Progress and plans for the National Programme for IT

Standards to brighten the future of healthcare

Modelling the NHS in just 20 minutes

The migration of NHSmail
Making connections

Sheila Bullas, editorial board leader, HINOW; secretary, BCS Health Informatics Forum; director, iBECK.

The HC showcase is the only event where the whole of the UK health informatics community can come together to confer across the whole domain: to share experiences, to learn, to demonstrate products and to network.

With five streams of presentations and more than 60 stands, there is something for everyone. This issue focuses on some of the key aspects of the recent event.

There was a real buzz at this year’s conference: NHS Connecting for Health had a considerable presence there were, more delegates and speakers than in previous years and more activities held in association with the event. Both the Nursing Specialist Group and ASSIST held their AGMs alongside HC.

Big is not always beautiful but it does give everyone the opportunity to make their own connections: connections between presentations, products and chats with friends old and new; connections that make you think of things in a different way and do things differently as a result. You have to be there to get the full benefit but we can present some of the views here.

Alan Pollard, BCS President, opened the event by congratulating the health informatics community for progress achieved and for putting informatics in its rightful place (page 8).

There was great interest in what Christine Connelly (CIO, DH) and Martin Bellamy (NHSCFH) had to say, especially as they signalled some significant and most welcome changes, particularly for the acute sector (page 6).

A first time visitor gives a personal perspective on page 16. The Nursing Specialist Group ran an engaging role play session entitled ‘Nursing and Allied Health Care Slice Through the NPfIT Barrier’ and this is described on page 12.

The migration of NHSmail, the NHS secure email and directory service, to Microsoft Exchange 2007 was completed at the end of March. Helen Wilcox reports on the press conference (page 9).

We find room for other important matters too. In ‘A Leaner Care System’ (page 20), Ann Schenk, Director of Service Development, Royal Bolton Hospital NHS Foundation Trust, describes how Bolton Hospital adopted the ‘Lean’ approach and how it payed off.

Finally, there are reports on the activities of the Northern and Primary Care Specialist Groups (pages 22, 23 and 24) focusing particularly on future conferences, on the Informatics in Primary Care magazine and on software to support prescribing decisions.
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New indicators aim to drive improvement in the NHS
The Department of Health and The NHS Information Centre are publishing a list of more than 200 indicators of high quality care in the NHS. The list is being published to help clinicians drive up the quality of care they deliver to patients.

The Indicators for Quality Improvement will help highlight areas for improvement and track the changes. They span the three dimensions of high quality care: patient safety, effectiveness of care and patient experience.

Clinicians can choose from the list the indicators that are most relevant to their work. The indicators are a key outcome from Lord Darzi’s report ‘High Quality Care for All’.

Health Minister, Lord Darzi said: ‘Over the next three to five years the list will be further developed to improve depth of coverage across all care pathways and quality dimensions.’

Biometric recording services
John Turk, Chief Executive of the National Pharmacy Association (NPA), recently met government officials to discuss NPA members being able to provide biometric services to their customers.

In a statement, Turk said: ‘Community pharmacies are located in the heart of their communities, so they could help make the process of applying for an ID card or passport especially convenient.’

The companies would operate under strict standards set by the Home Office. The Home Secretary recently stated the roll-out set out in the March 2008 Delivery Plan was on track. Other bodies which have expressed an interest in providing biometric identity services are the Post Office and Photo Marketing Association International.

Big Welsh switchover
The biggest change to demographic services in Wales for over two decades has begun, according to Informing Healthcare, the Welsh NHS IT agency. The switch to Phase One of the new Welsh Demographic Services started in April, with all NHS organisations due to have moved across by the end of June.

In addition to identifying Welsh patients, Welsh Demographic Services trace patients from England that are being treated in Wales.

The system gives access to NHS numbers, up-to-date demographic details (for example full names, addresses etc), and the patient’s registered GP practice.

Similarly, English healthcare organisations can do the same for Welsh patients being treated in England using their own Person Demographic Service. This helps to send the results of treatment to the right place, and ensures that payments for treatment can be transferred between the two countries.

The change is prompted by new systems being introduced through the English National Programme for Information Technology, which is closing the shared demographic services, such as the NHS Strategic Tracing Service.

Functions from the Strategic Tracing Service are being replaced by the NHS England Summary Care Record, which brings together patients’ administrative and summary clinical details and is available to all health professionals across England.

As NHS Wales has taken a different approach based on sharing information locally and only where it is needed, new services were needed that reflect these requirements and underpin the information and IT infrastructure being developed within NHS Wales.

The Welsh Demographic Service has been developed by Informing Healthcare in collaboration with Health Solutions Wales.
Virtual patients for ICL

A group of third year medical students have been accessing virtual patients on a three-dimensional respiratory ward in Second Life as part of a pilot study of game-based learning. For the medical students using Second Life, once inside Imperial’s virtual hospital, they are directed to the respiratory ward where they have access to virtual patients with different medical conditions who they can examine and provide different diagnoses for. Financial and hygiene issues are embedded in the delivery of each case. Students are given credit to buy different investigations, and certain triggers, such as not washing hands, will halt their investigations.

The organiser of the pilot project is Senior Learning Technologist Maria Toro-Troconis, who is completing a PhD in game-based learning within the Faculty of Medicine and Lulea University of Technology, Sweden.

Initial findings from the pilot show that while students are generally receptive to working within the learning environment, they have problems with access and need time to feel comfortable interacting with the virtual patients.

Maria believes that demand for virtual patients is a result of new challenges in medical education: ‘A shortage of doctors and higher numbers of students mean that there is less time for teaching. Virtual patients, especially in three-dimensional format, can be of real value in supporting clinical teaching... The aim is not to replace face-to-face communication, but to enhance the learning experience.’

Position alters on SCRs

Following recent discussions with the Information Commissioner, it has now been agreed with NHS Connecting for Health that a patient’s Summary Care Record (SCR) can be deleted - if asked for by a patient, unless the SCR has been used by a healthcare professional in the course of treatment or should have been used.

A Department of Health spokesperson said: ‘Our early adopter programme was set up precisely so we can learn from emerging issues such as this one. Our priority is to ensure that the information provided to patients is accurate.

‘As soon as we realised that one of our early adopters had inadvertently suggested the Summary Care Record could be deleted, if a patient changed their mind, we took immediate steps to update the website and information leaflet.

‘Following discussions with the Information Commissioner we have now agreed that anyone can now request that their record is deleted.

‘In the event that a record was accessed as part of someone’s healthcare, a record of that access needs to be kept in case there was a subsequent investigation of the performance of a clinician or a dispute about the facts – this is in the best interests of both patients and clinicians.’

A change of IMIA leadership

The International Medical Informatics Association (IMIA) has appointed Dr Peter J. Murray as Acting Executive Director following the death on 12 April of Executive Director, Steven Huesin.

Peter, who is an active member of the BCShIF strategic panel, will take on the various duties previously undertaken by Steven.

Peter has been working with Steven in the past few months as Associate Executive Director, and his appointment will provide the necessary continuity as IMIA works to provide and expand its services to, and interaction with, IMIA members and the wider community.

Peter has covered various roles in IMIA in the past including Vice President for Strategic Planning Implementation, for Working Groups and Special Interest Groups, UK representative to IMIA and to the IMIA Nursing Informatics SIG, Chair of the IMIA Open Source Working Group, a member of the IMIA Health and Medical Informatics Education Working Group and several other working groups. As a result, he is well equipped to fill his new role.

NHS contracts may suffer

BT Global Services, the division responsible for its NHS IT contracts, has recorded an operating loss of £134m. It lost £1.2bn due to cost overruns on big contracts with the NHS and Reuters and another £100m on other smaller contracts.

BT said that this unit is now being restructured at a cost of £700m over a three year period.

Robert Morgan, consultant at Hamilton Bailey, which advises IT service providers, said the NHS contract in particular was troublesome because of the hard bargain driven by the former head of the National Programme for IT.

London suspends RiO upgrades

An upgrade, which introduces smartcard authentication to the latest NHS Spine-connected version of the RiO community and mental health system, has been suspended after a number of performance problems. Problems have occurred at all the London trusts to have received the latest version of the software. Twelve of the 31 trusts in the capital using RiO have so far switched to version 5.1 but further implementations have been put on hold after problems began in April.

Microsoft deal saves £75m

A new software licences deal negotiated by Buying Solutions, a public procurement body, with Microsoft could save the tax payer £75m over the next five years.

For the first time, public sector bodies of any size will be able to buy the licences for specific productivity tools at the best price rather than the whole of the standard package. Other benefits of the deal include full transferability of licences right across the public sector to avoid waste, and the provision of training and support to all organisations.

EMIS speeds up online booking

Primary care systems provider EMIS has completed a major upgrade of its EMIS Access online appointment booking service, which it says is now four times faster and more user-friendly.

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Acutely needed change

The doors opened to a new look HC2009 this year with BCS/HIF having taken over running the commercial participation, as well as the conference. Five presentation streams covered a wide range of topics (see following pages), including NHS Connecting for Health (CFH) initiatives, how healthcare works for IT professionals, telecare, leadership and a supplier showcase. More than 700 delegates attended presentations over the three days, while over 200 more people attended just the exhibition stands. More than 60 organisations showed off their products and services in the adjacent halls, ranging from training to digital pens to patient care systems.

The conference was introduced by the BCS President Alan Pollard (page 08) and Conference Chair Glyn Hayes and steamed ahead with a keynote speech by Christine Connelly, CIO at the Department of Health. She concentrated on what to do about the National Programme for IT (NPfIT), successes to date and how to make progress with care record systems in the acute sector. She also announced a move to introduce a toolkit next March, which would allow suppliers to develop applications locally to plug into NHS systems.

‘We need to think about achievements so far before we think about building on them,’ she said. ‘It’s important for us as a community to acknowledge them… but in the acute sector we would have liked to have had more impact.’

To date, 12 Cerner Millennium and three Lorenzo systems have been deployed across all Trusts. ‘That’s not many deployments out of a possible 200,’ admitted Martin Bellamy, Head of NHS CFH, in his keynote speech on the second day of the conference. ‘This is the Achilles heel of the programme, given the purpose is to deliver a joined up record. People ask what value the programme has delivered, if the acute sector can’t access the record?’

Connelly said: ‘The intent of the programme remains unchanged – it’s all about improving
patient care – being connected with rest of NHS...in the acute sector, we need to get focus, work with key suppliers and demonstrate significant progress by the end of November.’

The end of November deadline was suggested by the Public Accounts Committee in its recent report.

Connelly defined significant progress as:

- One Cerner Millennium system up and running and going well in an acute Trust, using the new model of deployment by November. This will be in Kingston.
- One iSoft Lorenzo system up and running in one Trust (not necessarily in the acute sector) by March next year. Location yet to be decided.

**Toolkit and local configuration**

Implementation plans will put more emphasis on local configuration (with central accreditation) with NHS CFH putting the front end on the system and Trusts doing the rest locally, using the toolkit. Trusts will be able to innovate and configure the systems to suit their needs and ways of working and will then be expected to contribute their work for others to benefit. Trusts coming online could then choose a version of the systems deployed elsewhere as a starting point and innovate from there.

‘Trusts won’t need to wait for a piece of technology to be on a national list to procure it,’ confirmed Connelly. ‘It will be a toolkit – a bit like the iPhone and apps store.’

Paul Jones, Chief Technology Officer at DH, said: ‘For the accreditation, we have got experience from our work on PACS – we’ll be developing standards, frameworks, and exemplars.’

Connelly said the toolkit should be available for Lorenzo and Cerner in March next year. The toolkits for EMIS and Rio will be prepared in the same timescales. Services developed by suppliers could be open or proprietary.

**The implementation process**

Since their appointments six months earlier, Bellamy and Connolly have been trying to understand why systems implementation is so difficult, the barriers, lessons learnt, and to work out how confident they are of success.’

Although Cerner in London has had some successful deployments, Bellamy admitted that the Royal Free has had widely reported problems deploying the system. He thought significant progress had now been made but it was still not right.

CFH and DH have talked to the Royal Free about what they would do if deploying Millennium again, and what they would do differently. A team from the Royal Free will be visiting Kingston to advise on its Cerner deployment

Bellamy said the main lessons learnt from various implementations are:

1. that genuine engagement of clinicians and managers is needed. Make sure the leadership is stable and ready.
2. to check, check and check again. Have everything ready before go-live and give support internally for four months before deployment.
3. make sure resources are there to help after go-live.

To increase confidence in Lorenzo (which is being built for NHS CFH and will integrate across all care settings), Bellamy identified that communications must improve between the various parties involved in software development and deployment. He said the appointment of delivery directors at Lorenzo and CSC was already leading to improvements and more in-depth conversations.

Meanwhile in the south-east of England, Connelly confirmed that BT will take on support of the eight live Cerner sites and delivery of another four sites. For the 30 acute sites, a competition process will be run to select suppliers on a strategic health authority basis. It will take nine months to run the tender process and contracts will be let for four years. Procurement will begin as soon as possible as a whole raft of suppliers has already been identified as competent.

**Building on systems**

Although big gaps remain in the deployment of Lorenzo, Millennium and the summary care record (page 10), other service implementations such as N3, PACS, the Spine and NHSMail have been completed, while GP2GP and EPS are part way through, pointed out Bellamy.

He said one aim is to sustain and build on services implemented already. For instance, he suggested N3 could be used more for voice – which 74 organisations are already doing. Having invested in the infrastructure, telephone calls can be made for free.

He also suggested EPS has potential to do more. Prescriptions could be sent from GPs to pharmacies and be ready waiting for patients to pick up. Repeat prescriptions could go direct to a pharmacy but with GPs keeping control to alter if needed.

He asked more Trusts to consider using NHSMail, which had just moved platform to Microsoft Exchange (page 09), and to think about how Choose and Book could be taken to the next level.

**The people angle**

Another theme of Bellamy’s talk was about people working together. He pointed out that by the time the NPfIT’s work is finished, the majority of the 1.3 million people working in the NHS in England will be using at least one informatics tool.

‘A significant part of what we’re doing is building capacity, so organisations can take control,’ he said. ‘We have to have proper training – and we’ve been working with other bodies, such as BCS – to develop career frameworks.’

‘My philosophy is that working constructively with suppliers is absolutely fundamental to success...our challenge is to get people to work together. Often people talk of everyone being one team but you are judged on your behaviours, especially when things go wrong.’

**The jury is out**

Many of those listening to Connelly’s and Bellamy’s speeches were impressed by their inspirational and open nature. Comments by Connelly such as: ‘We’re not afraid to hear from people who want to change things because that means they are engaged,’ contributed to the audience’s impression that the DH and NHS CFH are listening to stakeholders. ‘I’ve seen a lot of fudge about NPfIT, now a whiff of honesty,’ said one delegate.

However, the jury remained out as to how quickly progress could be made in the acute sector. One particular concern was whether sufficient manpower could be pumped in to support implementation.

A session on the first day debated whether NPfIT would deliver a working care records system in the next six months to the acute sector. At the end of the debate only four people were convinced this could happen, 15 thought it not possible, while the majority abstained.

What if it doesn’t succeed? Connelly said: ‘Now energy is going into making significant progress by November. If that doesn’t work we’ll review alternative systems and processes.’
Alan Pollard began by acknowledging the important work of health professions, saying, ‘I can do no better by way of an opening remark than to place on public record my recognition of the excellent work that you are all doing to advance the use of information technology in health.’

He went on to state ‘I have been associated with information technology in the public sector for far longer than I care to calculate. Over that time I have learnt – often by bitter experience – that information technology is all too readily the fall guy for any problem that besets any department or organisation. Success and good practice in IT are just not newsworthy when the media are baying for blood.’

Alan acknowledged how the NHS has changed for the better: ‘I know, both professionally and as a patient myself, what dramatic advances have been made in IT in the NHS. If I could single out one it would be the PACS system that has so dramatically changed the whole process of X-rays, which can be available immediately during a consultation. So I say be very proud of what you have achieved already and have every confidence in your ability to deliver further advances over the coming years.

In his opening speech at HC2009, BCS President Alan Pollard called for IT to stop being the scapegoat for organisations’ more general problems and for the industry to move towards professionalism through a chartered standard.

Justin Richards summarises his speech.

‘It’s time that we stood up for our profession, took pride in our achievements and did our bit to make sure that information technology assumes its rightful place in society today. What is that place? It is as an enabling tool; no more and no less. Our servant, not our master and like all tools, in the hands of inexpert users, it can cause problems.’

He went on to use an interesting metaphor to highlight how ridiculous it was that IT gets blamed so extensively when projects fail: ‘If you use a garden strimmer wearing flip-flops and no eye goggles and suffer an injury, do the headlines shriek out that Black and Decker does it again?’

Alan went on to talk about IT as part of a system which will call upon a wide range of disciplines and skills without which the deployment of the technology is likely to be doomed from the outset. He also mentioned a recent study which concluded that the number of projects that fail because of technology alone is about four per cent.

‘IT projects fall victim to over expectation, uncoordinated decision making, lack of clear objectives and relentless cost paring without a corresponding and realistic reduction in the desired outcome. All these are driven by those setting out the needs for, planning, managing and approving the project.’

He went on to say that today’s IT programmes demand the input and experience of accountants, human resource specialists, lawyers, trainers, and subject matter experts, etc. Hence, the only way for large-scale projects, such as those found in the NHS, to succeed is if greater levels of collaboration occur between the various disciplines. Alan believes that the role of today’s IT professional is to act as the flux that can successfully help weld the different components together.

He concluded that BCS has to discharge a much wider remit as the guardian of professional standards and best practice in the information society. BCS would like to see itself acting in much the same way for the IT profession as the General Medical Council does for the medical profession, as an overarching body which helps to maintain professional standards.

‘It is a salutary fact that one currently cannot practise as a doctor, solicitor or engineer without recognised qualifications. On the other hand there is no stricture whatsoever on practising IT at a senior level. This has to change. Only when the government makes the participation of chartered IT professionals a mandatory criterion for projects to proceed, are we likely to see any significant demand for those qualifications.’
Email across

The migration of NHSmail, the NHS secure email and directory service, to Microsoft Exchange 2007 was completed at the end of March. The aim is to improve usability, as Helen Wilcox reports.

All existing NHSmail users in England and Scotland were migrated to the Microsoft platform by 30 March.

‘The primary motivation was to provide a gold standard of usability,’ said Will Moss, Programme Head for NHSmail at NHS Connecting for Health (NHS CFH), speaking at a press conference at HC2009. ‘The new service looks much more familiar to users, as it is closer to other Microsoft products, and offers drag and drop functionality et cetera. The new service works more smoothly with mobile devices than the old one did. For example, there is automatic synchronisation of mobile devices with NHSmail, so accounts are kept up to date in real time, and improved security on mobile devices with automatic timeout lock and remote wipe capability on lost devices.

‘The service offers better functionality, and keeps up with the latest security, using back-up tape rather than disks. NHSmail to NHSmail is totally secure.’

Cable & Wireless, which supplies the NHSmail service, started the migration process on 16 January 2009. Over 12 weeks, 350,167 user accounts successfully moved to the new service, covering 1,381 organisations across England and Scotland. Around 8-10,000 email accounts are now coming on each month – via self-registration.

‘It’s the largest migration ever, according to Microsoft,’ said Moss. ‘In England, some Trusts wanted all the old records migrated, others just up to six months old, others began with a new slate.’

Now that all the old data has been copied over in England, the project is in a stabilisation period until June or July this year. The next phase will be to decommission the old platform after which Moss’s team will run a pilot to migrate organisations from other platforms to the service, as not all were using NHSmail.

Moss said: ‘There are 850,000 addresses in total for the NHS across all email systems – some may be out of date. Our target is to migrate all to NHSmail assuming all NHS organisations can be convinced to do so. We have a healthy order book. We’ve not been marketing the service up until now because of transition work.’

Four Trusts are interested in taking part in the pilot. Once run, NHS CFH will be looking at persuading NHS organisations not using NHSmail to transfer to the service.

How will NHS CFH argue the case? In addition to the usability and security benefits outlined above, Moss explained: ‘NHSmail has no cost to run at local level. [The central cost funded by NHS CFH is £50-90 million over a nine-year contract.] There are some costs to migrate, for instance for project management and training, however these will be more than offset by savings made by not running a local service and eliminating, for instance, the local licensing and hardware costs.

‘Information governance is determined by local guidelines and policies. For example if a Trust does not allow mobiles, there is an option to switch off making NHSmail available on mobiles. Later in the year, there will be more ability to change in line with local policies.’

Moss admitted that some organisations may resist using NHSmail because it’s a national service, and there are guidelines to follow, and size quotas per person etc. But with the ability to securely email other NHSmail users and users of other Government secure services this resistance should fade. In addition, by using S/MIME (a standard, freely available security tool) NHSmail users can also send secure content to non-NHSmail users.

After work on decommissioning the old platform, the next task on Moss’s wishlist is to re-visit quotas and increase them. Another action which he is interested in, and would be possible on the new platform, is to use NHSmail for unified communications.
Standards to brighten the future of care

The future will be bright for healthcare once standards for IT systems are set, according to some speakers at HC2009. Professor Bernard Richards, chair of the Northern Specialist Group, reports on these sessions.

In the session on ‘Using IT to improve Clinical Practice’ at HC2009, the first talk was given by Dr Mike Bainbridge who is currently Leader of Clinical Architecture, Assistive Technology, and Clinical Decision Support Systems at NHS Connecting For Health.

His talk was ‘How IT can make a difference to Clinical Care’. He reminded the audience that it was in 1994 that the first IM&T Strategy for the NHS appeared.

This was expanded and updated in 1998, culminating in 2002 with the release of a new ‘Long Term Policy’, where the updated Policy was represented graphically as a Greek Temple with the title ‘Pervasive National Electronic Infra-structure’ emblazoned on its frieze, and adorned with three Doric columns labelled (a) Provide Prescriptions Service; (b) Provided Booking Service; and (c) Build Life-long Health Record Service.

Sterile architecture

He went on to say that this magnificent piece of architecture would remain sterile without ‘policy drivers’. These arrived in due course and moved from ‘Preventative, Closer-to-home, Patient Centred, Choice’ to ‘Prevention, Quality, Innovation, Equity’.

He introduced into his speech the entity of ‘Patients’ Prospectus’ which would contain technologies to benefit the people. This would be published later in 2009, and would detail the technologies available to help people monitor conditions in their own homes.

He quoted from Lord Darzi who said, speaking on behalf on the UK government:

‘We will explore the potential of personal budgets to give individual patients greater control over the services they receive and the providers from which they receive services.’

A view of the future

The reason why the speaker was going down this road was because he was demonstrating good vision, a view of the future which he wanted to share with the audience. He showed a slide depicting the health expenditure as a percentage of Gross Domestic Product (GDP) throughout the countries of the European Union. The figures ranged from 5.5 per cent in Luxembourg, 6.5 per cent in Ireland, 7.6 per cent in the UK, 8 per cent the EU Average, 8.6 per cent in Denmark, 9.5 per cent in France, to almost 11 per
budgets protected to prevent money being siphoned off into other areas. ‘The Wanless Report recommended that ‘IT spending should represent 4 per cent of the total Health Budget by 2008’. With a recession currently in place in the UK, this was a sticky wicket on which to bat.

Dr Bainbridge then turned his attention to the matter of IT and medical records. He said that hitherto, ‘buildings’, e.g. hospitals and GP surgeries, were put at the centre of the universe and technology at the periphery. What was needed was to put IT networks at the centre so that all sectors could benefit from having complete patient information at the point of patient-care. This led him to speak about the need for accurate coding, and the coding of all relevant data. (This is recognised in sectors of the NHS where the number of staff taking the IHRIM-CFH Clinical Coding Examination, leading to Accredited Clinical Coder, is increasing each year).

**Adverse events**

The speaker then turned his attention to the matter of the ‘adverse events’, stressing that such events were more than just statistics as they brought distress and suffering to all those involved, both patients and relatives. He quoted from published figures from 2003 which showed that 10.8 per cent of patients on medical wards experienced an adverse event - 46 per cent of which were preventable. Of these, 12 per cent related to medicine misuse.

Each adverse-event results in 8.5 additional bed-days. In 2008 there was £11.9 billion outgoings related to clinical negligence claims. The speaker intimated in no uncertain terms that these errors were avoidable by the use of (a) e-prescribing, and (b) access to complete patient records.

To improve the situation, Dr Bainbridge was advocating a standards-based approach. He said that the Royal Colleges had worked together on this and had agreed on such things as terminology, drug-databases and device interoperability. The result of this on-going work would be safer prescribing. He said that the future was bright: but he did not say it was orange.

**A recommendation**

He quoted from the Wanless Report (2002): ‘Spending on information technology should be doubled with IT

‘International Standards for the Evaluation of IT Systems in Healthcare – the new STARE-HI Standard.’ He too said that the future was bright once the new standards were adopted. The basic rationale was that ‘healthcare should be evidence-based’.

Fundamental to this approach was that health information systems were intended to aid clinical practice and had not, of themselves, a raison-de-etre. He was speaking as a member of the HIS-EVAL group which was promoting the STARE-HI Standard.

With regard to clinical evidence for a course of action, he said that the evidence base needs to be credible, accessible, comparable, and scientific. He reported on the progress of work in Europe. He said that the European Science Foundation has sponsored an exploratory workshop on ‘Systematic Evaluation of Health Information Systems – HIS-EVAL - 2003’. That had established a partnership on ‘Standards of Reporting of Evaluation in Health Informatics’.

He said that the outcome of one meeting resulted in ‘The declaration of Innsbruck’, which listed four principles: Evaluation should be seen as an ethical imperative; evaluation should be sufficiently funded; evaluators should be free from pressure, and evaluation studies should be grounded in scientific theory. The STARE-HI Standards were adopted by the International Medical Informatics Association (IMIA) in 2008, and were published in the International Journal of Medical Informatics in January 2009.

**An alliance formed**

Professor Rigby then went through the details of the STARE-HI structure. He showed the chapter headings (14) and section headings. He then reported on current activity. An ‘Alliance for Clinical Excellence’ had been formed involving organisations from the Asian Pacific rim which had met in Kuala Lumpur in February 2009. That meeting involved vendors, members of academia, and policy makers.

As to the future, there are to be STARE-HI Papers at MIE 2009, and further publications.

He ended with a question ‘Where will the UK be in this way forward?’ The speaker was to be complemented on the high level of detail which had been injected into the STARE-HI structure documentation.
Modelling the NHS in just 20 minutes
Role playing can be a useful method of understanding how different processes work and how different factions within an organisation interact with one another. This has never been truer than when the Nursing Specialist Group arranged a highly interactive session at this year’s Health Conference.

A shared vision
We are aware of the difficulty often encountered in realising a shared vision across all NHS domains when it comes to significant change. We are also aware that there are different views of helpfulness across different agents in the NHS and that we need to move forward in order to attain our ultimate goal of safe, effective and efficient patient care.

It seemed to us, as we were deciding how best to draw all these diverse streams together into one cohesive session, that maybe some group interaction work might be best, allowing the delegates to bring to the floor their own ideas, knowledge and issues within a structured simulation. We also thought that we would like to do something other than giving a talk using PowerPoint in such a way as to rest our delegates from the lecture format.

Role playing
In agreement with our delegates, we assigned roles to everyone and explained that the aim was to achieve the task of replicating a building block model in 20 minutes at the end of which time we would have a feedback session and from that determine some action points that the Nursing Specialist Group could take forward in the coming year.

The game consisted of trying to replicate the current situation of information systems implementation as facilitated by NHS Connecting for Health. We had ‘clinicians’ in one room with a large quantity of building blocks; in another room were ‘management’ and the ‘system supplier’.

With no direction from ‘management’ for seven minutes, the ‘clinicians’ decided to make their own models, then put these into a team (one model was of a square ‘wasp’, not quite sure what that was intended to represent, but perhaps this will give the reader an indication of the depth and breadth of thought that went into the models which we considered to be significant and should be captured in some way other than mechanising processes, but we will come back to that).

Eventually the ‘trainer’ and ‘chief information officer’ came to visit the ‘clinicians’ but there was limited exchange as there was a basic lack of understanding of the needs of the ‘clinicians’. The ‘chief executive officer’ did not know the system being implemented and made a number of interesting decisions, including the sacking of certain other managers and the system supplier.

Observations
However, it came to pass that time had run out and sadly only the ‘clinicians’ models survived and none of these bore any resemblance to the original being implemented by the ‘system supplier’. There were two ‘observers’ who initially gave their feedback to the group which generated much enlightened discussion.

It was generally agreed that the simulation had been an excellent reflection of reality and clearly demonstrated the difficulty of ensuring a shared vision across all domains and that the professional group that ‘glue’ together the NHS, in so far as information is concerned, are primarily nurses who may not have always been in the loop.

The issues raised by the delegates are listed in the order given, which may suggest a priority amongst the delegates, most of whom were not nurses:

Action points:
1) (Informatics) nurse training and education whilst in universities.
2) (Informatics) nurse training post registration (learning beyond registration).
3) Trusts driving the need for (informatics) educational provision.
4) Benefits of investment (in systems).
5) Re-invigorate faith in systems.
6) Linking with social services (joint sytems).
7) Make systems of value to clinicians, process of engagement.
8) Patient information – the expert patient.
9) (Help patients with) navigation

The Nursing Specialist Group will endeavour to keep these action points at the top of our agenda and raise the issues contained in at every possible opportunity.

Finally
We would like to take this opportunity to thank the delegates who stayed in the session for their cooperation with the simulation and subsequent action plan generation.

NEWS

Erin Povey awarded the Dame Phyllis Friend Award
The Nursing Specialist Group held its annual general meeting in alignment with the HC2009 conference and we were especially pleased to be able to present Erin Povey with a Dame Phyllis Friend Award of Highly Commended for her essay entitled ‘Clinical information system usage in critical care’.

Erin is a nurse, currently involved with clinical audit and a project to secure a clinical information system (CIS) for her workplace. Her essay was based upon some exploratory work she had undertaken in surveying similar units to hers to see if they had a CIS and how it and any other related software is used.

We hope that Erin will publish her essay in the near future as she includes much useful information for others in a similar position.

Thank you
We would like to take this opportunity to thank the organisers of HC2009 for their assistance in holding our session and the AGM, we would especially like to thank Judy Hayes whose guidance and support has been invaluable over the years and now that all is running smoothly is down to Judy. We wish her well in her ‘retirement’, Judy you will be missed.
It’s been a while since I attended a HC conference. Some things in healthcare computing have changed, but some sessions could have taken place more than 10 years ago. The following informal observations were stimulated by listening to the wide range of speakers and topics.

As one would expect from an opening speech by the BCS President, the call for professionalism was a definite theme of the conference. The idea that all projects above a certain size and complexity should be signed off by a chartered engineer would match how other professions behave. But will government recognise this need? It may actually happen as the Department of Health has appointed Christine Connelly as CIO. Many positive comments supporting this appointment were made.

However, the eternal confidence of NHS Connecting for Health (CFH) still baffles. The implementation schedule for acute sector systems is scary with little hard evidence to show that the dates can be met. Wholesale improvement of acute hospital IT just does not seem to work. Progress has not been any faster than when each Trust was left to its own devices. Is this because each Trust has
a different combination of specialties, workflows and patient flows? That would explain why the PACS (Picture archiving and communication system) has been a success – it’s something that we all do, so there are very few variations to be dealt with.

This message may be getting home as the latest plan for Cerner Millennium is to allow much more local configuration; Christine Connelly suggested that the database would be made open for other developers. Such moves would radically improve the usefulness of such data. The briefing on lessons from implementing the Cerner system at the Royal Free Hospital should be mandatory reading for all staff running an NHS implementation. It makes clear that there are costs beyond buying the technology – training, process change, planning and communication are all required.

But the acute sector is just one area to be addressed by CFH – it just happens to be the one that gets the most publicity. After all when did an MP last visit a community psychiatric unit to boost its image? One delegate wondered why CFH paid such attention to the acute sector when the other sectors of the NHS had as much or more need, and were actually succeeding where the acute is failing. Also in terms of the public benefit, the acute sector only deals with a small fraction of all who use the NHS so why should we pour large amounts of cash into it?

The assumption by CFH that a criticism meant that the critic was against the whole programme has disappeared. It may be a sign of maturity, after all, in systems development, early detection and resolution of faults is desired as it’s cheaper and easier than doing late fixes. However, we will always be up against the political imperative of faster delivery which may still mean that issues are ignored until the implementation phase.

There is still scepticism from academics and suppliers who are not in the CFH game. CFH is laying down standards and the NHS is big enough to support a market in compliant systems, after all there are 1.3m staff in NHS, most of whom will use at least one application. Some suppliers are willing to recognise that and others think otherwise. It will be interesting to see how it works out. Plus, academics may still want perfect systems. What a busy nurse needs is something that is ‘good enough’, the mobile phone, digital pen and paper comes to mind.

Of course there is the middle ground and the two sides are a lot closer than they were. There seems to be a more realistic approach by all. For example the acknowledgment that Cerner Millennium must be more malleable and from the supplier’s side the realisation that being ‘spine compliant’ is increasingly an expectation by users.

Good simple work is being done. Good connectivity and relatively cheap devices means that costs are now so low that even small benefits can justify a project. That then becomes the ‘thin end of the wedge’.

Clinical data debate

The debate over the structure of clinical data continues to enjoy good health. Having been a modeller myself back in the early 90s I have a strong sense of deja vu. Do the terms ‘diagnosis’, ‘action’, and ‘outcome’ provide sufficient structure for messages, with receiving databases storing data in those classes? Or, at the other extreme, does each clinical specialty have to wait until there is a fully worked out schema identifying mandatory and optional fields? The fact that the debate has gone on for so long, and that we are still making fairly usable systems may indicate that it’s not really needed.

A lot of good work has been done away from the ‘patient’ end, for example the electronic staff record. How is it that after about four years there is now a central database of staff records throughout the country without any great upheaval when getting even a single Trust EPR in place causes great angst? Is this a cultural thing? After all, given the amount of employee legislation, staff records could be as complex as patient records.

Some key phrases and issues for systems designers:

- Darwikian – the survival of the fittest data or the best expression of knowledge.
- ‘Best practice’ never satisfies everyone, so aim for ‘better practice’, which is incremental and everyone can sign up to.
- Most clinicians are in the business to do caring activities, not data entry.
- Data entry speeds up as you move from PDA, tablet, PC, and finally to the digipen. Though there’s a bit of poetic licence on the last item as it requires post-processing.
- Pauses of >10sec in a consultation destroy workflow /discussion (i.e. when typing data into a PC).

The final session I attended had a well informed panel, including a patient, discussing summary and single-shared records. What can we do with them? What should we do with them? Who should be doing it? Is data quality a safety issue, how do you ensure data integrity? There are no reports showing that a shared record actually improves care – we assume it does, but no one has actually demonstrated it.

It is well established that we should not expect to mimic the paper process using computers. What this actually means is still debatable in the healthcare setting, we are still learning how to ‘do’ e-health records. The move changes risks, available functions, design of the user interface, data presentation, and perceptions by the public, management and politicians. As pure speculation, this may make the concepts of ‘referral’ and ‘discharge’ redundant. Our understanding and definition of a health record may change. We can be sure that e-health will not be run using the same business models as paper records.

In conclusion, the range of topics was huge, from technical to business; some simple, and some frighteningly complex. Some things have moved on but other areas are still just as tough as they were. Are we making things better for the patients? Yes, but there’s more to be done, and we are changing the process so the risks will change.

JUDY HAYES

After 20 years of service, Judy Hayes has decided to retire from the administration of HC. ‘On behalf of the Health Informatics Forum and the HC organising committee, I would like to thank Judy for her services and commitment to the event over the last 20 years,’ said Sheila Bullas. ‘Her contribution will be greatly missed. We wish her well in her retirement.’

David Evans, BCS head of communications and public affairs, said: ‘BCS is very appreciative of Judy’s long service to HC, which has helped it become a key event in the health informatics calendar.’
This was my first visit to the conference and I wasn’t sure what to expect, but having read the programme on the website, my hopes were high; I wasn’t disappointed.

Like the speakers and sessions at HC2009, my background is also quite varied. I started my working life in an NHS dental practice, lived abroad for a number of years and returned to the UK where I gained a BSc (Hons) in information systems.

It was while I was at university that I first joined the BCS as a student member. As part of my degree, I spent a year in the IT department of Macclesfield District General Hospital and I went to work there...
after graduating.

Due to lack of funding, continued employment at the hospital could not be guaranteed and I left to work in the private sector for a number of years, latterly working for a software house as the manager of a team of systems analysts.

Just over four years ago I took the opportunity to return to the public sector as a Senior Business Analyst working for NHS Connecting for Health (CFH) on the Dental IT Programme. Since then I have worked for a number of years on the Choose and Book programme and I now work on Information Governance.

For this reason my interest in HC2009 was not focused on any one particular subject, and I have summarised some of the varying sessions that I attended.

The impact of eHealth on the quality and safety of healthcare
Aziz Sheikh, Professor of Primary Care Research & Development Centre, Population Health Sciences: GP Section, University of Edinburgh opened his talk by stating that we have an increasing population and increasing incidents of obesity. He asked the question: ‘How hazardous is healthcare?’

The R&D Centre was asked to look internationally and critically appraise NHS policies for electronic patient records etc.

Aziz asked: ‘What is eHealth?’ He then went on to say there is no single definition and it can be all or any of the following:

1) central storage and management of data;
2) functionality that supports decision making;
3) delivering healthcare.

He said that the centre then started profiling NHS CFH but it had difficulty in identifying documentation as there are no standard keywords that can be used in online searches. The searches covered documentation produced over a 10-year period and the research was quantitative rather than qualitative.

For electronic patient records, the one consistent recorded benefit is that records are more legible and there is some timesaving. There is little evidence that there is any significant benefit to patients.

As regards decision support functionality, there is more empirical evidence that this does benefit the patient, although there is plenty of scope for improving interaction between systems i.e. in prescribing. Decision support functionality still has some way to go. It is particularly good for long-term chronic healthcare, helping the doctor remember routine medication etc.

The conclusion is that there is a large body of work, which is rapidly expanding.

Aziz also said that there is a policy drive towards self-monitoring and self-care. There is currently a trial with young people who have asthma using mobile phones to monitor their day to day progress.

Critical archetypes and contribution to improving clinical care
Medical knowledge is driven by innovation, according to Dr Ian McNicoll, Clinical Analyst, Ocean Informatics. He said clinicians want to be innovative and make systems work for them. They will want to have more than just the ability to locally configure a system; they will want to be able change the technical architecture.

Ian felt that the challenge is getting the knowledge out of the heads of clinicians and into the design of systems.

He went on to explain that an archetype is a detailed model of a specific clinical concept. Templates are formal specifications defining a particular use case, often as an aggregation of archetypes.

Electronic medical record evaluation in community mental health
John Meredith, IT Services Manager to Cardiff & Vale NHS Trust, spoke about the Electronic Medical Record (EMR) Evaluation in Community Mental Health in Cardiff.

He opened by saying that there is a perception that things in the Electronic Patient Record (EPR) are not going well. In Cardiff and Vale NHS Trust this perception is not true; here it is a success story.

The goal was to become ‘paper-light’ – it had been agreed that it is impossible to become ‘paper-less’. The aims of the post – implementation research were to find out if EMR is beneficial and the research was both quantitative (questionnaires were sent to all clinicians) and qualitative (one-to-one interviews were also conducted).

The results were very positive and the study was considered to be a success. Negative responses were negligible and
were due to user error or lack of training. These results helped to highlight where user help needed to be targeted.

John attributed the success of implementing EMR in Cardiff and Vale NHS to the fact that all staff were sent on a three-day training course prior to the implementation. Some of the users had never used a computer before and were very negative about EMR before going on the training course. Once they had overcome these initial fears and their confidence increased, their initial negative attitudes diminished.

**We need to be joined up, have user and clinician engagement and cross boundary community collaboration**

**Speech recognition**
Margaret Cosens, Programme Manager, Countess of Chester NHS Foundation Trust and Mark Barnett, Project Manager, introduced another NHS project that has proved to be a surprising success: the use of speech recognition for producing radiology notes and reports.

The system was introduced as a link between PACS and the hospital’s Radiology Information System (RIS) and was based on the Dragon speech recognition software.

Since its introduction, the turnaround time from patient scan to the report being complete and signed off has reduced from seven days to between one and two days.

The project was only ever intended to be used in the radiology department, but such is its reported success that many clinicians from other departments have been asking if they can have it as well. This has raised the issue of providing the required support, should the system be rolled out to a larger scale than was first intended.

Clinicians who work in other organisations as well as the Countess of Chester are finding that when they attend these other organisations, they are missing the convenience of using the speech recognition software there. These clinicians are spreading the word about the success of the speech recognition software in the Countess of Chester.

**Supporting NHS staff to improve performance**
In this session, one of the speakers, Catherine Coe, Programme Manager, NHS Gateway NHS CFH, spoke about the NHS Gateway Programme, which came out of the Darzi Review. NHS Gateway is a web portal, which is user configurable.

It doesn’t exist as yet, but they are looking for five early adopter sites to work with them from this design stage through to piloting it. Users must be willing participants and have supportive managers.

Under the same heading, Dermot Ryan, Programme Head, Clinical Dashboards, NHS CFH, and Sally Getgood spoke about clinical dashboards. These were also born out of the Darzi Review.

Three prototype dashboards have been developed, which were then moved into the pilot stage. These are used in A&E at Homerton, in general practice in Bolton and in elective urology in Nottingham.

The dashboards provide immediate and timely information, which can be used to assist in decision making.

**Developing a benefits management approach for the NHS**
Graham Evans, CIO NHS North East, began by talking about responding to the need to be accountable for the money being spent in the programme. The NHS is a complex, variable and constantly changing entity that is made up of multiple organisations. Resources including skills and finance are scarce.

Benefits realisation is important and includes understanding local issues and building on lessons learned. This must be done by making sure that people are engaged at the local level, using good communication and ensuring that users are being listened to.

It has been necessary to put in place a method of reporting benefits, but it is important that we don’t increase the administrative overhead by creating a new industry.

Graham believes that it is important to be pragmatic and not to wait for things to be perfect before going live with a project. A number of case studies have been put together to inform others of lessons learned to prevent people re-inventing the wheel. We need to be joined up, have user and clinician engagement and cross boundary community collaboration.

‘Transforming means not putting the same thing back in place again,’ concluded Graham.

**International comparisons of approaches to benefits management**
Gia Marasco, Benefits Realisation & Achievement International Network (BraIN), explained that BraIN is a collaboration between 20 different countries, producing white papers on benefits realisation. The intention is to produce a framework to compare approaches and benefits methodologies and to support and develop new relationships.

**Rita’s full report is on the BCS website: www.bcshif.org**
Summary care record (SCR) pilots will help give information on what is needed and set appropriate timescales for wider SCR roll-out, according to Martin Bellamy, Head of NHS Connecting for Health (CFH). Bolton NHS has been running one such pilot, and Helen Wilcox reports on its experiences as presented at HC2009.

The SCR in Bolton’s pilot has limited information about a patient – acutely prescribed medications, repeat and discontinued medications, and allergies and severe reactions. It can be accessed by the out-of-hours service, emergency departments, walk-in centres, community hospital pharmacies and district nurses.

Since beginning the pilot, the Trust has hit a number of problems, which have gradually been ironed out with NHS CFH’s help, according to Dr Darren Mansfield, Clinical Lead for Urgent Care, NHS Bolton, who spoke of experiences to date from his clinical perspective.

‘In the out-of-hours service, clinicians work to the usual standards – time matters as they have to meet defined timescales,’ explained Mansfield.

‘The SCR was run on the Adestra system. Uptake was poor to start because it was clunky, often crashed Adestra or froze the screen. So it was just not used, and had limited value.’

**Adestra**

After another three re-launches, NHS Bolton finally moved over this February to integrated Adestra – where SCR is part of the system. Mansfield said clinicians had implementation fatigue but the fact that integrated Adestra highlights to clinicians when a patient has a SCR helped persuade them to give it another try. The hit rate improved and the positive hits then kept the ball rolling.

Mansfield stressed that SCR implementation had to be quick and be useful for clinicians to adopt it. The benefits also needed to be highlighted to clinicians, for instance, its usefulness on home visits to the elderly.

To gain patient buy-in, NHS Bolton sent them a leaflet about what the SCR means and contains. They then had a three-month cooling-off period to withhold consent, which less than 1 per cent have done. Clinicians can overrule the withheld status but Bolton now treats doing so as a significant incident, and clinicians have to document their reasoning, which means it rarely happens. For future SCR implementations, the model will move over to implied consent, which Bellamy believes will help further win over patients.

**The verdict**

Having reached a point where the SCR is now being used, what benefits has Bolton NHS noted?

‘It facilitates consultation in terms of speed,’ said Mansfield. ‘Having changed our practice, the patient awareness of SCR is increasing and there is an expectation that the SCR will be accessed.

‘Where the SCR has had an effect, it is not life-saving because the information is limited, but there are small examples of improvements around dosing and medications, for instance, where patients do not remember the doses of their medication.’

Mansfield was of the opinion that the SCR would prove its worth in particular scenarios, rather than perhaps as a cover-all solution.

For instance, he thought it would be very useful to record a patient’s end-of-life wishes on the SCR. Currently, this information is sometimes not communicated to clinicians, and patients are brought into the emergency department when they would prefer to stay at home.

Mansfield also suggested long-term condition care plans, for example for diabetes or dementia, could be included in the SCR. One issue he identified is uploads from GP systems when a trust has various systems. Another challenge would be to integrate it with Lorenzo and Cerner.

Longer term, Bellamy said the programme had an ambition to share more detailed records too but there are no detailed plans for that yet.

‘The roadmap is most clearly defined for the SCR,’ he said. ‘We would want to do more consultation on what should go in to a detailed record and what the benefits would be. The exception is Lorenzo, which is designed to be completely joined up.’
In 2006 the Trust took the decision to use Toyota-based, ‘Lean’ approaches and embarked on a long journey of organisational transformation. Locally, the Trust now calls this the Bolton Improving Care System (BICS). Even in these early stages the Trust has come to see that this is not only about the problem-solving tools and techniques in the Lean toolbox, but about organisational and strategic development at every level.

Ann Schenk, Director of Service Development, described how the decision by Bolton hospitals adopting a ‘Lean’ approach was met with a retort of ‘We are not Japanese and we do not build cars’. The Trust had a vision of the best possible care now and in the future. When the Trust examined this in greater detail it identified four elements to this.

1) Best possible care: there should be no defects, and patients are the stakeholders to whom this is of primary interest;
2) Improving health: no needless deaths, with the local community as the primary stakeholder;
3) Value for money: no waste, this is of interest to taxpayers;
4) Joy and pride in the work: to keep morale high.

For the Trust to survive and prosper, it adopted the...
approach of ‘excellence and efficiency’. This meant there was a need to:

- develop business strategies that have quality improvement at their heart;
- engage and inspire frontline staff;
- have an organising framework for improvement activity.

This is ‘Lean healthcare’. Lean was chosen because it offers an organising philosophy and framework with

- powerful concepts and tools;
- evidence of transformation in other sectors, automotive, service and healthcare;
- a safety and quality focus;
- a Lean ‘buddy’ network – people able and willing to help;
- respect for people as a guiding principle.

Bolton’s Lean journey began in August 2005 as part of a turnaround both in quality and financially. It was reinvented as Bolton Improving Care Services, which kept the essentials. The early results are encouraging but have only scratched the surface.

Some of these early results are:

- In trauma 47 per cent reduction in mortality following fractured neck or femur, with 33 per cent reduction in length of stay and 42 per cent reduction in paperwork.
- The sentinel stroke audit score improved from 68 per cent to greater than 90 per cent.
- In ophthalmology there was a 50 per cent reduction in patient visits and an early attainment of 18 weeks referral to treatment target (RTT).
- Complications reduced by 85 per cent and length of stay by 43 per cent for high risk joint replacements.
- Pathology test turnarounds were three to ten times quicker and there was a 40 per cent reduction in floor space.
- Six figure cost savings in laundry, estates and finance.

There were several insights that were explicitly recorded during the application of Lean.

1) The patient is our guest, not the raw material in our production process.

2) The patient judges us on their overall experience, not on the technical efficiency of our processes or even on the outcome.

3) We are completely oblivious to the true nature of our processes. Staff didn’t realise what they were doing to patients.

4) Lean healthcare can provide a common language and method that builds a bridge between professions, disciplines and agencies. It can support a cultural as well as a technical transformation.

5) Lean healthcare re-energises individuals and unearths new leadership talent.

Ann depicted the way we usually solve problems in the NHS as:

- retreat to a boardroom or office;
- involve only managers and higher – ups;
- speculate and tell anecdotes;
- go with the majority or loudest voice.

She compared with the Lean way:

- go to the actual workplace;
- involve the whole team of frontline staff;
- use data;
- test solutions through rapid experiments (Plan-Do-Check-Act or PDCA).

Lean is a cultural transformation, its first function is to build the people then build the product. The role of the leader in Lean healthcare is to:

- go and see;
- ask why;
- respect people;
- force reflection.

There are some challenges and dilemmas to address. These include the time constraints on frontline staff and creating dedicated time to enable them to work on developing improvements. Lean has to be customised so it is seen as relevant to healthcare rather than as an externally imposed cost cutting or efficiency programme. This can be achieved by linking it with the organisation’s highest priorities. Many staff perceive changes to working practices as a task for a service improvement team or other such entity.

Instead it needs to be part of everyone’s responsibility. There is a temptation to compartmentalise tasks, so for example there is a week when people ‘do Lean’. It has to be made part of daily work for everyone. The organisation (chief executive and the board) needs to be prepared for the long haul. Initially many staff will see Lean as a passing fad; if it is there will be no benefits.

Bolton got started with Lean when the Trust was selected by the Institute for Health Improvement (IHI) to be the UK site in an international pilot testing Lean in healthcare. The IHI objective was to use Lean to save 100,000 lives.

Bolton started in Trauma, which is a reliable indicator of the state of healthcare in the hospital, and Lean has now spread into lots of work streams.

The impact in trauma got the clinicians engaged and it has been reliably estimated that results to date have effectively saved 140 lives.

Lean improvements are often huge – measured in tens of percentages, as described above. Traditionally, value added parts of processes are rarely > 10 per cent of the process but they are often the activities that managers prefer to focus on. However, the opportunities to improve are actually in the big waste areas. The philosophy in BICS is to ‘see, reduce and eliminate waste.’

Lean can produce a cultural transformation. At Toyota they say, ‘first we build people, then we build cars.’ All the research says that successful transformations have constancy of leadership but once Lean is embedded in an organisation it doesn’t matter if the chief executive moves on. It is learning by doing.

So where does IM&T fit in? IM&T has things to offer but can also introduce a barrier. A big principle of Lean is ‘Speak with the data’. Go and get the data, go and see, use IM&T to inform. Good information is vital for value stream analysis and the removal of non-value added adding steps and for capacity planning. The aim is to build the future state of healthcare, so IM&T has to be made to work for the future state, and solutions must be crafted to support the future, not just the present.
Naked patients and their safety

As its summer conference approaches, the BCS Primary Health Care Specialist Group (PHCSG) is also planning its annual September conference. Jill Riley, administrator for the group, describes plans for both.

‘Data sharing – the virtual naked patient’ is the title of the BCS PHCSG 29th Annual Conference to be held 24–26 September at Crewe Hall in Chester.

The programme committee will be particularly (but not exclusively) interested in expressions of interest or submissions of papers and posters related to this theme. Please send initial expressions of interest or enquiries from potential speakers to chair@phcsg.org.

Deadlines dates are:

- **17 July** Deadline for receipt of abstracts
- **3 August** Notification of acceptance
- **1 September** Deadline for receipt of full papers / posters

The call for participation and details of how to enter the John Perry Prize, awarded for innovation and excellence in UK primary care computing, are available at [www.phcsg.org](http://www.phcsg.org) or via me (contact details below). Also contact me if you are a potential delegate or sponsor.

### Programme topics include:

- clinical risk management;
- clinical safety testing of the care record, and information governance;
- the future of NHS IT: life after NPfIT in primary care;
- patient confidentiality - the current legal position;
- practice accreditation;
- data extraction from primary care systems (GPES);
- updates on GP2GP and EPS;
- NHS Resources Centre - free training for staff;
- care pathways - peril or profit?
- use of clinical indications;
- medication safety alerts;
- RCGP guide - making IT work for you.

As well as the formal programme, the conference provides an excellent opportunity for networking and is supported by an exhibition, which features many of the established IT suppliers to primary care alongside suppliers with exciting new products and services. Come and chat to exhibitors and hear how they are developing and promoting their products or services to enable patient safety. The conference is accredited by UKCHIP towards continued professional development.

If you are interested in knowing more about the programme or booking, exhibits or sponsorship please contact me, Jill Riley on +44(0)1905 727461, jill@phcsg.org, or visit [www.phcsg.org](http://www.phcsg.org).
Informatics in Primary Care is the ‘house journal’ of the Primary Health Care Specialist Group (PHCSG) of the BCS. Simon de Lusignan (Reader in general practice and biomedical informatics) discusses trends in submissions and some of the research covered in the first edition of the Journal in 2009.

The PHCSG is part of the BCS Health Informatics Forum and Informatics in Primary Care is the only BCS journal listed in PubMed Medline – probably the most important online database of journals run by the National Library of Medicine from the USA www.ncbi.nlm.nih.gov/sites/entrez/

The quality of submissions has risen, we are attracting good authors, and this is reflected in our rating in SCImago journal rank (SJR) - www.scimagojr.com/compare.php?un=journals.

Whilst Informatics in Primary Care is a long way off the class leader JAMIA (Journal of the American Medical Informatics Association) – we are performing reasonably well compared with the other journals.

What’s in the latest issue?
The first 2009 issue of Informatics in Primary Care (IPC), Informatics 17(1) examines the implementation and adoption of technology. However, if you want a lighter first paper to read start at the back with the Informatics Curio.

In this edition of the Informatics Curio there is a paper on injuries from the Nintendo Wii. This paper describes self reported injuries, an unintended consequence of the implementation of this technology. It may resonate with those of us who have to duck under the arms of our offspring playing virtual tennis.

The edition opens with an excellent editorial from Catwell and Sheikh which asks whether it is time to re-think our approach to IT system development and adopt a ‘participatory’ approach. Their thesis is that greater involvement of end users in development will result in more effective implementation of systems. This editorial has resonance with the commentary published on the Greenhalgh report; highlighting the need to adopt a more sociotechnical approach to system implementation.

The issue continues the theme of implementation. Kaushal et al, report what characterises those about to adopt information technology in their practice. They report key factors such as: younger age, if they are familiar with technology, more likely to be involved in quality improvement initiatives and have a financial stake in their practice.

The next paper is the final part of the five part series by Protti et al, comparing adoption of IT in New Zealand and Denmark. This is then followed by an exploration of the barriers to implementing a cardiovascular computerised decision support system. Perhaps unsurprisingly for those of us who have watched the power of financial incentives – these come out top of the list of what needs to be done to boost system adoption.

There then follows three papers on different aspects of diabetes management. These papers look at: attitudes to recording diabetic patient data from an Australian perspective; the use of technology to track that monitoring measurements (HbA1c – glycated haemoglobin) from Canada; and finally the use of telemedicine to support people with diabetes using insulin from the UK.

We will be developing the diabetic theme in the next edition with further papers on the use of informatics in diabetes internationally. Electronic patient records should be able to have a beneficial impact on the management of this condition.

FURTHER INFO

Online journal at: www.ingentaconnect.com/content/rmp/ipc

Instructions for authors: www.radcliffeoxford.com/journals/J12_Informatics_in_Primary_Care/M10_Contributing.htm

Subscription details at: www.radcliffeoxford.com/journals/J12_Informatics_in_Primary_Care/M08_Subscribing.htm

Editor Informatics in Primary Care EditorIPC@googlemail.com

For full references, see BCS website.
Software to support prescribing decisions

How decision support for prescribing can help improve patient care was the theme of a presentation to the Northern Group by Dr Robert Treharne-Jones, a practising GP and an expert in the field of software for specialist uses in the NHS. Group committee members Rita Arafah and Julia Slater report on his presentation.

‘Prescription with patient benefit’ is the bottom line of Dr Robert Treharne-Jones’s philosophy. He spent 20 years as a GP in the Walnut Lodge Surgery in Torquay where he developed an interest in health informatics. Over 20 years ago he had the first computer in the practice and worked part time for Meditel with former BCS Health Informatics Forum chairman Glyn Hayes.

His talk concentrated solely on the management of anticoagulant therapy, though clearly there are analogies in different therapeutic areas.

Anticoagulant management relies on the drug Warfarin to thin the blood. This is a high risk medication for patients, with no standard dose. There is an idiosyncratic response, which is why regular INR tests are necessary, with the ideal of maximum stability and the minimum of blood tests. INR tests are the results of the Prothrombin Test adjusted to the International Normalised Ration (INR).

Two per cent of the population over 65 suffer from atrial fibrillation (AF) which is characterised by an irregular pulse and is a condition that the Quality and Outcomes Framework regulations require the GP to register. Since AF can, and does, produce blood clots that can lead to strokes, treatment is essential and can reduce that risk by some 90 per cent with good control.

The benefits of a computerised decision support system (CDSS) are that it controls the INR and also monitors the results thereby freeing the physician for other tasks. It reduces the clinical workload and enables accurate reporting of activities and outcomes. The clinician requires an easy dose calculation, convenient review intervals, and the ability to delegate the tasks to other team members, coupled with the flexibility to suit the needs of different patients.

The INRStar program has been written and developed by GPs for GPs and has been highly commended. The software resides on a local network or server and is accessed by the health professionals through a web browser. It displays demographics and specifics about INR tests past and present and the review period, i.e. the date when a future blood sample must be taken. It records the diagnosis of AF.

On entering the most recent INR result, the computer works out the dosage regime for the coming days, which is printed out as a chart for the patient to follow until the date of the next blood test.

In 1984 it was reported that the maintenance of anticoagulant laboratories was costly, the results were often indifferent, and the results achieved with a computer were at least as accurate as what could be achieved manually, in addition to which medical secretarial time was saved.

Moving forward

Presently the Coventry Algorithm is highly regarded, but the City and Hackney Model is also being developed supporting near patient testing and a decision support system. The testing has now moved from secondary to primary care, giving more convenience to patients, proving cost-effective, and giving area evidence of the data. The British Society of Haematologists produces national guidance for long term patients giving the advised duration of treatment, target INR levels, and review periods for each condition. Not to use CDSS is frankly an unjustifiable decision in the 21st century.
When does the clinician have to override the computer?
The software is decision support only. Clinicians are able to override the system
to alter the proposed review date to the actual date the test was taken, to change
the review period, the dose, or to omit the dosage on some days if the INR results
come back too high.

The clinician is aware of what affects the patient and any related conditions at
their consultation which could be the effect of concurrent medication,
compliance issues, diet, or altered liver function. As an example, prescribing a
broad spectrum antibiotic would affect the Warfarin levels in the patient.

It is necessary to decide if the patient is taking the drug properly in view of their
age or possible confusion, and indeed to consider if that patient is safer on
Warfarin, or without it, in view of the inherent risks of uncontrolled dosage.
Again diet affects the metabolism of Warfarin and the blood levels, particularly
so with alcohol which alters liver function.

Improving patient data
Each step has context sensitive help on every field in the database, but user
training is recommended. Those who are better educated in the use of the system
are more motivated to use it. The CDSS is in use in many practices to run
anticoagulant clinics.

Inevitably there are increased staff costs as the testing strips are expensive.
Health care assistants run the clinics as the primary lead in consultation with
the GP. Many practices are overseen by the local haematologist who
predetermines the parameters and will flag up his suggestions.

The system has role-based access with five levels of log-in appropriate to the
practice organisation.

The dosage is configurable to suit National Patient Safety Agency (NPSA)
guidelines. Different strength tablets are used and a decision needs to be made on
what is best for the individual depending on their understanding, age, and dexterity,
since some tablets need to be broken in half.

Quality control is centrally calibrated. Test solutions, sent out to the practice, are
run through the patient testing machines and there is a comparison point
prevalence feedback scheme which allows comparison with other practices. Graphs
are returned to the practices to compare

where they are with reference to the ‘mean’.

Every week a report is generated to show patients overdue for their next blood
test, and their demographic status.

In conclusion, what has been said covers only a small part of clinical
practice but it is a high risk area with very positive benefits. It is open to outside
scrutiny. Valuable tools are now available to improve patient care and there are
possible parallels to other clinical areas.

QUESTIONS

Q. ‘In the future is remote monitoring of the patient in their
own home a possibility’?
A. Yes – the data can be accessed on a role-based level by anybody –
some patients have their own testing kits and the ability to plug into the
system and can then discuss their management with the supervising
clinician.

Q. ‘What is the accuracy of the blood test?’
A. The finger-prick test uses capillary blood whilst that taken by
syringe from the arm is venous blood and the results do differ but are
comparable. In practice, one sticks to capillary blood and it is the trend
between successive tests that is more important than the absolute values.

Q. ‘Is patient confusion caused by the availability of generic drugs in
different colours?’
A. Not in the case of Warfarin for which there are no generic versions
in the UK, so the colours will always remain the same for each tablet
strength.

Q. ‘Is this a stand-alone programme?’
A. Presently yes it is but it is about to be integrated with the systems of
Emis, Isoft, and Vision in general practice. However, integration with
hospital systems is problematical.

Q. ‘Is this to be part of the integrated patient record?’
A. Viewing data alongside different systems on the screen is possible but
not actual integration.
**Book of the month**

**Virtual Shadows**

*Karen Lawrence Ogquist*

**BCS**

ISBN: 978-1-906124-09-0

£14.95

Rating: 09/10

This book is as suitable for a general audience as it is for information security or web professionals and is written in a very readable style. We are introduced to the concepts behind social networking and web 2.0 and their impact on our privacy and everyday lives. In this respect the author is as concerned with social science as she is with computer science. We start with an explanation of social networking, blogs and web 2.0. This reflects the author’s main interests, devoting most of the book’s pages to blogging, rather than social networking.

The book then moves on to the connections between an individual’s online and physical lives, discussing the impact that blog and social network postings can have on career and reputation both now and many years from now. Good advice is given on maintaining some separation between work colleagues, online friends and real-life friends and limiting personal information available.

There is a discussion of children’s activities online with sound advice on how to avoid and deal with cyber-bullying, although it’s debatable how many older children would be prepared to share their passwords and browsing history with their parents.

The final section is a sobering discussion of recent trends in information gathering and usage, which highlights both the potential risks and possible advantages. In general, the book is very readable and provides a balanced view of the issues.

_Nick Dunn_

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**The ThoughtWorks Anthology**

*Daniel Steinberg,*

Pragmatic Bookshelf


£24.50

Rating: 9/10

This book consists of a collection of 13 essays from 14 authors who work for the company ThoughtWorks.

The topics covered are certainly diverse, ranging from design, programming languages, objects, testing, release management, communications on project status, SOA contracts and the role of the iteration manager. There is a lot of focus on Agile, 00 and early involvement in the lifecycle.

One important aspect is that all of the essays appear to be written by authors who are actually practitioners, and have done it themselves, and are attempting to share their experiences with the readers.

The interesting chapters include one on the challenges faced by the project team after the software has satisfied functional requirements, but before it goes into production. The suggested solution is an end to end agile delivery process, rather than just a development process.

The concept of the iteration manager (IM) is interesting. It is claimed that on a large agile project, the project manager (PM) cannot focus on the success of each iteration and the entire programme at the same time.

There is also an excellent chapter on agile versus waterfall testing.

The book is well written, and certainly easy to read. However, I suspect that the chapters are too diverse, resulting in very few readers having an interest in them all. There is something here for both technical and nontechnical staff. The question is, will potential readers be willing to buy a book that they might only ever read 50-70 per cent of?

_Kawal Banga_

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**MediaWiki**

*Daniel J Barrett*

O’Reilly


£28.50

Rating: 9/10

In 2001, Wikipedia changed the world by proving that thousands of strangers could collaborate to produce a valuable information resource. Encyclopedia publishers shuddered. Sceptics scoffed. And, in the meantime, users around the world have produced millions of Wikipedia articles. Wikipedia was not the first wiki, but it’s clearly the most successful, largely due to its powerful Software MediaWiki.

The strength of this book is that it is about making MediaWiki work for the reader, whether they plan to read wikis, write and edit articles, or install and run their own MediaWiki site.

This book is really useful, as its serves four audiences:

- wiki readers: anyone who reads Wikipedia or other wikis running MediaWiki; wiki authors: anyone who writes or edits wiki articles; wiki system operators: authors with special privileges for maintaining the wiki; wiki administrators: system administrators and programmers who install, configure and run MediaWiki on a server. The author gives his permission for the reader to use the code in the book in their programmes and documentation – to help get their job done. Writing a programme that uses several chunks of code does not require permission, but reproducing a significant portion of the code does.

The author and publishers offer a generous ‘fair use’ policy, and can be contacted by email for clarification - if the reader feels their personal use of ‘code examples’ falls outside fair use.

All in all this is a comprehensive book of some 350 pages, with a wide appeal to all, from a wiki reader to a wiki expert, and all points in between.

_George Williams MBCS CITP_
FORTHCOMING EVENTS

June

Nursing Informatics 2009
28 June - 1 July
Helsinki, Finland
www.ni2009.org/welcome_to_helsinki_finland/

PHCSG Summer Conference
29 June – 1 July
Patient Safety – who cares?
Chesford Grange, Warwickshire
www.phcsg.org.uk/

July

ASSIST NW Branch
9 July
AGM and Site Visit to Salford Royal NHS Foundation Trust
Frank Rifkin Lecture Theatre, 1st floor, Mayo Building,
Hope Hospital, Salford

Health Informatics (London and South East) SG
23 July
BCS, Southampton Street, London
www.hilsesg.bcs.org/

August

ASSIST: North West Branch
August
Aspects of Data Security
Date and venue to be confirmed
www.bcs.org/assist/northwest

September

BCS Health Informatics Scotland SG
21-22 September
Conference on interoperability standards and
www.patient access to records
www.scotshi.bcs.org.uk/

BCS PHCSG 29th Annual Conference
24 – 26 September
Data Sharing – the virtual naked patient
Crewe Hall, Chester
www.phcsg.org.uk

ASSIST: London and South East Branch
29 September
Measurement for Quality - a joint conference
Central London, tbc
www.bcs.org/assist/londonse

November

ASSIST: London and South East Branch
18 November
Looking into the future - Emerging technology and its use in
supporting healthcare
BCS, Southampton Street, London
www.bcs.org/server.php?show=ConWebDoc.21641

E-Health Insider Live 2009
International conference
November 9-10
International Convention Centre, Birmingham. This will be an
exciting new conference and exhibition bringing together leading
industry professionals and experts from all over the UK for
provocative debate, inspiring presentations and lively interactive
exhibition. Exhibition entry is free. With competitively priced
conference fees with discounts for NHS staff.
www.ehealthinsiderlive.com/

December

BCS Health Informatics Interactive Care SG
4 December
Medicine on the edge with Surgeon Captain Peter Buxton, OBE
BCS, Southampton Street, London.
www.hiicsg.bcs.org/events.htm

January

BCSHIF meeting
26 January 2010
BCS, Southampton Street, London
www.bcsbif.org

BCS EFMI AND IMIA REPS

Following a recent call for nominations, BCSHIF has
received three nominations for its EFMI rep and four for its
IMIA rep. BCS members who are members of BCS health
groups are eligible to vote. Full information on the candidates
and electronic voting will be available on www.bcsbif.org
opening 22 June and closing 6 July.