

Workshop on HSC-HE Collaboration in ICT

Report of Meeting, 28th April 2008

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SUMMARY OF PRESENTATIONS / ISSUES FOR DISCUSSION

1. Access to Information Resources (by Helen Jenkins)

The Medical Library plays an important role in providing for the information needs of students and HSC staff (under contract to the DHSSPS) - assessing user needs, selecting and organising material, facilitating access, and providing training and subject support. Through the work of subject specialists, collaboration with academic schools and key HSC contacts, and frequent interaction with users, library staff have acquired a profound understanding of user needs. In particular, feedback from HSC staff to the library demonstrates that good internet access impacts directly on clinical practice, continuing professional development and ultimately on patient care.

Internet access issues from HSC sites often make utilising resources and services difficult or even impossible, both for HSC staff and for students on placement. Problems include poor availability of internet computers, low speed and/or unreliable connections, low skills levels amongst HSC staff, and security policies which sometimes limit internet access, block legitimate internet sites, restrict email access, or prevent use of removable storage.

2. Online Teaching & Learning (by Paddy Brannigan & Gill Kelly)

Since the 1990's to the present day, developments in online learning and teaching have been dramatic. From the early use of email, word processing and learning exercises, through the first introduction of a Virtual Learning Environment, to the development of a web based portal utilising online collaborative spaces and web 2.0 technologies.

A large number of Queen's students are on placement in HSC Trusts every year, both under-graduate and post-qualifying. In addition, a significant number of HSC staff are engaged to teach, tutor, mentor and/or supervise Queen's students. The Queen's Online (QOL) portal is now the means whereby staff and students access administrative functions, communications, discussion forums, library and web resources, audio and video resources and examination papers. Many UK universities are now involved in collaborative work on online 'Reusable Learning Objects' for use by multiple institutions.

New methods of interaction currently being developed include virtual lectures, blogs and wikis, serious gaming, and virtual hospitals, e.g.

<http://student.bmj.com/issues/07/12/news/431.php>

http://www.hud.ac.uk/hhs/departments/nursing/penfield_site/default.htm

http://incontext.intrica.net/files/adult_exemplar_00-008.pdf.

Yet students and staff working in medicine, nursing, social work and pharmacy are often unable to make effective use of QOL because of the poor ICT facilities encountered on some HSC sites.

3. NHS-HE Interconnectivity (by Malcolm Teague)

The aim of the NHS-HE Connectivity Project is to “*achieve good inter-operability between NHS and HE networks that enable secure anytime, anywhere access by medical, nursing and allied profession students, clinical teachers and researchers*”.

3.1. Network infrastructure models

There are 4 basic network infrastructure models for connectivity between health and education/research networks:

Same network for both sectors -

- Security implemented in the applications (*e.g. Denmark, which uses a connection agreement system for joining users with applications*)
- Separate network layers (*e.g. Wales public services ‘Broadband Aggregation Network’*), though connectivity still needs to be achieved between layers

Different networks -

- Security implemented via network/applications (*e.g. England, Sweden*)
- Education/research networks extended to key health service sites (*e.g. Italy, Brazil*)

3.2. Information Governance & the N3 JANET Gateway

The JANET backbone is connected to N3 core via a firewall. N3 is the health service network covering England and Scotland. The Gateway has been in use by several ‘early adopters’ over the past year for sessions initiated in N3 that are accessing early adopter university services on JANET (specific IP addresses only). England’s information governance is based on ‘Statements of Compliance (SoC)’, with assessment against a range of information governance standards. Early adopter applications include access to Virtual Learning Environments, and provide NHS staff with secure web access to research databases within JANET.

As yet, there are no sessions initiated from JANET, though this is being explored further as part of the project and, for example, could provide:

- Access to NHS intranets and Trust licensed resources where no patient identifiable data (PID) is involved
- Access to NHS clinical systems involving PID to NHS staff on a JANET connected site who require access for NHS work
- Access to NHS systems by university research staff for data relating to research ethics approved clinical research studies.

Authorisation and authentication is key. In England the NHS uses role based access linked to smart cards and a VPN with secure token. Use of these from JANET is currently being explored. The gateway will be evaluated during March - June 2008, a business case prepared, and additional ‘early adopters’ sought for next year. To date, there has been no involvement from Northern Ireland, but opportunities exist if appropriate in terms of the local agenda. The HSC network has a connection to N3, so it could use the N3 JANET Gateway via this route, at least at a “proof of concept” level.

4. Internet Service Provision for the NI Education & Public Sector (by Chris Kelly)

NIRAN (Northern Ireland Regional Area Network) is one of 18 regional JANET networks. It currently connects more than 30 sites, including higher and further education and public service sites, servicing over 200,000 users. It is a not-for-profit organisation, largely funded by the Department for Employment and Learning and JANET UK. But it is owned and managed by NIRAN Ltd with its own local agenda.

The network topology provides world class bandwidth (currently totalling 2500Mbits/s with an option for 5000Mbits/s), and is extremely resilient, with dual 2.5Gb links to the internet. It is future-proofed, scalable and highly reliable, providing 99.97% uptime on all links. NIRAN is currently exploring future network applications/technologies such as IPv6, MultiCast, QoS and new circuit technologies. Its infrastructure is being reviewed, based on a 3-5 year projection, and extra resilient Internet linkage is being sought via HEAnet, NI-US link, and Telco peering.

The network deploys a micro version of JANET's security policy (<http://www.ja.net/documents/publications/policy/security.pdf>). This includes network monitoring, enforcement and a Computer Security and Incident Response Team (CSIRT).

NIRAN collaborates with other NI networks, including C2K (schools) and ELfNI (Libraries), and now has a strategy of engaging with the wider public sector. The NI Health and Social Care sector could potentially avail of NIRAN's services and vast broadband capacity.

DISCUSSION SUMMARY

1. NIRAN as a potential network provider for HSC

1.1 Limited Local Support

The HSC network must be available 24/7 all year round, and faults must be repaired immediately. Support is available from JANET staff when NIRAN personnel are not available. But if a fault occurred which required the physical presence of technical support staff, and no local support was available, this would be an unacceptable service failure.

1.2 Dependence on Undersea Connections

NIRAN depends on two undersea connections to Britain. If one connection fails, the resulting dependence on a single connection may constitute an unacceptable risk to the HSC network and might preclude it being considered as a possible network provider.

2. Variation in ICT provision

Services and practices vary across the province and between disciplines. Access tends to be worse in rural areas than in urban areas, and in community settings rather than hospital settings. Social workers, in particular, have been poorly provided for in the past, although there has been some recent improvement.

Any university with students on placement in health and social care settings face similar issues, and it may be beneficial to investigate how issues have been resolved elsewhere.

3. Motivations to improve ICT services

3.1 Improving recruitment and retention of personnel

Student placements are typically the first experience future staff have of HSC Trusts. Trusts need to provide adequate facilities to attract and retain personnel.

3.2 Facilitating service provision, professional practice and development

For example, to enable the Western Trust to fulfil its plans to develop Altnagelvin as a Teaching Hospital.

3.3 Making best use of resources

Absence of adequate ICT facilities means that many users are unable to avail of information services and facilities which directly support clinical care and for which the DHSSPS pays a substantial amount of money.

4. Resource Issues

4.1 Strain on resources

ICT in the HSC sector is poorly resourced, with 1% or less of the budget being spent on it much less than the 4 or 5% which is the norm in other organisations. The HSC sector also pays substantially more for bandwidth than the education sector. So there is considerable strain on resources within HSC Trusts. The merging of 18 Trusts into 5 under the Review of Public Administration has resulted in an effective 25% reduction in ICT Staff across the Trusts. Significant additional ICT services or support would not be possible within current resource levels.

Small measures to help alleviate the strain could be adopted, such as delegating creation of user accounts to library staff (already successfully implemented in the Western Trust). Consistent verification of identity would be a priority if this practice were to be more widely adopted.

4.2 Resource management

Use of resources must be carefully planned. Where greater numbers of computers are to be provided, it must be supported by an adequate infrastructure able to respond effectively to the increased demand for bandwidth. HSC Trusts need to achieve a balance between building architectures which will soon be outgrown, and spending more than is required in the poorly-financed sector.

Substantial funds to support teaching and learning are paid to HSC Trusts, though it is unclear exactly how this is used. Greater clarity about funding and priorities is required.

4.3 Formal agreement

Clinical needs must always take priority over educational needs, and the amount of bandwidth required for clinical applications is increasing.

The actions necessary to improve access to services and facilities for students and HSC library members are time-consuming and labour-intensive. It is essential for the issues to be identified at executive-level within the Trusts. The lead clinician for education and/or research at each Trust was suggested as the best likely ally to help make the case for improvements. Formal agreement is needed, based on fully documented service requirements, so that provision can be properly prioritised and resourced. Agreement should be ratified at director-level between DIS, the HSC Trusts and Queen's University, and it may also be appropriate for other FE/HE organisations to be involved in the process.

An operational working group would also be required to facilitate communication of practical requirements (e.g. Server/port configurations).

5. Confidentiality of Patient Records

HSC Trusts are obliged to ensure that Patient Records are kept confidential. Patients entrust their information to HSC Trusts, and responsibility for protecting their privacy lies with both the Trust Chief Executive and individual members of staff. The requirement for HSC Trusts to comply with guidelines for the transfer of information between organisations is an issue of the utmost importance.

CONCLUSIONS and AGREEMENTS

1. Strategic Priority

For significant change to take place, improvement in the ICT infrastructure to support learning and teaching has to become a strategic priority for HSC decision makers, as this would have a direct impact on both policy and funding.

2. Service Level Agreement

A formal Service Level Agreement on services required to support students on placement is essential. The SLA should be ratified at director level between the DIS, the HSC Trusts and Queen's University, involving other FE/HE institutions as appropriate. When a Service Level Agreement is in place, an implementation group should be established.

Staff from Queen's Centre for Educational Development agreed to take forward this strand via the E-Learning Benchmarking Steering Group and to seek a high level meeting between Queen's University and the HSC Trusts.

3. Short Term Measures

To assist with access problems in the interim, Trust ICT staff will provide Queen's staff with details of relevant HSC ICT staff to contact.

4. Future Meeting

Workshop attendees will reconvene when progress towards implementation of a Service Level Agreement has been achieved, or to consider possible alternative actions in the event of insufficient progress.

APPENDIX

Workshop Attendees

Fergal Durey, Western HSC Trust

Stephen Beattie, Northern HSC Trust

Paul Duffy, Belfast HSC Trust

Stephen Hylands, Southern HSC Trust

Stephen Powell, South Eastern HSC Trust

Michael Harnett, DIS

Kieran McConville, DIS

Elizabeth Traynor, Queen's University

Gill Kelly, QUB Centre for Educational Development

Paddy Brannigan, Queen's University

Gaynor Creighton, QUB Medical Library

Helen Jenkins, QUB Medical Library

Trevor Lyttle, Queen's University

Majella O'Neill, QUB Medical Library

Joan Atkinson, University of Ulster

Chris Kelly, NIRAN

Malcolm Teague, JANET UK