Brief communications

Implementation of e-learning and the teaching hospital: a local perspective

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Introduction

The implementation and delivery of e-learning within the NHS has become a priority for those involved with education and training. This paper gives an overview of how the e-learning agenda is being delivered within a teaching hospital and the involvement of the library service within this process.

Over the last 5 years there has been an increasing emphasis on the need to provide an educated and competent workforce to deliver a modernised health service through the government targets set out in the 'NHS Plan'.[1]

It was recognized in 'Working Together—Learning Together: a Framework for Lifelong Learning in the NHS'[2] that the ability to deliver this change would require a leading role to be played by e-learning:

'to enable staff to access learning opportunities at times and places that best fit in with their lifestyle'.

One of the key actions of this document was for NHS organizations to have a 5-year e-learning strategy in place by June 2003, which reflected the education agenda and Information for Health[3] plans and targets.

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Implementation of the e-learning agenda within the Trust

At Lancashire Teaching Hospitals NHS Foundation Trust, the delivery and implementation of the e-learning strategy was placed within the remit of the Knowledge and Information Management Group (KIM). This group's remit is the delivery of both the IT and the Knowledge Management strategy for the Trust. The requirement to deliver an e-learning strategy dovetailed with ongoing activity already being progressed by the group and provided a cohesive framework on which to progress the Trust's aim to continue to develop as a learning organization.

The delivery of the e-learning strategy was also seen as an opportunity to establish and develop collaborative working between the different educational and training groups within the Trust and to provide a uniform and coherent approach in the delivery of training.

Membership of the group reflected this aim by including representatives from Human Resources Development, the IT Training Department, Medical Education, Library Services, Clinical Nurse Educators and Allied Health Professionals.

The Library Service's role

The involvement of the Library and Information Service in the development and implementation of e-learning has worked on a number of different levels. Firstly, library services already provided support in the delivery of education programmes both in terms of the resources it provides to support courses, the facilitation of existing e-learning packages in the library's IT training room and the provision of trained library staff to facilitate and use e-learning programmes effectively. This existing structure highlighted the suitability of the library service to support further development of e-learning. Secondly, the Library Service's

Manager had the additional role as the lead for the development and implementation of an effective Knowledge Management (KM) strategy for the Trust. This role provided an opportunity to develop the e-learning strategy as part of the knowledge management agenda by: providing a structured framework to deliver e-learning within the organization; providing an opportunity to co-ordinate how the various educational sources would be accessed and flow throughout the organization; and the integration of the different knowledge providers and educators to provide a cohesive framework to deliver the education agenda.

Therefore these factors were taken in to consideration during the formulation of the e-learning strategy and the development of the action plan. Within the action plan the library service was tasked with four main objectives, which related not only to e-learning but the wider knowledge management agenda. These were:

• To review current e-learning provision within the Trust.
• To develop a Trust wide catalogue containing all the resources within the Trust.
• To develop a quality assurance framework for the approval of e-learning materials to be used by the Trust in determining the appropriateness of specific e-learning interventions.
• To participate in the implementation of a pilot e-learning package, i.e. Preoperative Assessment.

Review of current e-learning provision

The first task was to carry out a review of the current e-learning provision within the Trust. This was required due to the lack of clarity on the number of e-learning packages that currently existed within the organization. Carrying out the audit at this time was fortuitous due to the organization renewing and introducing a standardized desktop for all computers in preparation for the implementation of the electronic patient record system (EPR). This resulted in all software being validated and logged before being put on to the new computers. The collection of this information was obtained by contacting the various departmental systems managers throughout the Trust. The initial audit identified a small number of e-learning packages being used within the Trust and that these packages were relevant to staff needs and complied with the quality assurance checklist. The audit has provided a basic inventory for the e-learning tools register, to support the qualitative approach towards e-learning software and has raised the awareness of existing e-learning packages within the organization, which can now be utilized more effectively.

The development of a resources catalogue

One of the aims of the e-learning strategy was to develop a catalogue containing all the book, journal and multimedia resources within the Trust. This aim also linked to the centralization of resources within the knowledge management strategy. The infrastructure to achieve this objective was already in place, i.e. the library catalogue was already available on the Trust Intranet and could be accessed from any computer within the Trust. However, the remit of this objective was very wide:

• To identify locations of all Trust resources.
• To catalogue all resources on to the library catalogue.
• To publish the catalogue via the intranet.

The ability to publish the catalogue via the intranet had already been achieved and work on cataloguing departmental resources began with the Human Resources Directorate. However, there were a number of difficulties with cataloguing all the Trusts resources especially when these were kept in departments. Experience had shown that resources that were based in departments had a tendency of either not being available for loan or to have disappeared. The disappearance of resources not only made it difficult to keep the catalogue up-to-date, but it is also sent out a negative message to those who had requested the resource to find it is not there.

Therefore this objective was modified to only include resources that were held within departments, which had secure areas for their resources and were unlikely to disappear.

Development and implementation of a quality service framework for e-learning materials

The Knowledge and Library Services Manger was asked to lead a sub group to develop a quality

Technical							
Is the package user friendly i.e. easy to use	Look at usability test. Scale = 1 easy to use – 5 difficult to use		1	2	3	4	5
Can the package run on the Trust's intranet (must be Windows 2000 or above)	Check with Systems Support within Directorate						
How will access to the e-learning package be provided Internet/CD Rom/Intranet/?	Check with supplier of the package						
Is the package SCORM* compliant	Check with Systems Support within Directorate						
Can the package log the number of users accessing the package/ generate reports on usage i.e. does it have a training administration system							
Is the package compliant with the Trust's nominated learning management system?							
Does the package have assessment measuring tools i.e. for self assessment and tutor so learning can be evaluated and measured							
Is the content clinical, if so is this evidence-based and up-to-date?							
Will the package be upgraded, yearly etc?							

Figure 1 Technical specification template for e-learning packages

assurance framework for the approval of e-learning materials to be used by the Trust and a mechanism to enforce its use. Historically, there was no quality checklist in place and there had been instances when e-learning packages had been purchased which had not achieved their desired learning outcomes.

The checklist was developed as a step-by-step guide and a quality control mechanism for managers who wish to purchase e-learning materials for training purposes. It highlighted all the factors, which need to be addressed before purchasing an e-learning product and aimed to ensure that all e-learning packages could do the following:

• Run on the network.
• Could run along side the Electronic Patient Record System.
• Would deliver the appropriate learning.
• Need to be evidence-based especially if they had clinical content.
• Need to be compliant with the Trust's nominated learning management system to monitor the learning experience.

The group also identified five key areas as being essential for inclusion within the checklist, which were: the technical details of the product, implementation, finance, support and benefits.

Technical details. This section included a range of technical questions, which aimed to make sure that the software package was compliant and could run on the Trust's intranet (see Fig. 1). Issues around the functionality of the software centred on whether reports could be generated on usage, or whether the package had assessment measuring tools, e.g. for self assessment and for tutors so that learning could be evaluated and measured.

With the increasing emphasis on clinical governance and risk assessment, it was essential to include a question about the use of clinical information within the package and whether this information was evidence-based and up-to-date. In the past software packages have been purchased, only to discover that this issue had not been addressed, rendering the package unusable.

Implementation. In the past, the purchase of e-learning packages had been carried out on an ad hoc basis and this has resulted in numerous problems appearing once the e-learning package has been installed, e.g. not enough user licences to deliver training effectively, and the implications for IT support in setting up and maintaining the package had not been considered properly. In all these instances these factors impacted by delaying the delivery of the training.

The increasing need to provide evidence of staff training to support continued professional development (CPD) and the implementation of the knowledge and skills service framework (KSF) resulted in the inclusion of questions on whether a training needs analysis has been carried out to identify the need for the package within the department or Trust.

Inclusion of questions on the delivery of training and the time it would take to complete, were included to highlight to managers the need to think about the impact this training would have on the running of the department and the need to

address this issue before the e-learning package was bought.

Finance. The requirement to be cost effective and to purchase viable e-learning materials ensured that a business case would be prepared and that issues such as the payment of annual maintenance charges and upgrades had been included.

Support. One of the main stumbling blocks in delivering any training is the need for staff to be released from their work environment. This raised issues such as the numbers of staff who would be expected to use the package, the time it would take each member of staff to complete, e.g. 1 hour, and whether the Directorate or Department had agreed to provide release time for staff to access the package? These were issues, which would require planning and if they were not viable then the purchase of the e-learning package could not be sustained.

Both Tutor support for the e-learning as well as an overall evaluation of the success and implementation of the project were seen as essential criteria.

Benefits. Directorates and departments were asked to indicate how the e-learning package would help to change practice and to have mechanisms in place to measure the benefits the training had on patient care.

E-learning pilots

One of the remits of the action plan was the setting up of four e-learning pilots. The aim of the pilots was to identify if the Trust had the relevant support and review structures in place to deliver e-learning. The following pilots were agreed:
- Pre-operative assessment pilot.
- Mandatory training pilot.
- E-booking system training.
- European Computer Driving Licence (ECDL) Pilot.

The Library Service Manager was asked to be part of the implementation team for the preoperative assessment pilot. This provided experience of working with a variety of new departments within the organization and resulted in a better understanding of the barriers that face staff in accessing not just e-learning but other forms of training.

Involvement in this pilot provided the opportunity to measure the e-learning package against the quality assurance checklist to see if there were any areas, which had been over looked, and if so to amend the checklist accordingly.

The way forward

Within the Cumbria and Lancashire Strategic Health Authority (SHA) it was realized that to implement the e-learning agenda effectively additional resources would be required. This has resulted in the appointment of e-learning co-ordinators for each of the heath economies within our SHA to drive this agenda forward. The E-learning Co-ordinator for Central Lancashire works very closely with the KIM Group and has taken on the responsibility for managing the e-learning pilots within our organization and the primary care trusts within our health economy. This has resulted in better co-ordination and a more focused approach.

Conclusion

Involvement in the e-learning agenda has provided a range of benefits for the library which include:
- The raising of the library services profile within the Trust by providing the opportunity to get involved in delivering Trust wide agendas.
- The opportunity of the library service and the library staff to highlight their expertise in the delivery of training and their knowledge of IT systems.
- The opportunity to provide a co-ordinated approach not only for the delivery of e-learning but the wider education and knowledge management agendas.
- Better links and understanding of other departments training agendas and resource needs.

The library service will continue to play a key role in the delivery and support of e-learning and through this involvement will become more established and included in the delivery of education within the organization.

Key Messages

Implications for Policy

- Trustwide approach to the purchase and delivery of e-learning tools through the e-learning strategy.
- Integration of the e-learning strategy in to the Knowledge Management agenda.
- Library strategy will need to incorporate a wider range of departmental strategies to provide a more co-ordinated approach towards the delivery of the education and research agendas within the Trust.

Implications for Practice

- The establishment and development of collaborative working between the different educational and training groups within the Trust.
- Development of roles and responsibilities outside of the library's remit.
- A step-by-step guide and a quality control mechanism for managers who wish to purchase e-learning materials for training purposes.

References

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2 Department of Health. *Working Together—Learning Together: a framework for lifelong learning in the NHS*. London: Department of Health, 2001.
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Learning and teaching resource discovery in the Health and Life Sciences—partnership and interoperability

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Introduction

A tremendous amount of material in a wide range of formats—electronic and traditional—has been developed and is now available to support learning and teaching in the health and life sciences in the UK.

As part of a wider Joint Information Systems Committee (JISC)-funded Resource Discovery Network (RDN)/Higher Education Academy interoperability initiative, two RDN Hubs (BIOME and Altis) and five Higher Education Academy subject centres worked together to develop a joint catalogue of resources to support learning and teaching within the health and life sciences.

The overall aim of this work is to provide members of the health and life science higher and further educational communities in the UK (including teachers, tutors, course developers and virtual learning environment developers) with richer and easier access to learning and teaching resources, to reduce duplication of effort and to enable partners to interoperate, with each other and also with other parts of the learning and teaching landscape. A major goal has also been to create and develop ongoing understanding, partnerships and joint working between the RDN and HE Academy services at subject and higher levels.

As a result of this activity, an interoperability framework has been developed that allows the partners to: share data with each other; create new resource descriptions; enhance existing descriptions of resources; and to allow members of our user communities to cross-search all of our catalogues.

This framework includes the use of a common metadata schema (the RLLOMAP), the Open Archive Initiative's Protocol for Metadata Harvesting as a standard for metadata exchange, the development of a joint database of resource descriptions, and the use of range of pedagogic and other controlled vocabularies (to tie resources descriptions to educational disciplines and levels).

The Partners

RDN hubs

Funded by the JISC (http://www.jisc.ac.uk), the RDN (http://www.rdn.ac.uk) is a network of subject