

E-journals in the NHS: pushing the boundaries

The South Thames Library and Information Service (STLIS) began a project in January 2002 to consolidate e-journal access for National Health Service (NHS) users in the south east of England. This paper describes the problems faced by the project team: disparity of existing access, diverse IT infrastructures and lack of central purchasing. It goes on to present the adopted approach – an economic and innovative solution which has created an easy-to-use, centralised gateway achieving consistency of access to print and e-resources, integrated with existing cataloguing and web services.



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Introduction

In January 2002, South Thames Library and Information Service (STLIS) initiated a research project to consolidate access to e-journals for health care libraries in the south east of England and south London.

As information professionals working within the Health Service will testify, a combination of factors unique to the NHS environment make e-journal provision something of a challenge. Working across constantly changing organisational and regional boundaries, the e-journal project team sought to investigate how existing skills and resources could be used to standardise e-journal access across the network. It was hoped that the project would raise awareness of electronic issues and help librarians make their electronic resources available to the widest possible audience.

The NHS environment

The NHS is a nationwide organisation made up of semi-autonomous bodies responsible for delivering local services within a national framework. The majority of library services are small, hospital-based units managed at Trust level. In the area covered by the project, there are approximately 38 Trusts and 55 libraries serving clinical and non-clinical staff, as well as 12 libraries serving hospices

and other NHS organisations. IT infrastructures are also controlled at Trust level. Therefore, it is crucial that health librarians collaborate across organisational boundaries to supplement local resources and to work together on mutually beneficial regional and national initiatives such as the National Electronic Library for Health (NeLH) and the project described in this article.

There are a number of problems facing librarians when providing e-journal access within this environment. The majority of health libraries access the internet via the national NHSnet network whose firewall can make IP authentication for full text access impossible. Even where possible, this method of authentication is unsuitable for libraries having to accommodate remote users who work in the wider health care community and fall beyond the range of hospital networks. Unless an access management system like Athens is available for authenticating web-based subscriptions, this demand for remote access is difficult to meet, both in terms of IT infrastructure and the restrictions in place under publishers' electronic licences. Although some electronic resources are purchased centrally, print subscriptions and their associated electronic versions are still managed and financed at individual library level.

Background to the project

During 2000, a group of health librarians led by Jill Fairclough of the Royal Sussex County Hospital, Brighton formed a special interest group to consider e-journal issues. Discussions revealed a disparity of access and duplication of effort across the region. Individual libraries were trailblazing, while others had neither the time nor the resources to develop an electronic collection. A questionnaire issued in November 2000 confirmed their concerns. It was apparent that the complexity of activating access and maintaining URL links had deterred many libraries from using their entitlement to electronic versions of their print titles. This prompted the group to propose a project to look at bringing all libraries up to a minimum level of access for their users, and to investigate the possibility of centralising e-journal access and maintenance across the region.

Michael Carmel, Director of South Thames Regional Library Unit, developed a project plan and obtained funding from the South East Regional Office (SERO) R&D budget. STLIS was a network of NHS libraries and health libraries from non-NHS sectors, based on the former NHS South Thames Region. With the abolition of NHS Regions during the life of the project, this network expanded and now covers a number of areas in the south-east and south London. Given the fact that there is no longer an obvious geographical or organisational basis for the collaboration, STLIS has been renamed simply the Health Libraries Network (HLN). An integral part of this network is the technical unit based at Pembury in Kent which supports resource sharing and collaborative cataloguing effort by maintaining union catalogues of books and journals. Using InMagic DB/TextWorks® and DB/WebPublisher®, their databases are published online¹. The unit's position as central service provider, together with their knowledge and experience of database and web management, made them the logical team for the project. A Steering Group was created and Jane Wilson was appointed Project Officer in January 2002.

Aims and objectives

The primary aim of the project was to look at the feasibility of creating and maintaining a single,

easy-to-search gateway to all print and e-journal resources available in each of the participating health libraries. It was anticipated that centralising e-journal access in this way would reduce the duplication of effort at library level. Given the number of libraries involved and the fact that electronic subscriptions are administered locally, the project team were aware that this might not be achievable.

Some areas fell outside the remit of the project. The team would not be responsible for implementing structures to enable central purchasing or negotiating consortia agreements with publishers and subscription agents. Initiatives running alongside the e-journal project aimed to address some of these issues. The corollary to this was that funding and activating e-journal subscriptions would remain the sole responsibility of individual library managers. The team only sought to investigate the possibility of a centralised gateway to their full text resources, where accessible.

Preliminary research

The Project Officer's first task was a literature search to see if there was similar work being done elsewhere upon which the team could base their approach. Unfortunately, documented projects, both inside and outside the NHS, involved a level of central purchasing and were irrelevant to the task in hand. Furthermore, the majority of studies dealt with campus-wide sites where remote access was not an issue.

Commercial solutions were also considered, but cost and scale proved to be prohibitive factors. Therefore, the project had to exploit resources and skills within the unit at Pembury. The team were excited (and not a little alarmed!) at the prospect of having to break new ground in this area.

A strategy

The decision to work with existing resources guided the project's initial direction. Online union lists of serials containing details of libraries' printed journal holdings, together with book catalogues and directories of library addresses, were already a central reference point for librarians and some users. It was felt that keeping print and electronic resources together would

benefit the user and so the team decided to incorporate links to individual library e-journal collections into the union lists of serials databases.

Database structures lend themselves to the type of information required for the project. It is easy to add fields holding hypertext links to existing database structures and this would simplify the management of a central portal. Maintenance of electronic data can be incorporated into existing update procedures and workflow. With the transitory nature of the links, it is important that they can be checked and updated regularly.

Stages of the project

Stage 1: The easy bit

As a high profile project with long periods of development time, the team was anxious to achieve easily obtainable and visible results early on. In other words, a quick win was in order! Fields were added to records of existing journal titles to hold hypertext links to free full text, tables of content and full text available via the consortia-based KA24 initiative². Relevant data was gathered and loaded into the databases before being copied to the web. By the end of March 2002, the enhanced online union lists were available to anyone accessing them via the HLN website.

Stage 2: Development

2.1 Design difficulties

During the summer of 2002, the Project Officer looked at ways of making libraries' subscription-based e-journals available via the same union lists. For the purposes of this article, a subscription-based e-journal is defined as one where electronic full text is only available to users of the library that pays for it, either as part of an existing printed subscription or as an add-on purchase. Access via links to subscription-based full text is specific to the library holding the subscription and is governed by their publisher licence agreements. Collecting the full text links and corresponding access notes for each library would be relatively straightforward. Presenting this information to users of the online union lists in a clear and meaningful way would be a different matter. Result screens for queries of the union list databases would need to display full text links unique to individual libraries. Full text via these links would only be accessible to users of those

libraries but would be visible to everyone accessing the online catalogue. This dichotomy had to be addressed.

Technical and design restraints were always going to make this difficult to achieve. It became clear during initial development just how hard it is to design a set of result screens that accommodate all requirements, e.g. to direct users to their own library's subscription-based full text links and make clear why they cannot access equivalent links for another library. At the same time, the screen must incorporate the depth of instruction needed to fully explain restrictions to access via those links, for example IP restrictions, username and password requirements.

The project team felt it essential to approach the creation of a central gateway from a user's point of view and to develop a model that would best accommodate their needs. However, little research has been conducted into user requirements, particularly those of NHS staff. In the light of this and the team's reservations regarding their ability to produce adequate result screens, it was vital that user feedback was collected before continuing development.

2.2 Methodology

A test version of a union list database containing sample journal holdings was restructured by Claire Nevill of the Pembury unit to include subscription-based e-journal links against a random selection of library codes. This was posted to the internet and three different result screen models were designed to display information from title and library location queries. Each option differed in the sort order and location of the subscription-based e-journal links. Figure 1 shows a results screen from model 2.

The models were tested by a small number of librarians and users from across the network. Volunteers completed a questionnaire designed to compare these models in terms of overall layout and functionality. In particular, they were asked to assess whether or not the models could successfully lead users through the different levels of electronic access for a particular title or library, e.g. free full text, consortia-based full text and full text only available if subscribed to by his or her library. It is important to stress that the findings were not intended to offer a definitive assessment of NHS user preferences, but rather to provide a

The libraries listed below subscribe to this journal, and they may offer electronic access to their own users. Click on 'Availability' against YOUR library if listed. Alternatively, photocopies can be obtained from your local healthcare library.

Library Code	Printed Holdings		Electronic Access
	Years	Volumes	
AMERICAN HEART JOURNAL (00028703)			
BMA Shelf No. R: B28			
Table of Contents			
BFA	1980-1990	99-120	Availability
BMA	1925-	1-	Availability
CN	1980-	99-	Availability
CR	1978-1987	99-114	Availability
CY	1950-		Availability
GEO	1936-	11-	Availability
GRN	1990-1997	119-134	Availability

[Click here for an explanation of the report screen](#)

Figure 1. Model 2 results screen for title search

snapshot designed to assist the project team in their choice of solution.

2.3 Findings

Completed questionnaires were collected in September 2002 and, although relatively small in number, the responses highlighted a number of problems.

All three models were successful in that 100% of respondents found something. It was clear that, although both librarians and users located different levels of access, they did not necessarily understand their significance. Users, in particular, found it difficult to identify subscription-based e-journals and struggled to understand that they could only access these titles where their library subscribed.

User comments indicated that this was attributable to the fact that they were not interested in how a journal is funded. They only wanted to see a list of journals to which they had full text access. One comment in particular made this quite clear: "The user does not care if it [electronic full text] has been paid for by someone else as long as it is free to him".

It was evident that, although the volunteers preferred certain aspects of each of the models, an obvious favourite failed to emerge. For example, a format favoured for a search on title did not necessarily work for a search by location. So, it was back to the drawing board as the project team concluded that their initial concerns over clarity and simplicity were justified. None of the models

designed were suitable as a central vehicle for users wishing to access subscription-based e-journals.

Stage 3: Our solution

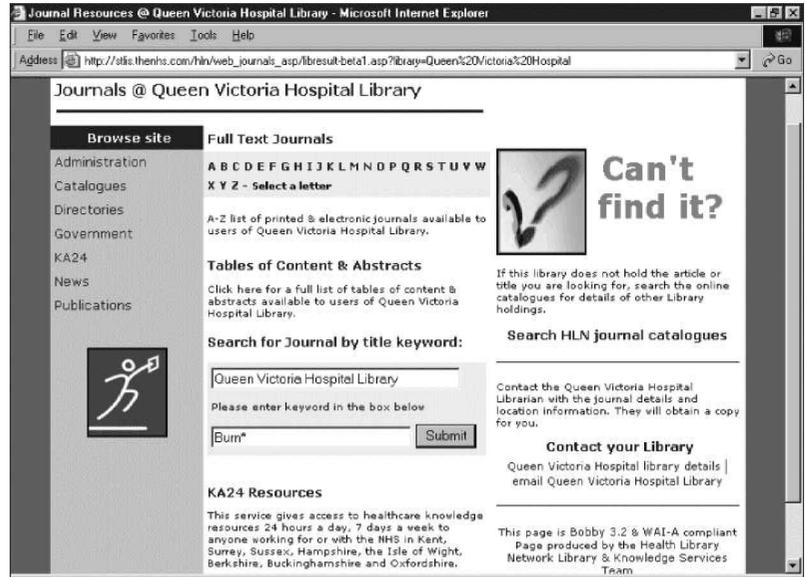
However, all was not lost. The questionnaire resulted in the development of an alternative model where the user is guided to the print and electronic resources of their individual library service at point of entry to the online union list, rather than at time of record retrieval. The advantage of this approach is that the user is guided to resources that only they, as registered with a particular library, are entitled to view. The confusion caused by seeing resources subscribed to by other libraries is eliminated.

The question then was how best to achieve this. It was fortunate that this stage of the project coincided with work being done by Andy Prue, the unit's Web Development Librarian, to use active server pages (ASP) and databases to drive other areas of the HLN website. His work enabled the team to take the project one step further and the resulting web-based design was an important development for the project and formed the basis of the solution.

Library-specific web pages

A combination of WebPublisher[®] canned queries, ASP and Perl made it possible to generate on the fly web pages containing printed and e-journal

Figure 2. ASP journal page for Queen Victoria Hospital, East Grinstead, W. Sussex



information for individual libraries. From one of these pages, shown in Figure 2, a user can retrieve details of printed journal holdings and links to subscription-only e-journals, together with links to the free full text and tables of content added to the union list databases in Stage 1. The value of this solution is that the pages can be linked to in various ways, and the team plan to include links to them alongside the union lists on the regional site. A user will select their library from a drop-down list, which in turn will generate a corresponding ASP journal page. The team recognised that this technology could

be used to create individual library web pages including links to all of the library’s resources, not just their e-journals. They therefore decided to incorporate the journal ASP pages into more general library ASP pages that were being generated using Perl templates. As can be seen in Figure 3, these library pages are designed to include not only the ASP journal link, but also a search of book holdings, library contact information and links to popular health sites. As with the journal pages, all the information is powered by data held in the catalogues and directories maintained at Pembury.

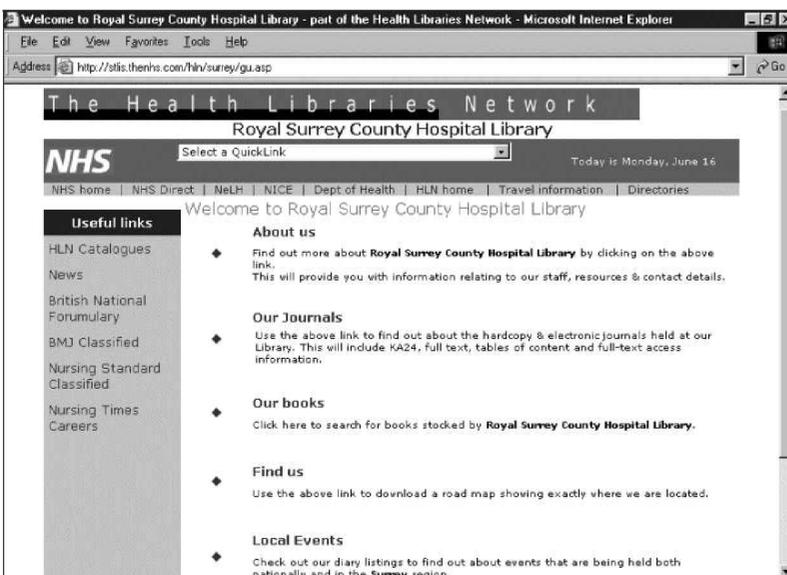


Figure 3. Library page for Royal Surrey Hospital, Guildford: <http://stlis.thenhs.com/hln/surrey/gu.asp>

Stage 4: Implementation

In December 2002, the Project Officer collected subscription-only e-journal data from a pilot library, and an ASP library page was created to display this information. Initial feedback from the librarian and reported comments from regular users were encouraging. The pages had an immediate positive impact on library services and so, after final formatting amendments, the decision was made to roll out further library sites.

A benefit of creating individual sites in this way was that implementation could be phased, not just in terms of creating the library pages themselves, but also in terms of data collection. Each new library journal page contains links to free and consortia-based full text as standard so that librarians can add their subscription-based full text links as and when they become available, while in the meantime offering a basic e-journal collection.

Creating the sites and collecting data inspired participating librarians to activate their subscription-based e-journals and begin to tackle some of the associated problems. It is not always easy to start an e-journal collection from scratch and so the special interest group, in conjunction with the Project Officer, undertook a number of initiatives designed to offer support and advice. Study days were organised and guidelines for librarians were made available, all with the aim of encouraging and sharing best practice. A number of publications and presentations are freely available from the HLN website³.

The future

The project team is in the process of rolling out the journal and library ASP pages to interested libraries before incorporating links to them into a drop-down library list to be made available on the HLN catalogue page. As a few libraries have already devoted time and resources to developing well-established internet sites of their own, the team are investigating ways of linking from these sites to elements of the union list. In this way, libraries can make use of centrally held data, while retaining the look and feel of their own pages.

At the same time, enhancements are being made to improve existing functionality – in particular more sophisticated search options, the inclusion of downloadable library forms and the generation of usage statistics for the library and ASP pages. In

the long term, the Perl script is being adapted to generate multi-library pages for Trusts where services and resources are consolidated across more than one library location.

Conclusion

The project has been a success. The team have created a central e-journal portal for libraries, using data held in the union lists and irrespective of central purchasing. However, what began as a research project to assist libraries with their e-journal provision has evolved, enabling the unit to offer additional benefits.

The libraries' ASP pages provide an instant web presence that, due to lack of resources, librarians would not necessarily have been able to develop themselves. This was beyond the project's initial scope but has proved to be a welcome bonus. Libraries have the option of a permanent URL that can be accessed from the internet and also posted to a Trust intranet, thereby allowing all NHS staff to view the resources available to them locally at the very least. Even where remote full text access is subject to technical and licensing restrictions, users can contact their librarian to get the information they require. Participating libraries are already finding the solution to be an invaluable resource, and the Pembury unit anticipate that the problems and solutions documented in this article will be of use to others.

References

1. HLN website: <http://stlis.thenhs.com/hln/>
2. KA24 Project: <http://www.hilo.nhs.uk/ka24rev.htm>
3. HLN presentations: <http://stlis.thenhs.com/hln/publications/presentations/index.htm>

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