice of drugs/therapy</td>
<td>—</td>
<td>—</td>
<td>51</td>
<td>—</td>
<td>67 Ortho</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>51–97%</td>
</tr>
<tr>
<td>Diagnosis and treatment/management</td>
<td>—</td>
<td>85</td>
<td>—</td>
<td>30</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>30–85%</td>
</tr>
<tr>
<td>Reduced length of stay</td>
<td>—</td>
<td>29</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>√</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Advice to patients</td>
<td>—</td>
<td>74</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

(b) Reported benefits: clinical librarian

<table>
<thead>
<tr>
<th>Multiple responses allowed in studies (%)</th>
<th>Giuse et al., 1998(^{35})</th>
<th>Booth et al., 2002(^{32})</th>
<th>Scura &amp; Davidoff, 1981(^{38})</th>
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<th>Barbour &amp; Young, 1986(^{31})</th>
<th>Freeth &amp; Smith, 2002(^{33})</th>
<th>Freeth &amp; Smith, 2003(^{34})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoided:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referral</td>
<td>√</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>√</td>
</tr>
<tr>
<td>Re-admission</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>√</td>
</tr>
<tr>
<td>Saved:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health professionals’ time</td>
<td>—</td>
<td>√</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>86</td>
<td>√</td>
</tr>
<tr>
<td>Money</td>
<td>—</td>
<td>√(^{c5})</td>
<td>—</td>
<td>√(^{c5})</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>√</td>
</tr>
</tbody>
</table>

\(^{c5}\). Positive but unquantified effect; \(^{c5}\), estimates of cost savings were made (see text).
Conclusions

Research studies suggest that professionally-led library services have an impact on health outcomes for patients and may lead to time savings for health care professionals. The available studies vary greatly in quality but the better quality studies also suggest positive impacts.

Good practice can be gathered from these studies to guide the development of a pragmatic survey for library services that includes the direct effects for patients among the outcome measures.
The impact of the impact review?

- Top HILJ paper in 2005 - 2,500 downloads
- 87 citations in Google currently
- Cited by 16/24 peer reviewed publications (WoK/Google Scholar)
- DARE: ‘The conclusions were reasonable based on the evidence of the included studies but, because the quality of the included studies was variable, these could not be considered robust’
Developing the toolkit

A research study was funded by National Knowledge Service to develop a pragmatic but reliable user survey included within a toolkit of advice, to estimate the impact of a health library.
The quality standards and other examples of good research practice from the systematic review formed the basis of a practical but low bias user survey -

**Suggestions for a practical but ‘low bias’ impact study for health libraries**

(Weightman & Williamson, 2005)

- Appoint researchers who are independent of the library service
- Ensure that all respondents are anonymous and that they are aware of this
- Survey all members of chosen user group(s) or a random sample. Consider those who decline at invitation as non-respondents
- Agree a set of questions that are objective (e.g. changed drug therapy), well used in previous research, and developed with input from library users
- Ask respondents to reply on the basis of a specific & recent instance of library use/information provision (i.e. an individual case) rather than library use in general (the critical incident technique)
- Combine a questionnaire survey with a smaller but also random sample of follow-up interviews
Further research carried out

- Developed, piloted and adapted the questionnaire and interview schedules [Aberystwyth team]

- Carried out a literature search to look at enhancing response to questionnaire surveys and general good practice in survey methodology, including a comparison of electronic versus paper delivery.

- Contacted the Central Office for Research Committees (COREC) and from library sites involved in impact research (via the email list lis-medical) to assess the ethical requirements of such research

- Drafted the guidance
Questionnaire Extracts

IMPACT STUDY OF LIBRARY SERVICES ON PATIENT CARE – QUESTIONNAIRE

PLEASE COMPLETE AND RETURN IN THE READY ADDRESSED ENVELOPE BY .......

TICK ALL RELEVANT BOXES AND/OR WRITE A FULLER ANSWER UNDERNEATH EACH QUESTION.

Which best describes your job?

- Consultant (medical & dental)
- GP
- Other medical & dental staff (Specialist Registrar, staff grade, FY1, FY2)
- Qualified nursing, midwifery & health visiting
  - staff working mainly in acute sector
- Qualified nursing, midwifery & health visiting
  - staff working mainly in community sector
- Qualified scientific, therapeutic & technical staff (incl.
  - eg healthcare scientists, therapists, pharmacists)
- Qualified ambulance staff
- Support staff
- Senior managers & managers
- GP practice staff
- Other admin. staff

Please think of one occasion during the past two weeks when you needed information related to patient care and then answer the following questions.

1. Why did you need the information?

- For direct patient care
- For clinical governance/guideline development
- For audit
- For service development & planning
- For legal/ethical issues
- For personal research
- For research (funded)
- Continuing Professional Development related
- For personal interest
- For teaching/supervision
- Other
8. How might the information you obtained contribute now (or in the future) to your clinical decisions?

It may help – or did help in...

- Choice of diagnostic test(s)
- Choice of drug therapy(ies)
- Confirmation of proposed drug therapy(ies)
- Choice of non-drug therapy(ies)
- Advice to patient/carer(s)
- Advice to colleagues
- Revision of clinical pathway or clinical guidelines
- Minimisation of risks of treatment
- Improved quality of life for patient and/or family
- Legal or ethical issues
- Changes to service delivery or practice
- Other

9. What are your opinions on aspects of information seeking?

- I prefer to do my own searching
- I sometimes prefer to ask the librarian to search for me
- I feel I am competent at searching electronic resources
- I work with colleagues to search for information
- When I need information I usually need it urgently

10. Your comments on the contribution of the library service to this situation or to clinical decision-making in general would be appreciated. Please add any comments here.
1. Why did you need this information?  
   **Interviewer prompt:** topic? Reason for search?

2. Where did you carry out the search?  
   **Interviewer prompt:** Library, office, home, other

3. Where did you look, and who did you ask?  
   **Interviewer prompt:** What sources or services? Websites? Sources/Resources not in library?

4. What information did you find?  
   **Interviewer prompt:** Was that what you were expecting to find? What were you expecting to find? Any problems?

5. How would you, or did you assess the accuracy of the information?  
   **Interviewer prompt:** confirming prior suspicions, confidence placed in information

6. Did the information help in making a) an immediate decision; and/or b) would it help with future decisions?  
   **Interviewer prompt:** soon, immediately, in the future?

7. When did you call a halt to the searching?  
   **Interviewer prompt:** Completed the search? Find the information you wanted, still looking? Success rate?

8. Did you—or will you—share the information with others?  
   **Interviewer prompt:** Colleague, patient, other
Findings from the literature review – improving response rates

- On balance there appear to be benefits in including an incentive particularly a cash rather than a non-cash incentive (5 studies).
- The benefits of entry into a lottery draw are unclear (3 studies) as is the enclosure of a pen with a mailed questionnaire (2 studies).
- There is full consensus that two to three reminders are appropriate (7 studies)
- The effect of length is unclear but on balance a shorter questionnaire is likely to increase response rate (12 studies).
- The effect of colour is uncertain (4 studies)
- Personalised contact/ advanced notification/ personalised covering letter (8 studies) also likely to be beneficial.
- Minimal available literature suggests that a web based form will save time, both in survey administration and analysis, and response rates/quality of response appear to be comparable to or better than a paper based survey (3 studies)
To maximise the response rate:

- Personalise the request, stressing the importance of the survey and assuring confidentiality.

- Send at least one, and ideally two or even three, reminders.

- If you amend the questionnaire, keep it brief.

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What about the ethics committees?

“An impact study can be regarded as a service evaluation and ethical approval is not required, although the study should be discussed with the relevant research & development, research governance, and data protection officers.” [COREC]
The emerging guidance

- Rationale for a survey
- Ethical considerations
- Sample size (essentially 217-384)
- Distribution of survey – and choice of methods
- Ensuring quality
- Interviewing technique
- Analysis
- Writing up the report.
The value and impact of information provided through library services for patient care: developing guidance for best practice

Alison Weightman*, Christine Urquhart†, Siân Spink† & Rhian Thomas† on behalf of the National Library for Health Library Services Development Group, *Support Unit for Research Evidence, Sir Herbert Duthie Library, Cardiff University, Cardiff, UK and †Department of Information Studies, Aberystwyth University, Aberystwyth SY23 3AS, UK

Abstract

Introduction: Previous impact tool-kits for UK health libraries required updating to reflect recent evidence and changes in library services. The National Knowledge Service funded development of updated guidance.

Methods: Survey tools were developed based on previous impact studies and a systematic review. The resulting draft questionnaire survey was tested at four sites, and the interview schedule was investigated in a fifth area. A literature search in ASSIA, Google Scholar, INTUTE, LISA, LISTS, SCIRUS, Social Sciences Citation Index (Web of Knowledge), and the major UK University and National Libraries Catalogue (COPAC), identified ways to improve response rates. Other expert advice contributed to the guidance.

Results: The resulting guidance contains evidence-based advice and a planning pathway for conducting an impact survey as a service audit. The survey tools (critical incident questionnaire and interview schedule) are available online. The evidence-based advice recommends personalising the request, assuring confidentiality, and using follow-up reminders. Questionnaires should be brief.
The HILJ paper is just a starting point……

**Involvement of the NHS Libraries?**

- Try out the survey tools to validate and suggest improvements
- The challenge of recruiting interviewees!
- Consider partnerships for independent research

**Involvement of the NLH Library Services Development Group/AWHILES?**

- Provide central training
- Possible central funding of an electronic questionnaire if this can be negotiated with a software supplier
- Collate results, evaluate and feedback improvements to the guidance
Contact details

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Chris Urquhart, University of Aberystwyth