

Collaboration on procurement of e-content between the National Health Service and higher education in the UK

Christine J. Urquhart

University of Wales Aberystwyth, Aberystwyth, UK

Andrew M. Cox

University of Sheffield, Sheffield, UK, and

Siân Spink

University of Wales Aberystwyth, Aberystwyth, UK

Abstract

Purpose – Collaboration on procurement of e-content between health libraries in the National Health Service (NHS) and in higher education (HE) should have advantages in increasing their negotiating power to improve licence terms and avoiding unnecessary duplication of content. The aim of the paper is to examine some of the strategies for ensuring that collaboration across the two sectors works effectively. The paper is based on a report to the Joint Information Systems Committee of the Funding Councils (for higher and further education) in the UK, and the NHS Library and Knowledge Development Network, on research conducted in 2006.

Design/methodology/approach – The methods included interviews ($n = 39$) with representatives from NHS and higher education bodies, representatives of independent health libraries, the National Library for Health, collective agencies, publishers and aggregators.

Findings – There were common interests in functionality/interfaces, open access, and better metrics for estimating usage that might contribute to discussions with publishers over the licence terms. There are differences in the type of resource each sector might deem to be core. The extent of existing collaboration on purchasing and related collection management activities varied considerably across the UK. Three possible paths for cooperative activity were identified: sharing information and joint advocacy; building the technical infrastructure; and joint procurement. Mapping of the stages, roles, actors and stakeholders in some processes was done with “use cases” (Unified Modeling Language) to help identify some of the risks involved.

Research limitations/implications – Poor response from online surveys limited the validity of the forecasting of user needs. Usage statistics were difficult to obtain and compare.

Practical implications – The paper concludes that collaborative procurement of e-content activities should focus on health services research requirements, and open access needs across the sectors. More innovative analysis of usage statistics is required to profile usage and inform cost analyses of both the impact of new roles for health librarians, and cost analyses of e-resources on a life cycle basis.

Originality/value – The paper develops new ways of examining the business processes required for collaborative procurement.

Keywords Electronic publishing, Information management, Digital libraries, University libraries, Purchasing groups

Paper type Research paper

Introduction

The collective spend on purchasing and supporting e-content across higher and further education and the NHS (National Health Service) is very large, but assessing value for money across both sectors is hampered by the lack of reliably comparable data. A study commissioned from Robert Huggins Associates (2005) indicates that £44.27 million was spent on NHS libraries (staff and resources) as well as £2.1 million on core content, which included electronic resources such as databases and e-journal collections

purchased centrally for use by NHS staff in England (2003–2004 figures). The National Library for Health purchases access for NHS staff and the general public to a variety of evidence-based resources, notably the Cochrane Library, and the specialist library resources. The HE spend on e-resources 2004–2005, according to SCOUNL statistics, was £24.6 million on non-serial content such as databases (£20.2 million), e-books (£1 million), archives and manuscripts (£0.4 million). Serials spending is complicated by the bundling of print and electronic content, but amounted to £14.5 million on electronic-only and £15.5 million on print and electronic (bundled), with a print only spend of £22.7 million on periodicals (SCOUNL, n.d.). Total periodical spend (2004–2005) was £92.8 million. Only around 40 per cent of the periodicals expenditure in old and new universities is spent on print-only serials subscriptions, and even in the higher education colleges where the shift to electronic provision is less marked, the colleges with larger budgets have patterns similar to the universities. There is diversity within the NHS in the UK, with separate NHS structures in

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the home nations of Scotland, Wales and Northern Ireland. The sheer size and complexity of the NHS, especially across the home nations, is matched by the diversity of higher and further education and its different perspectives on value. What suits a world-class biomedical research centre in a university hospital, requiring access to research resources, may be irrelevant to the needs of a community-based further education college offering a range of access courses, or a primary care health centre where the information needs are mostly general, but wide-ranging in scope and not limited to clinical resources. Notwithstanding the divergences of need, the potentially greater negotiating power resulting from working together would be great. Furthermore, there is high-level policy support for such a partnership.

The UK Government has approved in principle the recommendations of the House of Commons Science and Technology Committee (2004) report that “the Joint Information Systems Committee and the NHS work together to implement joint procurement procedures that reflect the close working patterns of the NHS and the higher education sector and represent value for money”. The responses to the report (para. 9) also noted that JISC should explore the establishment of a content procurement company to provide more effective national co-ordination of purchasing, on behalf of all higher and further education institutions through the JISC as well as on behalf of other organisations such as the Research Libraries Network, NHS or the MLA.

The aim of the research reported in this paper, commissioned jointly by JISC and the NHS Library and Knowledge Development network, was to analyse stakeholders’ perceptions of the benefits and risks of joint NHS/HE (higher education) procurement activities in the area of e-content, and on this basis identify potential strategies and quick wins. The objectives were to:

- assess the organizational and technical structures for joint activities;
- identify common interests in terms of content, functionality and licensing terms;
- identify areas of duplication of licensing of e-content; and
- map stakeholders’ needs, priorities, current activity and timetables.

The research was conducted by a team from two university departments (Departments of Information Studies at University of Wales Aberystwyth and University of Sheffield) together with the Higher Education Academy Information and Computer Sciences Subject Centre (at University of Ulster). The research was conducted in 2006.

Methods

The primary method of obtaining information was through telephone interviews ($n = 39$) with the range of stakeholders (national contacts, stakeholder groups by type of library and community served) (Table I).

The majority of interviews ($n = 37$, of 39 in total) were recorded, and transcribed, with the interviewee’s permission. As part of the informed consent process, transcripts were sent to interviewees if they wished. Interviewees identified parts of the interview which were confidential. Transcripts and interview notes were reviewed to identify themes and data that complemented the literature review of policy documents and reports.

Table I Stakeholder interviews

Stakeholder group	Interviews obtained
National institutions (e.g. JISC, NLH)	
National home country contacts for the NHS	12
Education sector (HE and FE)	10
Collective agencies (Health Libraries Group, Independent health libraries (CHILL), etc.)	10
Commercial stakeholders, publishers	7
Total	39

A workshop held about mid-way through the research helped to identify the priorities for progress in joint procurement, as well as checking that the range of issues already identified was correct. Delegates ($n = 11$) represented a range of stakeholders.

A series of web-based surveys, organised by the Higher Education Academy Subject Centre for the Information and Computer Sciences, targeted user views from clinical academic sectors, health librarians and health informatics professionals. These also examined existing licence terms and views on collaborative procurement. Response to the surveys was disappointing, but nine responses from health librarians were obtained. Further clarification was sought from selected respondents in interviews and survey responses from LKDN members also complemented the data collection.

Results

After discussing organizational issues, the following sections outline the findings concerning content, licence scope and licensing terms, joint negotiation, duplication and the supplier perspective. In the Discussion session we suggest some ways forward for joint working in this area. Quotations, unless stated otherwise, are taken from interview transcripts.

Structural issues

By 2006 the NHS Scotland e-Library (see www.elib.scot.nhs.uk), provided a very extensive collection of electronic journals, e-books, databases, and a large number of evaluated health and social care websites. Its collection was larger than any other in the NHS. For NHS Scotland a major obstacle to collaboration was its perception of HE as relatively fragmented. In contrast, in the other home countries, NHS e-content provision was more fragmented and less well organized than in HE (although NHS Wales has now expanded its collection substantially). In the context of increasing collaboration, NHS Scotland is an attractive model. The problem is that publishers will be unlikely to risk losing extensive existing subscriptions by signing very broad deals such as NHS Scotland has achieved. The Scottish approach perhaps only works in “small” countries, such as Iceland and Wales, or in regions of larger countries.

While NHS Scotland has steadily built up its e-library, NHS England has been undergoing a series of organisational changes that have affected how library services, individually and collectively, have been able to provide e-content for their users. The creation of Workforce Development Confederations and the current reorganisation under Strategic Health Authorities has had a significant impact on library services. The English National Library for Health

(NLH) originated from the Information Strategy (NHS Executive, 1998) and its implementation of the National electronic Library for Health (NeLH), which would provide “accredited clinical reference material on NHSnet”. The strategy envisaged that the NeLH would be accessible through local intranets in all NHS organisations by March 2002. This strategy was amended to take account of the vision of a redesigned health service in the NHS Plan (Department of Health, 2000). The NLH now sees the need to focus on service delivery, ensuring that e-content is delivered to support the immediate decision making needs of health professionals. This service delivery must also be integrated into the Care Records Service for electronic patient records. Tensions are apparent in the methods to be used in ensuring that clinical practitioners have access to the best evidence – but only the best evidence (Gray, 2006) and limited to the most useful resources. Those developing digital libraries usually aim to provide as much e-content as possible for their users. NLH has been heavily involved in delivering knowledge to the user in an accessible format, the “knowhow” that is not necessarily contained in the journal literature.

We have been too concerned in the last 50 years with the quantity of knowledge, not its quality [...] the consequence is that we have spent far too much money on journals (Muir Gray, cited from conference speech) (Update, 2006).

Because the NLH nationally has focused collection development on evidence-based, aggregated sources of information such as the Cochrane Library and Clinical Evidence, NHS libraries regionally and locally have concentrated on procuring different sources of information.

The NHS Core Content service comprises a set of clinical databases plus some e-journal and e-book collections. Funding for the Core Content has been obtained from top-slicing budgets at Strategic Health Authority level. The advantages of the Core Content for most health libraries in NHS hospital trusts has been access to a much wider range of content than would be affordable from individual budgets.

Common interests on content

In looking for commonality in needs between the NHS and HE, it has to be recognised that the content priorities between research, practice and teaching are different, as is the pattern of likely use (e.g. frequency, location, time of day and of year). For example, researchers use material much more intensively, though ranging broadly, whereas practitioner use is likely to be sporadic. This is often not understood by publishers. In general, universities look for broad subject coverage in e-content to cover all the disciplines served in the institution. A typical resource might be a general database such as SCOPUS, which while strong in scientific, technology and medicine content, includes much material of interest to other subject disciplines. Often, bundled collections are bought because they meet a range of subject area needs and the specific needs of health do not predominate. In contrast, the NHS has some generally agreed core content but also has a demand for specialised publications for specific expert groups, or pockets of specialist provision reflecting the specialist research needs of an eminent department within one hospital, for example. There may be key journals that are vital to a small group of staff and this makes deciding on priority content, for a deal across an NHS grouping, very difficult. For the NHS, speed and ease of access is important:

... instant access to what is of particular interest to you and at a broad enough range of resource so it speaks to your own experience.

The difference in perspective between NHS and HE is highlighted in the knowledge and awareness of Dialog and its relationship with Thomson. The NHS associates Dialog and Thomson with the core content databases for England, whereas HE associates Thomson with the Web of Knowledge (WoK).

Forecasting future needs for e-resource development is difficult, as current views of users need to be interpreted carefully (Thomas *et al.*, 2005). A mapping study (Crudge and Hill, 2006) of electronic journal titles desired by staff in Stockport NHS Trust and Stockport PCT, against the Core Content collection of e-journal titles and four other bundles (BMJ, OVID, Science Direct and Blackwells), identified 217 unique titles. Of these, 35 (16.1 per cent) were available from Core Content, 14.7 per cent from Science Direct (e-journal bundle) and 84.3 per cent were available in print format within a local healthcare library. Assessing value for money for journal bundles is difficult, as some large bundles contain a relatively small number of desired titles compared to the size of the bundle. Journal impact factors may be used as a guide to deciding on the key titles, but citation ranking does not necessarily equate to use or usefulness to practitioners and students, as the measure relates more to importance for research and to researchers. Other measures are developing as different ways of assessing the use of individual articles emerge (e.g. Darmoni *et al.*, 2002).

Future trends in content requirements

Comparison in the project of the current Core Content for England with the resources offered by NHS Scotland e-library, and taking into consideration the comparative costs of some collections, suggests that collaborative procurement across the NHS and HE could consider the following subject areas:

- psychology and the behavioural sciences;
- education;
- specialist resources, possibly with limited access, for pharmacy, speech and language communication, biomedical engineering and rehabilitation engineering, and estates and building services; and
- resources of interest to public health and health service planners, with access limited to particular user groups if necessary for some value added elements of some data services.

Examining forecasts of future trends in health care also helps to identify where important new journals and resources might appear. The reports of the Foresight Healthcare Panel (2000) on health care are useful in indicating the emerging multidisciplinary areas. Challenges identified include:

- ways of preventing ill-health;
- informatics;
- innovation; and
- genetics risks.

This might also be an area of potential cooperation across the NHS and HE.

Emergent formats such as visual images, e-books, e-learning material, free content probably also offer fruitful areas for collaboration, because the market is emergent and the shape of publisher practice is open to influence. For example, e-book business models vary and some suppliers may be more willing to put together bespoke collections than would be the case with e-journal publishers. Some publishers see a trend towards provision of synthesised content, special

products that may also be easier to support on wireless platforms or PDAs. For the NHS, products that work with electronic health records may provide added value.

An example [name] that would synthesise information taken from books and journals and presented in a concise, very usable format for doctors, nurses, students to use at the point of care.

However, these are quite futuristic scenarios. All the evidence seems to be, for example, that PDA use is still in its infancy – even though various experiments, such as Ovid@hand, have been tried over the last few years.

Licence scope

Licence requirements for both sectors share some of the same concerns, but are also different. In terms of licensing scope, the higher education requirement is to include all users, staff and students. Publishers complain that such a model is too inclusive, encompassing as it does international research centres in Asia and creating uncertain areas in access rights (e.g. for part-time lecturers). National deals in the NHS, such as in Scotland, have covered very large numbers of allied professions, potentially expanding the coverage to a large proportion of the population. Similarly, NLH has as its remit to “extend NHS library services to patients and the public for the first time”. In fact, cooperative work with the public library sector may be relevant here and interviewees identified closer working with public libraries as a future requirement. From the perspective of licence scope, then, the requirements of the two sectors diverge in the type of peripheral users to be considered.

As well as widening its user base to social care and various distributed populations of practitioners, the NHS is also in a massive modernisation programme. With this emphasis on new ways of working it is possible that material on health services research, management and operational research as well as case studies of organisational change would be of common interest across the NHS and HE. The available usage statistics (e.g. on use of the open access journals) suggest that titles concerned with public health and the quality of health care are popular, but usage of individual titles varies markedly from year to year, particularly in the early stages of development of the e-library, and trends are difficult to identify. There is, however, a fit between NHS interests in supporting a wider constituency of health professionals and HE’s concern to serve a wide range of students across health and social care.

Students on placement are a key group for whom provision has always been problematic, but opinions differed about how joint procurement would have benefit. HE wishes to ensure that their funded students on placement have equitable access to resources while off campus; emphasis may be placed on ensuring that all students can access e-content purchased by the HE institution, regardless of what might be available locally in NHS hospital libraries. An opposing argument suggests that students on placement should be considered as “NHS staff in waiting” and should therefore use resources available via the NHS library services as part of their general education and training, in learning about the clinical resources and use of different interfaces. Interviewees disagreed about the merits of a common interface for resources, whether for students or for training sessions by librarians.

Licensing terms

As regards licence terms, six areas of convergent interest, in order of apparent priority were:

- 1 off site access;
- 2 content stability;
- 3 archiving;
- 4 concurrent user licensing;
- 5 statistics; and
- 6 inter-library loan.

Off-site/off-campus access is key for providing a 24/7 service. The problem is the publisher perception that it introduces an ambiguity about who is being authenticated. There are joint interests here in trying to influence licensing terms. Interviewees often noted the instability of what was included in an e-content deal. There was a tendency for items to be withdrawn from bundles without consultation. Equally, the electronic version was often different from the print original. One of the advantages of a common deal would be the collective monitoring of what was actually being delivered. Print cancellation and archiving is a key area. Publishers may insist that existing print subscriptions be maintained although e-content subscriptions for the same material may obviate the need for a print subscription. More flexibility on substituting print subscriptions is desirable. Joint working might prevent problems encountered with lapse of e-content only subscriptions and subsequent loss of archival access. Licences which potentially lock out users if the number of users exceeds the concurrent user licence terms assume that usage is, or can be smooth, and this is unrealistic, particularly for student use. There is a need for comparable usage statistics and data across suppliers and platforms and open access material. Cost per use is more complicated to calculate for open access journals, as different models exist. Several of the librarians interviewed mentioned that they looked at the usage statistics at a local level, “to see if I can get some sense of trends”, but fewer mentioned using the data for auditing usage and comparing that with print usage or online accesses for other journals:

I’m looking to reduce the number of print copies of journals [...] I’m comparing how many times a print journal’s been used by the number of times it’s been accessed online.

The difficulty is comparing like with like – NHS Core Content purchasers may prefer to calculate the average cost per article within a collection to assess whether a collection is good value. SCONUL statistics for 2004-2005 include a new ratio on the use of e-resources: an average (mean) of 35 journal articles were downloaded per FTE user, at a mean cost of 78p (median 87p) per download (and for e-books the mean cost per e-book access was £1.12, median cost £1.34). However, the average cost may be kept low by a large number of downloads from popular titles within that collection. Gaining an idea of the usefulness of a journal title is more difficult unless comparable usage figures for print titles are available, and the figures for the percentiles (25th, 75th, as in SCONUL statistics) are available.

Use of e-content to satisfy document supply requests was also desirable. Constraints here seem to stem from at least partly unjustified fears of loss of revenue on the part of publishers. There is scope here for the two sectors to work together to educate publishers, e.g. in the inappropriateness of concurrent user licensing models and to work on the provision and analysis of usage statistics.

Open access

The promotion of open access may reduce the dependence of libraries on a number of publishers. Open access is not free, as it relies on the fees paid by authors or their employing organisations or research funders to an open access publisher such as BioMed Central (both the NHS and HE pay subscriptions to BioMed Central). The cost per usage has to be calculated in a different way, and new metrics need to be established to assess the merits of open access to compare the value added to content by the publication processors, as well as the costs of providing access (King, 2004). NHS and HE libraries could collaborate on ways of promoting open access publishing, and assessing how effective it is among users in the health and social care sector.

Joint negotiation

Survey responses indicated that the main benefits of collaborative procurement were perceived to be (in descending order):

- cost savings on purchasing;
- negotiating power for dealing with suppliers;
- greater content coverage (electronic); and
- reduced duplication of journal titles (electronic).

But common interests need to be based on a background of partnership working (as in the London Medical Schools Group) in order to spell out the details of a co-operative deal where “you had to slice and dice it to meet their needs”. One interviewee stressed the importance of clear decision-making responsibilities for a potential deal to work; each purchaser in the consortium has to have an identifiable decision maker to authorise the deal and if agreed, the responsibility for invoicing must also be clear. For smaller groups of NHS trusts buying packages of electronic journals, a fair but efficient method of allocating costs should be agreed. Indeed, finding a valid method for determining a fair basis of payment for access to e-resources is important to both the NHS and HE.

A complication for joint licensing is the differing timetables of procurement. Universities do not work to the NHS financial year of April to March. A short survey found wide variation in the time spans for different deals in the NHS (e.g. the financial year, the year to March, 1 July or “the autumn”). However, as smaller regional deals in the NHS were rarely made for periods exceeding 12 months, there would be sufficient flexibility to arrange new deals across the NHS and HE, even if there is some period of overlap and duplication of purchase, particularly as so few examples of collaborative purchasing in the NHS were identified. On the other hand, the survey indicated that decisions were made “just in time” before the licence started, which suggests that some organisations need to adjust their thinking to the lengthier negotiations needed for longer-term deals.

Another difficulty is that negotiation skills have been delegated upwards from local to regional or national level in the NHS. However, to arrange and co-ordinate deals:

There is this element of ownership, whether it's a co-ordination role or it may be somebody who's just got an interest in the electronics side of things, it could be somebody who has been given the job. Either way it does seem to need either an informal or formal co-ordination role at a local level.

Duplication

De-duplication of licensing between NHS and HE was a particular concern in setting up the project.

There are five senses in which licensing of e-content is currently being duplicated. Firstly, NHS licences may cover

students on placement and staff members, who are also covered by HE licences; in effect access is being paid for twice. Such duplication is a long-standing source of complaint. This is most obvious in the provision of databases such as CINAHL, BNI, EMBASE, and some physiotherapy databases. This suggests an avenue for joint work. On the other hand, some universities do not have health departments and would not prioritise such content. Secondly, some publishers consider different physical locations, even if they are within the same NHS hospital trust as multiple sites, therefore the trust has to pay more than once for access. Thirdly, national deals for the whole NHS in England, for example, are being duplicated, usually by continued print subscriptions. This is because of the concern local NHS library services have of losing access to the content in the future (for which purpose hard copy is more trusted).

... you wouldn't rely on a national agreement because that's beyond your control. So in a way the core material that a library needs is what they buy themselves, it's not what's provided nationally.

It is a long-standing problem that departments and units within the NHS may also be duplicating content held by NHS libraries, again because of a lack of trust in continuing provision. Indeed, individual practitioners may be purchasing content that they could access through some institutional access arrangement. These features reflect the difficulties of establishing trust between the parties involved due to rapidly changing circumstances and the relative invisibility of the intentions of different parties. Thus national level strategy may be quite clear, especially to those involved, but a small element of doubt will lead to duplication by local libraries to establish a cast-iron guarantee of long-term access. What in the long run will be considered to be core? From the viewpoint of those responsible for purchasing the core content, there needs to be an assessment of what realistically can be achieved nationally, and how topping up locally can be done as efficiently and as effectively as possible. But the term “core content” may raise unrealistic expectations.

A fourth type of duplication arises from the bundling of content. Different aggregator deals may contain duplicate material. Thus it is common for e-journals to be available from multiple aggregators, and so there may be two access routes. This may or may not affect costs, but it makes the comparison and evaluation of different deals more complicated – especially as the content of bundles may be quite unstable. The fifth form of duplication is in the effort of negotiating licences for the same content for both the NHS and HE, since much of the same content is required in both sectors. This means that the potential negotiating power of working together is not being exploited. Identifying the precise areas of duplication are complex, which points to the value of working together on collection planning.

Acknowledging the supplier perspective

Although publishers are often viewed as working against the interests of librarians, the ideal relationship with a supplier is partnership. Joint procurement is bound to take into account the realities of publishing. It is the economies of scale arising from consortial deals that enables publishers and aggregators to offer discounts. For publishers and suppliers, it is easier dealing with library consortia buying print (books or journals) as the deal is transparent – the consortium is committing to buying a certain number of items at a certain price. However,

tendering in one cycle often appears to preclude any relationship with the NHS for some years. A couple of years can be a long time given the speed of technological and product development, unless deals are made at regional or local level:

If you miss one of the procurement cycles, a new cycle may not come round for another three or four years which almost precludes any relationship or conversation it seems to me with the NHS for three or four years [...] but of course they're not really willing to discuss new products or interesting products if they know that they don't have any extra budgets.

Large-scale procurements, at the national level, seem risky from the viewpoint of the supplier as more time is involved with no guarantee of success. The individual publishers are concerned about who is actually using their products. Smaller-scale procurements may allow suppliers to develop and trial technical solutions to some of the licensing problems (such as roaming affiliation for different Athens passwords), as well as trial specialised products in a more focused way.

Discussion

Despite the apparent benefits of collaborative procurement, there were few current examples and the few there were seemed to arise from special circumstances. The successful ventures often had a history of collaboration behind them and not necessarily just in procurement of e-content. The recommendations from the survey suggested three possible paths for cooperative activity:

- 1 sharing information and joint advocacy;
- 2 building the technical infrastructure; and
- 3 joint procurement.

The first, low-risk strategy could focus on sharing market intelligence and information about suppliers, on campaigning for improved licence conditions and usage statistics. Higher education experience in developing institutional repositories could help the NHS to share experience on best practice, as some local reports on research by NHS staff are hard to track down. The second area of collaborative activity could be around the technical infrastructure given that this is more directly under the parties' control and there has been success in the past, such as convergence around Athens. A third inherently more risky but potentially fruitful direction would be towards cooperative procurement activities. These could take place at national, regional or local level and would be likely to focus on certain specific types of content (e.g. around e-books).

Consideration of these options produced a set of 12 possible paths of action, or processes, for each of which a "use case" (Cockburn, 2001) was developed clarifying the goal, the parties to be involved, choices to be made, risks to be managed, and criteria of success for the process.

Collaborative procurement requires trust and some information sharing among the partners, and its success probably depends on previous work on collection planning. The choice of processes reflects that.

The processes proposed in the report (Urquhart *et al.* 2007) are:

- exchange information/shared advocacy;
- find consortium partners;
- identify common and complementary needs;
- identify users to be served by consortium;
- formulate initial statement of requirements;
- devise framework contract;

- provide and negotiate initial price for deals;
- negotiate with individual publishers on licence conditions (aggregator);
- provide usage statistics;
- monitor and analyse usage statistics;
- identify access management arrangements;
- organise access management; and
- plan open access repositories.

This list is not complete and several of the processes may need to be subdivided. If an extended use case specification (Cockburn, 2001) is used to set out the process, then this does help to raise essential questions about ownership of the process, stakeholders who have not got a direct input, but who are involved to some degree, and what are the expected outputs of the process. Use cases are not, strictly speaking, regarded as processes in some manuals on business process modelling, but the framework is convenient to use and helps to ask some necessary questions.

For example, the basic framework for an extended use case specification comprises:

- goal;
- scope (scope of system under discussion);
- level (is use case invoked at a single sitting or not);
- actor (anything/anyone that exhibits behaviour that affects the system);
- primary actor (one initiating interaction with system);
- stakeholder (who has a vested interest in the system);
- preconditions (what must exist before the use case runs);
- trigger/event (motive for the use case);
- success (criteria);
- main success scenario (the "happy day" scenario if all goes to plan); and
- extensions (variations on the happy day scenario).

(Identification and cross references are also required, usually, but not relevant in this instance).

An example of this approach is shown below for the monitoring and analysis of usage statistics.

Goal: To assess whether usage is providing value for money, assess trends in usage.

Scope: Can be done over a month, or periods up to a year or more.

Level: Could be done at organisation or consortium (regional/national) level.

Actor: Library partner/Funder/Consortium lead.

Primary actor: Library staff.

Stakeholder: Publisher.

Preconditions: Comparable and meaningful statistics from publishers/aggregator available.

Trigger/event: Annual review of expenditure.

Success guarantees: Value for money estimations, trends in usage identified.

Main success scenario (happy day): Statistics to be supplied, collated and analysed to indicate usage by different user groups, sites, trends in usage. Libraries to be able to provide a cost per use. Should be able to assess usefulness of particular journal titles or groups of titles.

Extensions (what can happen differently during the use case): Assumptions may be made that the "user" (as registered by password etc) is the real user but if password sharing occurs this is not entirely true. Variations in definition of usage views and downloads. Differences between views of aggregators and publishers.

The drafting of the use case specification helps to clarify what should happen, where the normal variations might be expected and some of the risks involved. There was insufficient information in the data collected for the report to set out some of the use cases precisely, and that probably reflected some of the uncertainties in roles and responsibilities for some of the collaboration processes – from simple information sharing on collections through to procurement.

Conclusions

NHS and HE both spend large and growing sums of money on e-content. Although aligning activity across complex and changing sets of institutions such as these is difficult, there are some examples of successful collaborative initiatives (such as the London Medical Schools group, and the NHS Scotland e-Library). There are common interests in functionality/interfaces, and the better metrics for estimating usage that might contribute to discussions with publishers over the licence terms.

Sharing information on open access initiatives, particularly institutional repositories, could help to support “getting evidence into practice” in the NHS. The experience of HE library and information services in setting up and maintaining institutional repositories could benefit NHS information service structures at a local level. Managers cite problems in finding in-house NHS reports on changes made to health service delivery structures – the “how”, rather than the “what” of service delivery. The NLH Specialist Library structure works at a national level to support that type of knowledge sharing, but there are lessons in process improvement that may be better shared locally.

The research team noted various attempts to monitor and analyse usage statistics, but more work is necessary here. Collaborative activities on costing and analysis of usage statistics would help to ensure that the subscription and non-subscription costs of print and electronic resources could be identified clearly for both sectors on a life cycle basis.

Such work is complicated by the different and changing nature of library and information services in both HE and the NHS. However, there are sufficient shared interests in supporting e-learning and information literacy as well as similarities in the work of liaison librarians/subject specialists and clinical librarians. In both sectors the skill sets are changing, and such changes will affect the costing of library service support for e-resources, and how the impact will be assessed. Analysis of usage statistics needs to move to a more sophisticated level, to examine profiles of usage, usage by particular specialist or multidisciplinary groups and the impact of particular collections of titles.

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About the authors

Christine J. Urquhart is a Senior Lecturer in the Department of Information Studies, University of Wales Aberystwyth. Christine J. Urquhart is the corresponding author and can be contacted at: cju@aber.ac.uk

Andrew M. Cox is a Lecturer in the Department of Information Studies, University of Sheffield.

Siân Spink is a Research Officer in the Department of Information Studies, University of Wales Aberystwyth.

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