PASLAUGŲ VADYBA

Measuring the impact of healthcare information services*

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*This paper looks at the issues inherent in assessing the impact of library and information services (LIS) to healthcare professionals. Using the example of an evaluation of outreach services to primary care and mental health workers within London, we identify service features which are readily measurable and those which are not, together with the factors affecting them. Recommendations for good practice are drawn from the findings***.*

Background

The UK National Health Service (NHS) was established in 1948. It is funded by the taxpayer and managed by the Department of Health. Since 1948 there have been many changes to both the organisational structure of the NHS and the way that patient services are provided.

Services are essentially divided into primary and secondary care. Primary care, including general practitioners, dentists, opticians and pharmacists, is commissioned by primary care trusts, which report directly to their local strategic health authority. Following the most recent reorganisation in July 2006, the number of strategic health authorities became 10, and the number of primary care trusts became 152. Secondary care usually takes place in an NHS hospital. Hospitals are managed by NHS trusts. Mental health trusts provide care for people with mental health problems.

More detailed information on how the NHS works can be found at *http://www.nhs.uk/england/AboutTheNhs/*.

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* Findings based on a report produced for London Health Libraries March 2006, available from: http://www.londonlinks.ac.uk/key_documents.htm

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London Health Libraries (LHL) brings together libraries serving the NHS in London, and connects its workforce. For further details see *http://www.londonlinks.ac.uk*. The Library Strategy Development Group of LHL commissioned an independent evaluation of its outreach services to 13 primary care and mental health trusts, in order to compare and contrast different outreach models and to identify any impact on the delivery of patient care. The findings were intended to inform future policy and development.

[Outreach services involve a librarian actively visiting users in their place of work to promote services].

Measuring Impact

Obtaining evidence of value for money has been a long-term goal of LIS services in most industry sectors for many years now. Despite this, the question of how, and if, we can measure impact is still debatable. The variety of approaches to measuring impact, and the difficulties encountered can be seen in Bawden et al. 2005, Markless and Streatfield 2005, Thornton 2005, Payne et al. 2004, and Yates-Mercer and Bawden 2002, among others. The need is to show that our services are not only timely and meaningful, but that they are cheaper than any alternative, and truly cost effective in contributing to organisational goals and strategies. Here lies the difficulty. Many services are well received, but their true value is hard to quantify. The British Library used contingent valuation, one of the few credible, quantitative methods, to answer this question. This method includes, among other things, establishing how much users would have to pay to get the information they needed, if the British Library was scrapped (British Library, 2005). It may be reassuring to note that for now, the British Library is still with us.

Ideally, in healthcare, we would like to show impact in terms of improved patient outcome, reduced costs and time saved. Whilst it seems entirely reasonable that library services provide a positive contribution to healthcare, attributing the above impact factors solely and directly to LIS services is problematic (Urquhart 2004).

Quantitative measurement of aspects such as items borrowed, the number of registered users, database usage, inter-library loans and training sessions given is readily undertaken, and indeed much literature exists to show that these indicators all increase following the establishment of posts such as clinical librarian, outreach librarian or other healthcare specific LIS services. See, for example, Robinson and Lawson 2005, Robinson 2004.

Qualitative data, usually from questionnaires and feedback forms, can show support for and appreciation of library services by individual users (Doney, 2006). Furthermore, this sort of data collection can be indicative of why users are visiting the service, and what sort of 'use' is made of information provided or training received (Urquhart and Hepworth 1995, Urquhart et al. 2006). It is also possible to establish rudimentary cost-benefits from questionnaires, by asking the healthcare workers how much of their time has been saved by the information being obtained by the LIS professional, and thereby how much monetary value can be attributed to the service (Booth et al., 2002; Bryant and Gray, 2006).

The question still remains, however, as to whether it is possible to correlate LIS services with a direct impact on patient care, reduced costs and time savings. In their recent, systematic review of research studies looking at the impact of library services on health outcomes for patients and time saved by health professionals, Weightman and Williamson (2005) suggest that whilst direct impact is difficult to establish without doubt, as studies are of varying quality and heterogeneous in nature, there is an increasing body of evidence that information provided by a library service can influence patient care outcomes and that assessment of impact at a local level is possible. Other reviews of impact studies include: Winning and Beverly (2003), Wagner and Byrd (2004). Most studies describe services set within a hospital environment, and few are available which consider the community setting of services to primary care and/or mental health (Lacey Bryant and Gray, 2006).

The recording of critical incidents (critical incident technique – CIT) is a favoured way of assessing the impact of healthcare LIS services, and some success has been documented here for the case of clinical librarians (Beverly and Winning, 2003; Weightman and Williamson, 2005). The evidence base for primary care is sparse (Lacey Bryant and Gray, 2006). For primary care and mental health outreach services evaluated in this study, access to clinical staff for critical incident follow-up was limited, due to the dissipation of health services, and the fact that the outreach staff are not located locally to the health workers. Community based health workers can, and do, give immediate feedback on the services provided by outreach, including evaluation of training courses, comments on the usefulness or otherwise of mediated search services, and importantly, statements on levels of knowledge of information sources and confidence in using them. This information, largely gathered from questionnaires, is usually positive, in favour of the outreach service.

CIT is not without criticism however, as accounts are subjective, and subject to the vagaries of memory, and to the desire of the user to please the researcher. There is also the problem of positive bias, in that those willing to recall critical incidents are those most likely to be using, and valuing the information service. Urquhart (2005) also points out that it is important to distinguish between the value of the information *per se*, and the value of the service providing it.

Hassig et al, in the Medical Library Association's Standards Committee for Hospital Libraries (2005), suggested that impact of LIS services should be evaluated by a series of indirect measures, including:

- Frequent provision of information on which patient-care decisions are based
- Integration of Knowledge Based Information (KBI) resources into point-of-care systems
- Provision of clinical library services or attendance at morning report or rounds
- Provision of case-specific literature in support of rounds and related activities

Abels et al. (2004) propose a taxonomy of measures that can be made to assess the impact of LIS services to hospitals and academic health institutions.

The current study thus undertook to draw out evidence for both direct measures of impact on patient outcome (i.e. critical incidents) and indirect measures such as:

- Increased knowledge of information resources
- Increased confidence in using resources
- Enhanced moral
- Good use of services
- Educational and CPD benefits

Evaluation of outreach services to primary care and mental health workers within London Health Libraries

In this study, the evaluation of 13 services was based on a three stage process:

- analysis of job descriptions, background material, reports, evaluation forms, and any other materials provided
- a semi-structured interview (1–2 hours in length) with the outreach librarian, followed by incorporation of their feedback on the draft interview description
- a questionnaire survey of a representative sample of users

This combination of well-understood methods is that which is regarded as generally appropriate for this sort of evaluation (Gorman and Clayton, 2005; Weightman and Williamson, 2005).

In summary, the services participated as follows:

documents, interview, user survey	8
documents and interview only	3
documents only	2

Limitations

The study was intended to be qualitative from the outset, due to the diversity of the services being analysed, in terms of setting, structure, functions and activities, self-evaluation and reporting. Materials provided were not always directly comparable, because of the lack of a consistent reporting template.

It was initially envisaged that non-users would also be surveyed, as this is an important group to understand (Turtle, 2005). However, this idea was abandoned, as there was no way to identify non-users. Indeed, most services did not even have a definitive listing of their potential users, as comprehensive staff lists, often spanning more than one Trust or service, were either non-existent, or withheld due to data protection concerns.

The user survey was distributed by the service provider – in the way that they thought best – to a representative sample of users. The survey was anonymous, but users were invited to give their names in case of follow-up questions; the majority did so. 189 questionnaires were distributed, and 66 (35%) were returned. 43 (65%) were from primary care and 23 (35%) were from mental health, with a good distribution of user speciality, and roles as follows:

Doctor	19 (29%)
Nurse	25 (38%)
Allied profession	12 (18%)
Other	10 (15%)

Because the survey was distributed by the service provider, and in some cases retruned vian them, there is a likelihood of some ‘desirability’ bias (Weightman and Williamson, 2005). This method is nonetheless justifiable, as being the best way to get reasonable response from a ‘difficult to reach’ population, and also avoiding confusion in the minds of users as to which library services were being surveyed.

It was clear that there was a difficulty in assessing impact, beyond the value of a training course, or mediated search: information on how practice changed or what happened in individual instances of patient care. There are – in the setting of outreach to primary care, with its dispersed, mobile and fragmented user community – no regular users, and hence no natural contact for getting this follow-up information, as there would be in the clinical librarian setting (Ward, 2005; Harrison and Sargeant, 2004). There is little chance for informal meetings with individual staff, and no regular forum to meet a wider group. Specific examples of impact are therefore hard to find, even in an informal and anecdotal way.

Impact of services

Although the services did not follow a common template of activities, some commonality was evident. All but one of the services had training as an important function, some as the main or virtually only function, while all offered a different mix of additional services.

Overall, it could be concluded that a consistent picture emerged from the three aspects of evaluation: examination of documentation, interviews and user surveys. The services are well received, and seem have an identifiable impact on some aspects of practice. Training courses are met with approval and satisfaction, as judge from the user questionnaires.

In summary, areas of impact, roughly in order of significance across the services were:

- greater awareness of information resources among the groups served, and greater readiness to use them, as a result of promotion and advice
- improved information skills, and confidence in choosing and using information resources, among the groups served, as a result of training received
- users are kept up-to-date with resources and techniques
- staff feel more confident and more supported in their practice, and in their education and training, with benefits for job satisfaction and career development
- a more thoughtful and evidence-based approach to practice is encouraged
- changed practice in patient care, or in support given to patients, as a result of advice and information provided by the services
- better decisions being made by staff at all levels and in all specialities (and also by patients about their own treatment, for the services which deal with them)

It has proved difficult to identify specific 'critical incidents'; examples where it could be shown unambiguously that the outreach services 'made a difference' to practice, where something was done which would not have been done without the service, although identification of such incidents can be a useful means of 'focusing' such a study (Weighman and Williamson, 2005). Examples of specific impacts credited to the outreach services included:

- a GP asking for information identified by the service to be sent to a melanoma patient.
- A speech therapist using a outreach service to find literature to plan specific support measures for a child with speech difficulties, and sharing the literature with the parents
- '*I have personally used information from the literature to guide some critical clinical decisions regarding medication decisions in some of my patients*' (psychiatrist)
- Training meant that information on complementary therapies – in sources to which the Trust subscribed – was used to influence practice for the first time

This difficulty in identifying specific incidents is not unexpected, but is certainly an issue for the evaluation of the benefit of such services, and their justification.

Impact is more usually described – both by service providers and by their users – in more general terms, most commonly expressed as:

- confidence gained in information handling, and in using IT (about one third of user responses mention this, explicitly or implicitly, and it is emphasised by several service providers), which may help career development, and job satisfaction, as staff feel more supported

  '*I feel a lot more confident*' (community psychiatric nurse)

  '*essentially, I can be confident that I'm doing the best that I can for my caseload … if clients aren't* *progressing, then I can assure parents and carers that we are doing the "right" thing*' (speech and language therapist)

- time saved

  '*time saving – saved time for patient and me*' (GP)

- better understanding of evidence, and where to find it

  '*helps decisions to be made on a more systematic approach to the literature .. has helped to establish an evidence-based approach into the culture of my working style [including] my own practice and supervision of junior staff*' (consultant psychiatrist)

  '*in the end, it has contributed to more evidence-based working*' (psychiatry registrar)

- adherence to good practice:

  '*helps identify best practice, and gives evidence for management of patients in most effective way*' (GP)

  '*reinforced the work I do, and how I do it*' (women's health counsellor)

  '*it should stop me becoming limited or entrenched in the way I work with my clients*' (psychiatric nurse)

  '*looking … beyond the procedures and what others in the team have done*' (nurse)

The issue of building the confidence of the service users – which emerged from the interviews, from the user questionnaires, and from post-training evaluations, and other user surveys – is a general one across all the services studied. The outreach services seem to be fulfilling an important role in giving their users confidence that they are familiar with the kind of evidence that they need for their role, and with the sources from which it may be found. This, in turn instils a confidence that they are 'keeping up with things', and carrying out their practice in the most effective way, as well as feeling supported in their work and (where appropriate) their education and training. This is an important factor for job satisfaction and career development, as well as for effective and efficient patient care, and should not be underestimated.

Many service users, in all job functions, express a lack of awareness of the information and knowledge resources available to them – including the outreach service itself – but particularly evidence-based websites. This class of resources is particularly important, in reducing the increasing dependence on Google shown by users of the services; arguably one of the most important current contributions of outreach services.

The reasons for limited use by some groups of potential users emerge clearly, and reasonably consistently, across the services studied. The main factors are:

- The workload of potential users means that it is difficult for them to make use of the service, even when they are aware of it, and convinced of its value.
- This is exacerbated by the major changes in working patterns being experienced by the potential user groups
- A perception by potential users that they are already overloaded with information, and do not need/cannot use any more
- A consequent belief that they can/must reply on the experience of themselves and colleagues to provide expertise and knowledge, and do not need evidence-based resources
- A lack of knowledge of the outreach service per se, or of its value to them. This was believed by several service providers to be main reason for lack of use.

Factors influencing impact

The study concluded that the main areas affecting impact were:

Nature of service

- Job titles
- Model of service
- Functions
- Location and interactions
- Support provided to service

Service providers

- Personal attributes
- Health background
- Training background
- Support provided to service providers

Service provided

- Promotion and awareness training
- Training
- Mediated searching
- Other
- Synergy of services

Problems encountered

- Short term projects
- Location and contacts
- IT issues
- Time pressures (service providers)
- Time pressures (users)
- Low uptake
- Changes in users' work environment
- Lack of awareness of resources and their value for EBP

Recommendations for good practice

Shown below are the set of recommendations from the study for good practice for future and continuing outreach services to primary care and mental health. The recommendations around the need for a consistent framework for services and functions, and for long-term funding, may be seen a providing a strategy for development for such outreach.

Nature of service

- promote a consistent set of job titles for outreach librarians
- promote a consistent framework of outreach functions
- promote a model for outreach service, based on good practice in current effective services
- promote a long-term funding structure for outreach services
- promote the location for future outreach services within a library service, providing a suitable physical and psychological location, and the possibility for backup
- promote explicit links between outreach services and IT departments
- promote good practice in administrative procedures, and in contacting potential users
- seek ways of positioning outreach services in the changing environment of the Knowledge and Skills Framework, and of CPD in the health service

Service providers

- emphasise the personal qualities needed by outreach librarians in publicising and recruiting personal qualities
- consider ways of assisting newly appointed outreach librarians to make up for any lacks in their healthcare background
- consider ways of supporting outreach librarians' training background, including train-the-trainer courses
- ensure that training on relevant resources for outreach librarians comes at the right time
- promote a support network for outreach librarians, perhaps based on CLIST
- advise outreach services to seek extra partners and mentors

Services provided

- promote the idea that a synergistic mix of services is the best route for an outreach service

- encourage an emphasis on promotion and awareness as principal tasks for outreach services
- encourage services to participate in induction as a primary means of promotion
- promote good practice in training, focusing on one-to-one, subject group, and workgroup training, and encourage innovative training ideas
- encourage services to be explicit about the extent of, and rationale for, their provision of mediated searching
- encourage services to focus on 'low use' groups, surveying them to try to find the reasons for this, and then concentrating promotion and/or targeted services onto them

Evaluating and reporting impact

- promote a standard format of self-evaluation, and for reporting, to help comparability and identification of good practice
- recommend that any evaluations of services, apart from self-evaluation, should also follow a consistent form, for comparability
- promote a method of longer-term user evaluation, to be recommended to all services, to identify the impact of training and information provision after some months

Conclusions

The main conclusions of the evaluation were:

- Outreach services have 'indirect' impact on patient care, and as such are worth investment and development, although a standard framework would be helpful.
- Correlation with 'direct' impact requires more detailed follow-up of users, which may not be feasible in a community based healthcare setting

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MEDICINOS INFORMACIJOS PASLAUGŲ POVEIKIO ANALIZĖ

Lyn Robinson ir Davidas Bawdenas

Santrauka

Darbo tikslas – analizuoti problemas, susijusias su bibliotekų ir informacinių paslaugų poveikiu medicinos darbuotojams, ir pateikti rekomendacijas, leidžiančias plėtoti šio tipo informacinių paslaugų teikimą. Nagrinėjamas nestacionaraus pirminės sveikatos priežiūros ir psichikos sveikatos sričių medicinos darbuotojų aptarnavimo Londono mieste atvejis, remiantis 2006 m. kovą atliktu Londono medicinos bibliotekų veiklos tyrimu. Straipsnyje išskiriami nevienodai lengvai išmatuojami informacinio aptarnavimo aspektai, kartu įvertinant ir juos veikiančius faktorius. Tyrimu buvo siekta parodyti kokybinius tiek tiesioginio, tiek netiesioginio Londono medicinos bibliotekų informacinių paslaugų poveikio rodiklius. Tirta trimis etapais:

- Darbo aprašymų, ataskaitų, darbo įvertinimo apklausų bei kitos dokumentacijos analizė;
- Bibliotekininkų interviu metodo taikymas;
- Vartotojų apklausos anketų studijavimas.

Buvo nustatytos šios informacinio aptarnavimo poveikio sritys (svarbos mažėjimo seka):

- Didesnė aptarnaujamų medikų informacinių išteklių kompetencija ir panauda;
- Kokybiškai geresni apmokytų medicinos darbuotojų informacinio raštingumo įgūdžiai;
- Operatyvus vartotojų informavimas apie prieinamus išteklius;
- Medicinos darbuotojai jautė informacinę paramą, didesnį pasitikėjimą savo profesiniais gebėjimais;

- Bibliotekinis aptarnavimas skatino racionalesnės ir įrodymais grįstos medicinos praktikos taikymą;
- Visų lygių medicinos darbuotojų sprendimai skiriant gydymą tapo geresni.

Pagrindiniais nestacionaraus medikų informacinio aptarnavimo veiksniais laikytini:

- Informacinio aptarnavimo charakterisitikos;
- Bibliotekininkų asmeninės ir profesinės savybės;
- Informacinio aptarnavimo organizacijos dalykai;
- Informacinio aptarnavimo problemos.

Tyrėjai pateikia šias esmines rekomendacijas ir išvadas:

- Nestacionarus medicinos darbuotojų aptarnavimas daro netiesioginį poveikį ligonių gydymui, todėl turėtų būti toliau plėtojamas ir remiamas finansiškai;
- Siekiant nustatyti tiesioginę sąsają tarp bibliotekinio aptarnavimo ir sėkmingo medikų darbo, reikia detaliau ištirti vartotojus, bet tai gali būti neįmanoma bendruomeninėse sveikatos priežiūros įstaigose.

Įteikta 2006 m. lapkričio 21 d.