HC 2007
19–21 MARCH

CONFERENCE & EXHIBITION
challenging boundaries
HARROGATE

The most comprehensive health informatics event in Europe

Call for conference participation

HC2007: Challenging boundaries

"In all affairs it's a healthy thing to hang a question mark on the things you have long taken for granted." — Bertrand Russell

Implementation of any programme for improving information flows in healthcare will inevitably challenge the boundaries of service provision. Given that dissatisfaction with traditional means of capturing, storing, using and communicating information, coupled with the opportunity presented by computerisation to improve these processes, has given rise to the field of health informatics, it is not surprising that application of the latter brings with it new ways of working. In learning how to use computerisation to improve clinical and managerial practice, more and more potential has been opened up. As a result, it has become possible to envisage even more new ways of working. Indeed, these are sometimes now challenging the boundaries of health informatics itself.

Everywhere we look, we see these challenges happening: the need for new types of information and new ways to use it; and the need to meet information needs without operational or physical constraints.

Almost everywhere in the world, Bertrand Russell's question mark has already been hung on traditional healthcare and socialcare delivery. There is widespread agreement that the old ways are unsustainable, and radical changes have been envisaged. With this, there are great expectations that informatics will enable realisation of the hoped-for future. Can it make these 'dreams' come true? If so, when? What are the boundaries that must be challenged? How could they be challenged? Where have they successfully been broken down or removed? What progress has been made? Where and why did setbacks occur?

The HC2007 conference aims to focus on discussing and answering these questions.

'Thinking outside the box' conjures up the need to recognise the realities of existing structures and processes, to question their limitations and to probe further afield in our collaborative quest to find how to improve them.

If health informatics is to meet responsibly the challenges it now faces and to advance its role more effectively and more swiftly, it must publicise new solutions that have proven efficacious as well as creative ideas yet to be tested. You are invited, therefore, to contribute to this body of knowledge and/or submit a proposal or topic that you believe the HC2007 conference should feature in its programme.

Be creative, and challenge boundaries — including those of the HC conference programme!

We look forward to hearing, and learning, from you.

www.health-informatics.org

BCS

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Words from the Health Informatics Forum chair

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Welcome to this first edition of *Health Informatics Now*, The Newsletter of the BCS Health Informatics Community. It is our aim to inform readers of what's going on in our world, showcase the work of our Specialist Groups and provide a place for information about the work of the BCS Health Informatics Forum. We also plan to use the newsletter to inform members of the BCS health informatics community about important issues, and activities conducted by BCS and in the health informatics field generally.

About the BCS Health Informatics Forum

The BCS Health Informatics Forum (BCSHIF) was formed in January 2005 evolving from the BCS Health Informatics Committee, which has a history going back 40 years. The Forum was formed to cover all aspects of informatics in support of health, a sector of particular relevance and importance to the BCS. The Forum provides leadership in this sector, acting as a source of professionally recognized expertise, underpinning the outward-facing role of the BCS, and ensuring that contributors to health informatics are recognized and respected.

As such it is the body which develops and promotes the BCS policies, strategy and viewpoint to government and other influential bodies.

The Forum constituency is led by a Strategic Panel (SP), a group of experts, individually recognized as thought leaders and influential opinion formers.

BCS Health Informatics Specialist and Member Groups

Among those experts on the SP are the chairs of the BCS Health Informatics Specialist Groups (BCS HISGs): Primary Health Care, Nursing, Interactive Care, London and South East, Northern, Scotland, South West and, since February 2006, ASSIST (The Association for ICT Professionals in Health and Social Care) joined as a Member Group.

As well as being pivotal in the Forum's activities, the groups also run their own events, ranging from the larger conferences run by the Primary Healthcare SG, which takes place annually in July and September, to smaller local meetings. More information about BCS HI groups and their activities can be found on their websites. The website addresses of the SGs are on the back cover.

A summary of the activities of the BCS Health Informatics Forum

Professionalism: HIF has been in the forefront of developing professionalism in the HI community. We believe this is important for staff if they are to gain credibility and better recognition for their work but also crucial to ensuring patient safety in the information driven NHS. We were, and are, one of the main sponsors of the UK Council for Health Informatics Professions (UKCHIP) and have been heavily involved in the ProfIT project by the BCS and others to develop professionalism in the IT industry as a whole. For more information, see the article on page 10.

Policy matters: BCSHIF has a policy lead, Jean Roberts, who has the role of developing BCS reactions to published policy documents, as well as initiating viewpoints on important topics. Everyone in the BCS HI community is welcome to take part in this work. More detail is in Jean's article on page 8 of this newsletter.

Thought Leadership Debates: Thought leadership Debates (TLD) are a BCS means of exploring important issues relating to IT. The format is for high profile speakers to address an invited audience which then debates the issue. The results are published by BCS on its website.

BCS HIF has held a TLD on 'What's so different about clinical records?' Another is planned to explore the relationship between the EU/EC and UK health informatics.

The Healthcare Computing Conferences: The Healthcare Computing Conferences held in Harrogate each year were started by the BCS health community 24 years ago. The overall event, with the exhibition being contracted to The British Journal of Healthcare Computing & Information Management is the largest of its sort in Europe. We have an executive organizing committee which runs the conference and a programme committee which determines the content. Both these bodies report to BCSHIF which retains overall control.

International representation: HIF is the official UK body for appointing representatives to the International Medical Informatics Association and the European Federation of Medical Informatics. We also appoint members to the various standards bodies including the relevant part of BSI.

Government relations: BCS HIF holds regular meetings with Richard Granger. Other meetings are held with other senior members of the Department of Health, Department for Trade and Industry, Connecting for Health and the Information Centre. These meetings combined with those held by our constituent groups such as the Primary Health Care SG and ASSIST ensure that we have direct channels into government.

Publications: We publish conference proceedings and other material on heath informatics. For example, we published a 'Handbook on Ethics for Health Informatics Professionals', which is still available from BCS. Contact Chris Mayes.

Workshops: Periodically we hold workshops on topics which aim to develop the science of HI. Included in these are our Educational Radical Steps which is developing the syllabus for HI professionals. We have also held workshops on open source in health amongst other topics.

The HIF meetings: The quarterly meetings of the Forum are open to anyone with an interest in HI. They consist of a keynote speaker on a major topic. This is followed by members of the community presenting their own work, issues or activities.

In the recent past we have had Professor Denis Protti discussing whether health informatics is good or bad for patient care, Professor John Fox on decision support, and Dr Mike Bainbridge on user interface issues. The presentations are all published on our website at: **www.bcshif.org** A report of the presentation at the July meeting is on p6.

Meetings are held in the BCS London office. If you are interested in attending, you should join the BCSHIF mailing list.

Contact Chris Mayes at: christine.mayes@hq.bcs.org.uk

Others want to know what you are doing: tell them at HC2007

The annual Healthcare Computing Conference combines the interests of information management and technology practitioners, clinicians and researchers. Each year, the programme covers a wider range of subjects, and there's always something new and unusual alongside the well-established.

One constant thread from visitor feedback is that they rate highly the sessions where they can hear about the experiences of real-life implementation and change.

We're therefore keen to encourage people working on such projects to come and share experiences and learning with colleagues and peers at Harrogate.

We also know that it's not always easy to prepare submissions that do your work justice and meet the standards that our delegates have come to expect. But we don't want you to be deterred, so this year we are trying something new.

Something new this year

If you think you've got a story to tell, come and talk to us about it and we will help you decide the best way to present it at Harrogate in March 2007.

You may decide to submit a standard paper or poster, in which case we'll offer advice and support; or you may want to look at demonstrations, panel discussions, or something completely different.

Either way, our message is clear. The work that interested, stimulated, and educated you will certainly do the same for your colleagues in health informatics. And there is no better place to get your message across than at the Healthcare Computing Conference.

See **www.health-informatics.org/call** or email hc2007-judy@amiconf.demon.co.uk

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Beware of switching onto automatic pilot

Despite using verbal checks to ensure patient safety, healthcare staff make mistakes. One explanation for this is that they respond automatically to questioning without matching their actions to their words, explained Brian Toft at a Health Informatics Forum meeting in July. In looking to eradicate such errors, technology has a part to play, albeit it fairly small. Helen Boddy, BCS assistant editor, reports.

When you first learn to drive, you need to concentrate really hard on what you are doing, but after a while you can sail along on automatic pilot. You can even do something else at the same time, such as talking to a passenger, or changing radio stations.

In such cases automaticity is generally seen as an advantage but in others, it can be hazardous, for example, when responses become automatic to verbal double checking in the NHS. Automaticity can result in a respondent saying that an action has been taken, even when it has not, according to Brian, who is a specialist in the investigation of adverse effects.

He suggested that responses to verbal checklists can be likened to a priest calling out and the congregation giving back the answers. He has written a paper about the phenomenon, which he has called involuntary automaticity.

Independent enquiry

Brian wrote the paper after conducting an independent enquiry into a case where staff missed an error in radiotherapy treatment on multiple occasions. He was the first non-physician to chair an enquiry into the death of a patient.

In investigating the case, Brian considered what could have caused dedicated professionals to make such mistakes, given that he was convinced that they were neither negligent nor uncommitted.

He noted that studies had shown that the verbal witnessing procedure does not always prevent errors. In his paper he cites Krause et al who observed that the error rate for the administration by two nurses was 2.12 and for one nurse it was 2.98. Even though there was an improvement using two nurses the error rate was still greater than two per 1,000. As studies also showed that errors were made in a variety of healthcare settings, Brian

suspected that there must be mechanisms that predispose people to make such mistakes.

He looked for clues beyond the NHS and found that automaticity was wider spread than healthcare. Barshi, for example, had written a paper with examples from the aircraft industry where accidents had happened despite aircrew having completed verbal checklists:

Barshi said: 'Automaticity has… a cost that manifests itself in procedures that are highly routinized but require close attention, such as verbal checklist procedures. In such procedures, errors occur because the routine leads to automaticity.'

One example given by Barshi was the case of a Boeing 737 aircraft about to land in Wyoming in 1983. The aircrew went through their routine pre-landing checklist. The co-pilot who was flying the aircraft responded to the captain that he had lowered the wheels when in fact he had not.

The aircrew had gone through the checking process without being affected by it, according to Barshi. It was assumed that since they had run the checks everything must be ok and safe to proceed.

Similarly, according to Brian, there is a danger when quality procedures have been put in place that human beings think that no mistakes will then be made. Indeed, in the radiotherapy case, safety regulations were being followed. Furthermore, colleagues believed each other to be professional, another factor that surfaced in Brian's research.

Cases of involuntary automaticity by aircrews suggested that accidents were more likely when the aircrews knew each other well and trusted each other's professionalism. This trust meant that they believed the respondents' response and did not question it further.

Another factor that could aggravate involuntary automaticity is an increase in the number of people carrying out checks. If there are two people, there is ambiguous accountability with each assuming the other is doing the check.

High stress levels would also provide an environment where involuntary automaticity would flourish, according to various researchers, including Nguyen and Bibbings. Brian's

investigation into the above-mentioned radiotherapy case showed that the department in question suffered a large workload, time pressures, recruitment problems, and understaffing. The work environment was far from optimal.

Parallels with aircrew

Brian believes many parallels can be drawn between the working environment of the healthcare and aircraft industries:

- Use of verbal checklists;
- High stress and fatigue levels;
- Trust in the professionalism of colleagues.

If anything, Brian believes that the healthcare profession is likely to be more prone to involuntary automaticity

> 'Technology can be used to help reduce the needs for verbal checks… but cannot be the sole solution.'

than aircrews because the former use verbal checks more than the latter.

When he published his paper in 2005, Brian could find no others about involuntary automaticity. No-one has contradicted his published paper to date, and he feels it is very important to stress that his findings show the value of an independent in-depth investigation as it reveals new knowledge.

He believes that now we know about involuntary automaticity, we should be looking to eradicate it, and he had several suggestions of how to reduce it.

Remedial measures

Technology can be used to help reduce the need for verbal checks. For example, bar codes can be used to help identify patients, misidentification being one cause of the incorrect administering of drugs.

However, Brian believes that

technology cannot be the sole solution for several reasons. Technology can assist people, but it is neutral and only as good as the people who use it. 'Nothing is a substitute for original thinking and keeping your eye on the ball,' said Brian.

Furthermore, human beings can still make errors with technology because people will find ways of circumventing technology.

Moreover, it is people who create, operate and maintain technology. People put the errors in the technological systems. In the above radiotherapy case people input incorrect settings. When others checked these settings they did not see the error. Technology is neutral.

Furthermore, there is a risk that humans take as gospel what comes out of computer, and act upon it often without thinking, according to Brian. That is clearly risky if garbage has been put in. Even though silent checks by computers can be useful, humans still need to check against their output.

Solutions to involuntary automaticity must therefore also involve people, according to Brian. One measure that he proposes is to get the challenger to ask only one question and wait for the response to it before asking for another. Another proposal is to have two independent checkers, both responsible but conducting their checks one at a time.

A tactile and oral response could also help, for example by NHS staff touching the lever or whatever needs to be moved.

Another suggestion by Brian, which he thought of since publishing his paper, is that you could involve the patient in the checks. The patient could, for example, help check the label on the medication.

If the concept of involuntary automaticity is correct, it has other implications, such as the potential impact on court cases of negligence. It would mean that management is responsible for errors as they create the environment and workload of employees. If it is management's responsibility because they put staff in an unsatisfactory position, legislation could be turned on its head.

Brian's paper can be viewed at:
www.rsm.ac.uk/media/pdf/ hsmr_toft.pdf

Got views?
Make yourself heard

When BCSHIF is asked to make a response to published policy documents or wishes to initiate viewpoints on important topics, Jean Roberts leads consultations. She outlines the process and encourages more of you to get involved.

The response to a consultation process has four main stages: identification of the need for consultation; evaluation of the documentation; producing the response and disseminating it.

First comes the alert: a well-trailed document is issued on a certain date; an eagle eye gives the BCS HI Policy Group a 'heads up' that something has been released on an 'interesting' topic; or a formal request for a response is sent explicitly to the BCS or BCS Health Informatics Forum (BCSHIF) to seek comment on.

In addition, there are the issues which are of immediate concern to a certain cohort, which may not be driven by a published document but have grown out of commentary in the field. Nothing is off-limits for consultation or comment.

Validation of interest

In some of the above cases it is patently obvious that there will be strong communicable views on the topic raised; these may not always end up being consistent. Then a period of reflection is entered into in order to determine whether it is 'politic' for BCSHIF to respond in its own right, to draft a partial response from a specialist perspective to be collated with other commentary, for example the BCS per se or a distinct community of practice. Where the decision to respond or the pertinence of the subject is not cut and dried, the option is there to use the good offices of the Forum manager to circulate the link to the source of interest and ask if there is a likelihood of commentary being forthcoming and if there is anyone who has a special interest who will volunteer to collate the responses that do surface.

Consultation process – round 1

Assuming interest and relevance is confirmed, the logistics of the process need to be decided – what community circulation to use for the invitation to respond, how long to spend on soliciting commentary, how to resolve conflict (or express it) from the submissions, where to circulate the final draft response – and then work back all dates from the publicised consultation closure date.

Usually a short email saying that the document on 'XYZ' is available for comment on a particular website, from a particular source or on request from the collator is issued. An end date for the consultation is stated there, as it is sometimes necessary for people who you would have anticipated to have expert views to 'pass' due to pressures of work or other commitments.

It has to be said that 'the usual suspects' can be relied on, if available, to input regularly. I am grateful for that as, in the past, the silence has been so deafening that you have to wonder whether your technology ate the email and no one ever saw it.

In parallel to waiting for others, the (volunteering) coordinator will draft points from their reading and assessment of the document. In some cases where little response is forthcoming from inviting the community to self-process what may be very lengthy daunting documents, the collator's own draft becomes itself a consultation.

Round 2 – critiquing the draft

The next step is producing a collective draft from the points which came back to you, preferably as 'tracked' comments in the original or referenced points that can be circulated to the full community, again with a deadline stated.

It is sometimes necessary to incorporate divergent views: a proportion of the views recognized 'aaaa'; however a large minority stated 'bbbb' is quite acceptable. You may have the flexibility to develop your own narrative, sometimes you have to squirrel the comments into a pre-specified proforma, but there are usually some places for free text comment.

'Murphy' may be alive in the process; it frequently happens that after you think you have completed the final technical edit, another interesting or contradictory observation is submitted.

The challenge is to express the sense but not necessarily the words of each respondent. Unless and until a person has led on one of these consultations, they will not realize how hard it is to incorporate all the views, but I am sure collators do try and make best efforts at representation.

As a variation on 'no pay, no play', if potential respondents do not take up opportunities to comment at the appropriate time then there is little redress. Decisions to progress are made in the light of material received by the due date and such deadlines can rarely be shifted. The opportunity to draft a minority report to qualify issues or make other comments is available but rarely used.

Depending on the reason for the commentary, if a consensus cannot be reached on a holistic basis, then a majority response can be appropriate, if it is declared as such.

Submitting formally

Once the content is completed, the submission needs topping and tailing with BCSHIF credentials, contact points and – as an academic I have to be seen to follow the rules – the references to any other documents used in the evaluation.

Formally 'that is that' until the next version of the consultation document comes out or a final document is published and you see the BCSHIF credited in the appendices. It only remains to circulate the final document to the consultation community it was produced from. The interesting bit is going back and seeing which of your group's comments can be identified within the re-versioned document.

Public reference

Most of the consultation responses are produced under 'Chatham House Rules', which state that no one individual is quoted in an identifiable way; this encourages plain speaking and cutting-edge comment.

Our responses are frequently made public on the BCSHIF website – **www.bcshif.org** – for more general reference.

Further enquiries may come from other parts of the community, the press, from other respondents or researchers and students; and the paper may get quoted, so it is important to see that you recognize any other source documents you mention in the commentary.

Where your views were sought in audits or enquiries, the final document may only be submitted to the requesting body. Decisions to release, circulate or withhold sensitive commentaries will be made on a case by case basis, with the agreement of Forum officers or the Strategic Panel of the Forum.

Subsequent reflection

As yet, we have not developed the website to include 'readers' comments' as the domain-specialist e-News services do, but the technology could deliver that function.

This article was written to describe the process used by BCSHIF whereby your views can be heard; I hope this piece has also encouraged you to get involved next time a consultation appears on your radar.

Jean Roberts currently leads the BCSHIF Policy Group which has facilitated all of the consultations available on the website – **www.bcshif.org**

Please address any comments on this article or the publicized responses to Jean Roberts: hcjean@demon.co.uk

An umbrella to cover professional standards

The purpose of the BCS Health Informatics Professional Development Board is to act as the umbrella organization for all types of work affecting the profession and professional standards in the UK. Andrew Haw, the chair of the board, describes how it came into being and its activities.

Professional bodies were generally created in response to the need to set standards of service and to provide members of the public with the means to be assured of the competence and standing of practitioners of different 'professional' trades.

In the NHS, for example, this has historically been seen through a combination of Royal Colleges and the General Medical Council, and latterly through the Health Professions Council (HPC) being created to ensure professionalism amongst the non-medical professions.

To create a professional body takes a considerable period of time. The route preferred by the HPC is first to enable voluntary registration, whilst developing the identity and role of the putative 'Governing Body' and subsequently moving to compulsory registration over a period of years, typically 8 to 10.

The case for professionalism in health informatics

There is no shortage of disturbing stories about the poor use of informatics as reported in newspapers and relevant journals, such as the British Journal of Healthcare Computing and Information Management (bjhc&im). Unfortunately, no one really knows how many there are, as there are no mechanisms systematically to identify and record such mishaps, and indeed in some cases the causes may not be apparent or known.

Although the above suggests that there is much to do, there are pockets of good practice emerging in the NHS and some areas are further advanced than others.

The key supporting elements of a profession

It seems clear that a formal profession can only be established when all of the partners below are willing and prepared for that state to begin:

■ The NHS needs to have a human resources strategy for the relevant body of people, i.e. health informaticians; this is likely to need the support of politicians, Department of Health and NHS Connecting for Health;

■ A consequence of the HR strategy must be that employers are required to employ only appropriately qualified and / or registered practitioners;

■ Practitioners need to be willing to demonstrate competences, and undertake assessment and continuing professional development (CPD);

■ The education sector, including partners in industry, needs to have the education, training and development curricula, facilities, staff and resources to deliver what is required;

■ There needs to be a registration and

regulatory body that sets the occupational standards, develops the qualification framework and is the primary route of assuring the public that practitioners are fit for purpose;

■ There should be one or more professional association that provides the opportunities for CPD that are best able to be delivered by such associations.

Without parallel development by all of the above elements, it will be difficult for a new profession to be formally established.

Health Informatics Professional Development Board

ASSIST is the Association of Informatics Professionals in Health and Social Care – www.bcs.org/assist – and had a Professional Development Committee for a number of years but advantage was taken of ASSIST becoming a member group of BCS to broaden the scope and membership.

Subsequently, the BCS Health Informatics Forum (BCSHIF) established in December 2005 a Health Informatics Professional Development Board, including stakeholders as shown in the diagram on the page opposite.

The objective has been to include all stakeholders from all four home countries, from the relevant national bodies, professional associations, suppliers, academics and practitioners.

The purpose of the Professional Development Board is to act as the prime source of expertise on the health informatics profession, in particular with regard to the education, development, training, registration, accreditation, recruitment, remuneration, career pathways, organization, supply and demand and retention of health informatics practitioners. The profession is defined to include both those working in health informatics in the NHS and those working for the NHS. Membership and terms of reference can be found on the BCSHIF website: www.bcs.org/assist

The Board will maintain a detailed understanding of the practice of health informatics in the United Kingdom, and will develop and maintain a vision for the future health informatics workforce.

The Board's initial focus is on taking workforce and professionalism issues forwards for full-time practitioners in the context of:

■ the need to understand better the changing demands for certain types of healthcare practitioners in the workplace;

■ the development of professionalism in the public sector ICT domain;

■ implementing Agenda for Change for NHS health informatics staff, particularly the Knowledge and Skills Framework;

■ the implementation of National Occupational Standards; and the development of UKCHIP standards.
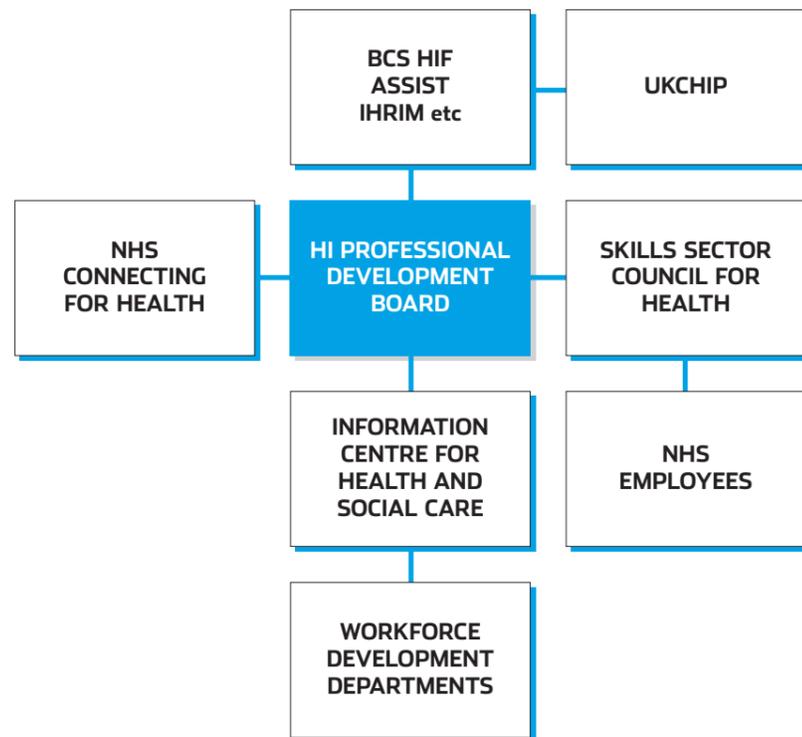
The Professional Development Board has only met three times thus far, but it has already agreed to:

■ Act as the Advisory Board for the programme of work on health informatics workforce planning that is sponsored by NHS Connecting for Health. Every practitioner is encouraged to get involved in this work by registering with the special interest groups at www.informatics.nhs.uk.;

■ Be a key influencer of the need for a survey of the capacity of the NHS Health Informatics workforce; this work has been done by ASSIST, sponsored by NHS Connecting for Health, and is due to be published in August;

■ Provide advice and guidance to the Information Centre, NHS Connecting for Health, Informing Healthcare in Wales, NHS Scotland on what needs to be done to implement the National Occupational Standards in the NHS, how these apply to the Knowledge and Skills Framework and what tools might be most appropriate to use in implementation.

In short, the Professional Development Board is acting as the umbrella organization for all types of work affecting the profession and professional status in the UK.

The Professional Development Board has also set out its intention to operate in an open and transparent manner in that all papers and minutes are published on the BCSHIF website. The Professional Development Board is grateful for the support of the BCSHIF in providing a budget to support the meetings of the Board in terms of venues and administrative support.

Andrew Haw works for the University Hospital Birmingham NHS Foundation Trust. He is also chair of ASSIST. E-mail: andrew.haw@uhb.nhs.uk

Core Stakeholders in the Professional Development Board

Conference report

Prof*IT*

By Pam Hughes MCBS CITP, ASSIST national council secretary

BCS hosted a one-day conference, Prof*IT* 2006, in London on 8 May, in conjunction with the National Computer Centre (NCC), Intellect and e-skills UK, which have joined forces with BCS in a three-year Professionalism of IT programme.

The conference programme included speakers who provided an interesting mix of their views and actions in support of the drive towards IT professionalism for the individual, the supplier, the government and the international perspective.

The result of the alliance is a series of programmes of work led by each of the partners. BCS will publish its plan this year, following a phase of scoping and creation of relevant governance arrangements with partners and suppliers.

Its work will focus on professional development and qualifications. Intellect, representing supply side, has launched a consultation to consider Organizational Professionalism. ASSIST National Council will take part in this consultation.

NCC has scheduled a series of special interest groups and meetings to discuss matters of professionalism, so looking at the demand side, and best practice.

And e-skills UK is beginning a qualifications strategy consultation, its focus being on standards, learning and development strategy.

Actions undertaken through these programmes and this alliance will impact greatly on health informatics staff in the public sector.

To find out more visit:

www.bcs.org.uk/events/profIT
www.cio.gov.uk/itprofession
www.e-skills.com
www.isprofessionalism.org.uk

Adoption of NPfIT
lessons learnt by UHBNFT

The University Hospital Birmingham NHS Foundation Trust was an early adopter of the National Programme for IT (NPfIT) in a teaching hospital trust. Andrew Haw, director of ICT at the trust and chair of ASSIST, describes some aspects of the implementation project, paying particular regard to reusable lessons for others.

University Hospital Birmingham NHS Foundation Trust (UHBNFT) is a large acute teaching hospital trust with 6,600 staff, in the North West Midlands Cluster. The Cluster covers a population of over 12 million and 149 organizations. It was the first large acute trust to take NPfIT services, and converted to the Local Service Provider (LSP)'s reference solution for Patient Administration System (PAS) in January 2006. The LSP is CSCA and the project began in April 2004.

One of the key aspects of any systems implementation is how well the business and clinical processes and the new software fit together. UHB was expecting to, and did take advantage of, the new software to change processes and to force better adherence to good practice in patient management.

Sharing trainers made sense

One of the other interesting developments has been trusts and PCTs working together in local health economies. Using a common model to calculate implementation effort, the five South Birmingham trusts were able to show that their collective implementation plans fit together in such a way that total collective IT training resource was constant over a three-year period. In other words, it made sense to share trainers. A South Birmingham IT Training Agency was created, with a budgeted headcount of 16 trainers. This has worked well as planned.

The NHS has to find enough trainers who can become product experts in their own right. The recruitment of trainers and the availability of training rooms was a logistical hurdle. The Trust and Agency had to take 14 trainers through extensive product training, nine of which had to be recruited from outside

the Trust. A separate building had to be leased and furnished for training. The effort required to construct end user training schedules should not be underestimated and communication with all line managers is imperative if the training is to be a success.

It may have been thought that any trust PAS could be easily replaced without too much effort, once the product was sufficiently standardized. At UHBNFT however no fewer than 36 clinical information systems were interfaced to the old PAS and a number of interfaces were bi-directional. Not

> **'No fewer than 36 clinical information systems were interfaced to the old PAS'**

only was a new interface engine required to handle this but all interfaces had to be re-written and thoroughly tested before go live. Some 12,000 messages are now received daily from the CSCA Data Centre.

Data migration

One of the debates in the Trust was the value of historical data. When paper health records files are kept for 10 years after the patient has last been seen, it is important to provide a route to those notes should the patient return. However, the effort involved in finding NHS numbers and in tracking down suspected duplicate registrations needs to be justified.

The Trust's analysis showed that there was an age of data beyond which the benefits of retention begin to be swamped by the cost of loading aged data, together with the reference data that was current at the time that the operational data were created. Accordingly the Master Patient Index of all patients attending in the last 10 years was converted in entirety, whereas only 3.75 years worth of activity data was converted.

The Go Live period

The trust commissioned its external auditors, KMPG, to perform a project readiness review report and this was part of the go live decision.

The legacy IRC PAS was put into

view only mode at 6pm on Thursday 26 January and the data extracts commenced. All users had been made aware of a simple downtime data capture system, linked to a home written 'mini PAS' application on the Intranet, which provided the means of capturing inpatient activity data over the expected 84 hours of downtime.

Over the weekend a total of seven checkpoint meetings were held with trust executive directors, mostly by conference calls. Early on Sunday morning the system was prepared for operational use and the Spine access was switched on.

From Sunday morning the control centre was established so that PAS Support, EPR Team, IT trainers and CSCA could be co-located. CSCA support resources ('Early Life Support') were also placed on the IT service desk to pick up on calls that need escalation to CSCA.

From 8am Sunday the team began validating the data in the application and in the general extracts, which the Trust requires on a daily basis to construct our own information reports. From noon the team began capturing all of the data from clinics and wards from the period from Thursday night to Sunday afternoon, and entering these into the system.

At 4pm we had obtained good results against the data migration tolerances that were set in advance. Only follow up outpatient appointments (610 rejected out of 71,964 expected) were above the data quality thresholds agreed by the project board. The configuration of the clinics concerned was fixed during the day and the appointments resubmitted to cure this problem. This was confirmed with

executives at the 6pm checkpoint, which effectively confirmed the safety of going live at 7am the following morning.

The go live effort was a genuine team effort with CSCA, the project team, health informatics and the data take on team all working together effectively.

Operations in first two weeks

For near user support, we had requested additional product specialists from CSCA to supplement our own trainers and IT Agency trainers in wards, clinics and secretarial offices. Collectively these were known as floor walkers, and up to 34 were deployed in red t-shirts between 8am and 2am in operational areas (the majority from 8am to 5pm).

The floor walkers were in radio control with the control centre. The training manager could direct floor walkers to users with urgent problems as the calls were received on the IT service desk. LanDesk was used by all staff in the Control centre to control a user's screen and mouse while the user was on the phone to provide the relevant help and support.

On the first day, there were no application issues, just a few oddities in the way our data had migrated. We had 150 Lorenzo and PAS related service desk calls compared with normally 50 (see below), and no increase in PC related calls.

Calls about smart cards and locked cards were lower than expected. Pleasingly 34 of 36 interfaces to departmental systems were working by the end of the day.

Some issues have arisen due to the way in which IRC PAS was used.

It was not uncommon to see 'To Come In' transactions that were quite aged with no outcome recorded (no attendance, no DNA and no new offer of a TCI).

Due to the fact that UHB shared, and continues to share an MPI with another local trust, there were some special measures to handle the migration of data because the trusts have patients in common. This is the first time two acute trusts have shared an MPI and some compromises had to made to load all the data: there are 80,000 patients in common. The issue arises when a patient has two MPI records, one of which does not have an NHS number; there are 17,000 of these.

Support calls

For the first four days, total service desk calls were 42-58% above normal. From day 7, this had fallen to 7-8% above normal. The table below summarizes the first eight working days.

A relatively low proportion of these calls were transferred to the national service desk.

In conclusion, the implementation went as well as it could do, considering:
- The way in which IRC PAS allowed users to use it in the past, and the condition of the data migrated.
- The changes in processes that users have to come to terms with.
- That we are the first acute trust to tackle interfacing and batch printing in the volumes currently experienced, and to share an MPI with another.

The system is also demonstrably far better at policing adherence to best practice and detecting when a user, clinic, or speciality has deviated from good practice.
andrew.haw@uhb.nhs.uk

Summary of the first eight working days

	Mon	Tues	Wed	Thur	Fri	Mon	Tues	Wed
Total incidents logged on SD	353	343	310	312	231	291	257	234
Percentage above normal	58	44	42	56	36	30	8	7
Total PAS and Lorenzo incidents	65	124	102	116	63	85	75	69
Percentage of calls to tape	60	61	44	21	25	17	20	20

Data information knowledge chain

Denise Lievesley
IC chief executive

The Information Centre holds data that is as diverse as the people who use NHS and social care services. It has millions of facts and figures with the power to provide insight into health and social care management and to support decision making.

'Transforming data into information that is valued and used is fundamental to delivering better health and care services for patients,' said Professor Denise Lievesley, chief executive of the Information Centre (IC).

Making this information accessible to a wide range of audiences is both a passion and priority for The IC, a young organization created in April 2005 from the former NHS Information Authority and the statistics directorate of the Department of Health.

Employing around 300 people, based in Leeds with a small liaison office in London, The IC is committed to ensuring that information is relevant for professionals and managers to enable them to deliver quality care efficiently.

Professor Denise Lievesley explains: 'Data is a generally undervalued asset in the health and care communities. Our aim is to change that by providing sound information, gathered efficiently, to provide the evidence-base for health and social care policies. We aim to transform both the flows of information and attitudes about how information can be used intelligently for decision making that promotes quality, efficiency and equity.'

In its first 18 months it has established relationships with key stakeholders in the NHS, social care, the Department of Health and regulatory bodies to understand their information needs.

Early achievements include the publication of the Quality Outcomes Framework information, which is critical for the remuneration of GPs, and a ground-breaking agreement with Ordnance Survey to promote and support the use of computerized mapping across the NHS.

The IC works very closely with Connecting for Health especially in relation to the Secondary Uses Services in order to ensure that the information collected will be available for as many purposes as possible consistent with the protection of confidentiality.

> **'Dr Foster heralds a new approach to information management in the NHS'**

Working to support the Healthcare Commission, the IC has also delivered clinical audits for cancer, diabetes and heart disease providing information to improve performance and drive up the quality of care. For example, key findings from the Diabetes Audit suggested one in four people of the two million with diabetes in the England are currently undiagnosed.

The IC is responsible for developing the methodology for healthcare resource groups which are the building blocks for many of the healthcare systems including payment by results.

The management and analysis of Hospital Episode Statistics – the data warehouse for hospital activity – has been passed to The IC by the Department of Health. Annually The IC publishes about 120 statistical reports containing information across a wide range of areas including births and family planning, sickness and health, NHS work and pay, prevention and screening, lifestyle, social care, dentistry, prescriptions and pharmacy.

The IC has an increasingly important role to play in establishing the framework for the provision of national comparative data, supporting practice-based commissioning, advising on data quality and encouraging and stimulating the development of a dynamic market for information services.

An example of The IC's innovative approach is its recent 50:50 public-private agreement to form Dr Foster Intelligence, a new approach to information management in the NHS.

Denise commented: 'Health and social care are constantly changing to improve services and increase efficiency. In turn we need to ensure the way information is collected and delivered meets the demands of the changing environment. Our partnership with Dr Foster Intelligence is just one example of this.'

'As an organization we will be taking the lead to make information more accessible, reduce the burden of data collection on the front line and strengthen the capacity for informed decision making.'

Group unites interactive care specialists

The Interactive Care Specialist Group is the most recently formed in BCS health informatics but, in less than a year's existence, it has a membership of over 150 and meeting attendances of over 30 members. The group's chairman Keith Clough explains what interactive care is and the group's aims.

The Interactive Care Specialist Group aims to have an evening meeting in London every other month, together with occasional site visits and joint meetings with other groups.

What is interactive care?

Interactive care covers a wide range of applications, including those covered by the terms telemedicine and telecare.
- They can be used to support monitoring, diagnosis, treatment, rehabilitation, terminal care and clinical research.
- Most involve a separation in time and/or place between the provider and the recipient.
- Many enable a redesign of how and where healthcare can be delivered to the benefit of the patients and clinicians and for care pathways to be streamlined.

Some examples of the interactive diagnostic and treatment applications are:
- Video conferencing: mobile design technology meetings in cancer treatment, teleneurology, etc;
- Store and forward referrals, such as teledermatology;
- Minor injury units supported by video links to A&E departments;
- Remote monitoring of vital signs;
- Expert systems and NHS Direct;
- Diagnostic applications including pathology, radiology and PACS;
- A variety of support applications for those with a long term condition such as diabetes.

Increasingly, technology is also being used in a preventative role to reduce or postpone the need for healthcare and allow citizens to maintain their independence at home for longer, or regain it sooner. Examples of home care and self monitoring include:
- Home monitoring devices;
- Alarm call systems and intelligent houses;
- Post treatment support by video link or telephone.

Some of these are likely to be integrated with the provision of social care.

It is intended that the group will:
- be concerned with the interactive application of ICT and related technologies in the delivery of health (and related social) care;
- focus on the application of the technologies rather than on the technologies themselves;
- improve the communication of the good news about successful applications of interactive care;
- provide a forum to present and discuss specific applications, run multi-disciplinary workshops and arrange site visits for demonstrations of successful applications and good practice;
- be inclusive and attract many healthcare professionals who have a limited (or no specific) interest in ICT as well as involved clinicians and health informatics professionals.

The next evening meeting of the group in London will be on 12 October. An on-site visit is planned for 13 September. The Group is currently planning a debate in December, a one-day conference in London and a joint meeting with the Northern HISG in Manchester in February.

The best source for more information about the group's activities is the website at: **www.hiicsg.bcs.org**

London maps out its implementation route

Staff need to know how to use new products so that they meet business requirements, according to Kevin Jarrold, the regional implementation director of CfH London Cluster. The speech he gave to London and South East Specialist Group is below, preceded by a piece by the group's president.

President's foreword

By Mark Buckley-Sharp CEng FBCS, recently retired as consultant chemical pathologist to University College London Hospitals.

When I was at school, we spent a lot of time writing précis. This involved summarizing a long piece into something which, while brief, retained as much as possible of the original meaning. We did a lot of other things like grammar and parsing, which still have relevance in formal computer languages, but précis comes to mind when considering Connecting for Health (CfH).

'CfH'. What a tiny tag to encapsulate all our hopes. A ten-year programme reduced to an acronym. Like Shakespeare fitting Henry V's exploits into 'this wooden O'. But, is it an adequate précis alone?

Do we all know and share in both the strategy and detail of CfH? On the one hand, it is suggested that more front-line staff (not just clinicians, please) should have been on board with the plans at procurement. On the other hand, how many people does it take to make a strategy which can survive scrutiny. (The answer to that question is about 30).

It is surely right that the NHS is dragged up to the IT standards of even the most backward of today's consumer-facing organizations. This will

take some time: whether more or less than 10 years is hardly important. But that is a timescale which we know will encompass huge change in IT capability, and we must adjust the programme as we go.

Over such a long period, there will also be big changes in understanding, as we learn what IT can really do for healthcare. We must be prepared for a spiral of invention, discard and invention again. No single bound. Taking it in steps is the only way to create and expand the user knowledge base, which in turn will truly enmesh IT with working practice.

So, CfH faces huge issues. It is already fairly clear that NPfIT didn't procure many useful end products – only some large-scale commitments from suppliers with deep pockets. CfH now has to act as broker between suppliers who must develop and deliver (or be replaced), and NHS organizations who must be persuaded that those products are really a feasible progress worth the risk of change.

The National Audit Office has recently reported on NPfIT. If you have only read the press comments, then I suggest you look at the full report, if only to accept that the press has an ongoing anti-NPfIT bias.

All of which tells us that CfH can hardly be a static project. It can have no fixed aim if only we can agree. It must, has and will be a continually evolving programme, with targets and timescales adjusted, as required, so as

to get to the strategic end point: if possible within time and budget.

In that light, the group was extremely pleased to be able to host a presentation on 20 July by Kevin Jarrold. In a previous role, Kevin was director of information at University College London Hospitals, from where he visited the group to talk about the implementation of IDX-CareCast.

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Meeting report

Kevin Jarrold is the regional implementation director of CfH London Cluster. With the recent replacement of sectoral SHAs, he is also interim chief information officer of the London SHA.

London has a population of 8 million, an NHS staff of 150,000, and 74 NHS organizations ranging through acute, primary, mental health and ambulance trusts.

London Cluster has already achieved a number of IT implementations. Over 1,500 GPs are enabled for Choose & Book, and there have been installations of PACS (acute) and of Vision (GP).

The strategic compass of London Cluster is: to recognize the vision of the whole programme; to develop that into a route map for implementation; and to

engage the end users so that the implementations are agreed, accepted, and really used. That raises a number of more detailed issues.

Delivery of products is clearly important. But equally it is clearly not enough. For products to be deployed effectively, there must be good preparation. Pre-deployment work must be thorough and users need early visibility of proposals.

Implementation of CareCast at QMSidcup involved quite significant changes in the product right up to the implementation date. This is not early visibility, and it does not allow an organization to design new procedures to use the product effectively, let alone train staff in those new procedures.

Staff don't just need to use the product, they need to know how to use it for the organization's business requirements. That is key to planning and realizing the benefits on which the whole programme is based.

Early visibility and the ability to plan benefits amount to giving the accepting organization and end users a governance control on their part of the project, which is not dissimilar to what would be done if the organization procured the product contractually in the first place. That places CfH as an intermediary enabling and requiring users and their plans to be matched to suppliers and their plans.

A condensed history so far shows:
- ■ Dec-03: NPfIT lets London contract to BT with IDX.
- ■ Mar-04: NPfIT lets Southern contract to Fujitsu with IDX.
- ■ Jun-05: Southern contract changed to replace IDX with Cerner.
- ■ Oct-05: London agrees interim products such as RiO for community and mental health.
- ■ Jul-06: London expecting a new BT route map to implementation.

The new route map will recognize a need to speed up acute implementations, and to resolve uncertainties such as the GP solution (given the choice agreement), and any longer term use of RiO. There is also a return to the discussion as to whether users will work directly into a single London database, or whether sharing data on demand is either more feasible or more desirable.

The use of an interim solution has been pragmatic, and has brought

forward IT benefits to users. The GP system choice agreement may mean that existing suppliers are retained for longer. The goal might still be reached by ratcheting up the standard requirements and allowing any supplier to match those changes.

There are some 'must have' and 'do not lose' aims. The products must: support the clinical process; be safe for that purpose; and be patient centred. Also keep in mind that health and social care must be joined up effectively.

There is a balance to be struck between urgent need – whether that is to meet the programme aims or gaps in a user organization – and due diligence to maintain organizations as going concerns. Advance has to be feasible. Part of the new route map will be a set of work streams which include scheduling detail and an assurance overview.

Also ongoing is a refresh of the strategy around NHS organizational changes, NHS financial flow changes, and policy developments such as Patient Choice. The current work between London CfH and BT is expected to lead to a formal change control notice, which will therefore reposition the programme contractually.

On 1 July, the London sectoral SHAs were replaced by a single London SHA. Besides avoiding a lot of duplication, it brings London CfH into a 1:1 relationship with the SHA. The SHA can take more ownership of London CfH, of the health strategy for the whole of London, and London CfH is tied to NHS operational governance. Clearly the SHA will have an IT structure, and London CfH will have a project structure mapped to its SHA and to its LSP supplier (BT).

The London CfH project structure overall will slice the work several ways.

The lifecycle slice deals with individual implementation projects. The geographical slice balances the workload by area. The product slice maintains in-depth expertise to support all users. Looking forwards this should improve confidence both on the NHS side and the LSP side, enabling them to plan and deliver more effectively.

There are always risks. Expressing those risks is meant to be a way of managing them and not resigning oneself to them happening. The LSP may not deliver suitable products. NHS organizations and/or their users may not engage, or may be unable to engage, with the CfH programme. Benefits may not be realized.

But there are opportunities. The CCN2 review will give a new baseline to the programme. London CfH can work with a single SHA. The strategy for London can be refreshed. Business transformation – what the IT programme is really about – should become more robust.

Discussion time

Following Kevin's presentation, there was considerable discussion which it is not possible to fully summarize here.

One point worth noting was the need for a much greater standardization on the implementation processes so that there can be some degree of replication efficiency. Data migration was cited as a major headache in many projects. There are also deep complexities in the interfaces between numerous local systems, which threaten operational viability as systems are changed. Kevin reiterated the point that the local organization should have a governance role in any implementation as similar to maybe to a direct procurement.

Digital tagging
Improving patient safety

The NHS National Programme for IT (NPfIT) may provide core IT systems, but it cannot make staff use them. As long as computers and care processes remain separate, NHS staff will see recording care as secondary to providing care, said Colin Jervis of Kinetic Consulting in a presentation to the London and South East Specialist Group about the benefits of RFID.

The five rights of patient care are often given as right patient, right drug, right dose, right route and right time. By further integrating the digital and healthcare worlds, radio frequency identification (RFID), which allows tagged objects to be wirelessly identified at a distance, offers a way to maintain those five rights, improving patient safety.

The National Patient Safety Agency (NPSA) estimates that treatment errors occur in about 900,000 of the annual 8 million admissions to UK hospitals. The cost to the NHS in terms of extra bed days is about £2 billion a year. The NPSA also estimates that many treatment errors are caused by incorrect patient identification.

Birmingham Heartlands Hospital's ENT Department is using RFID and Wi-Fi tags to reduce errors in medical procedures. Patients are tagged on arrival and their digital photograph added to an electronic record. The photograph allows the clinical team to confirm they have the right patient, and the electronic record ensures they perform the right procedure.

Meanwhile, the pharmaceutical industry is testing RFID in managing supply chains and preventing the distribution of illegal and counterfeit drugs. The World Health Organization estimates that 10 per cent of drugs are counterfeit.

Tracking

A combination of active and passive tags could allow staff, assets, patients, consumables – in fact, almost anything – to be tracked.

High street retailers using passive RFID tags to manage supply chains claim cost reductions of about 5 per cent of sales. Similarly, better management of stocks on wards and in departments like theatres and A&E could save the NHS millions of pounds a year.

Real-time asset tracking of medical equipment such as oximeters, IV pumps, ECG machines and wheelchairs could also result in large savings by making them easy to find, so reducing the overall number of units needed. For this, active tags, which have their own power source, are particularly useful. Peter Whaites of Xtag, an active tag RFID system using building sensors, told me: 'The building is looking for active tags all of the time, while with passive tags you have to walk close to an electronic trip wire to wake the tag up.'

Alerting and triggering

Tags on objects and people entering a RFID reader's field can set off an alert or automatically initiate other events or processes.

For example, tags on pharmaceuticals that uniquely identify a drug and its dose could in theory combine with electronic prescribing and administration – part of NPfIT's Care Records Service – to prevent medication errors and reduce adverse drug interactions. Furthermore, the same tags could automatically trigger the ordering of a special diet or a series

of blood tests appropriate to a particular drug regime.

Georgetown University Hospital (GUH) in Washington DC is using RFID to check and verify blood transfusions: 'Bar-code identification solutions are very valuable to institutions like GUH,' said Dr S. Gerald Sandler, director of Transfusion Medicine. 'However, RFID technology offers the promise of improving the efficiency and reliability of conventional double checks for matching blood transfusions with the correct patient.'

Recording and managing interventions

A combination of tagged people and objects offers many opportunities for innovation. For example, Nice University is using RFID in its 'Meals at Home' pilot. The deliveryman reads tags on the meal tray and on the patient's card with a PDA reader to confirm delivery of the right meal. If the patient seems unwell, the delivery-man can also record that information and an SMS message is then sent to the patient's doctor and relatives when the PDA data is uploaded.

MBBS, an RFID solution provider, has developed a passive RFID tag for metal instruments that could be used to associate them with specific patients and procedures. Such information could be used for audit and infection control and may be particularly valuable in the fight to control MRSA.

Furthermore, if the price of passive tags continues to fall, manufacturers may tag all goods, enabling comprehensive care pathways to be automatically monitored. Drugs, equipment, and interventions could be recorded wirelessly at the patient's bedside.

Sensing

Manufacturers are already extending RFID by attaching sensors to tags, enabling changes in pressure, temperature, humidity and mechanical stress to be monitored. In the US, Auburn University's Detection and Food Safety Centre is developing a tag that can even detect bacterial growth.

Such non-invasive monitoring could, for example, warn orthopaedic surgeons that a hip or knee prosthesis is about to
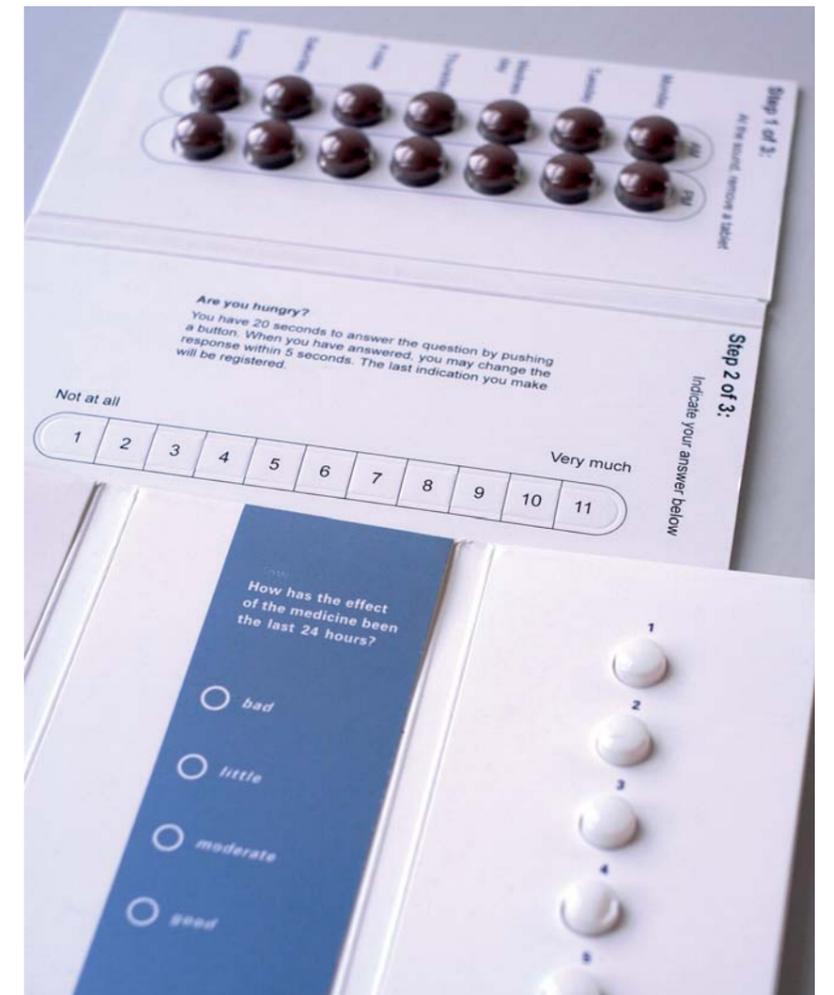
fail or reassure clinicians that reagents and drugs have been properly stored.

Cypak in Sweden is taking sensing even further to create what Stina Ehrensvärd, one of the company's founding directors, calls 'intelligent RFID'. Using conductive ink, RFID is combined with a microprocessor, memory and a sensor and incorporated into pharmaceutical packaging. This enables events, such as the opening of a blister pack by a patient, to be recorded for later analysis.

Originally intended for use in clinical trials, Cypak now sees its packaging as having a wider application, for example in monitoring self medication. Non-compliance in older people administration – perhaps caused by forgetfulness – is a particular problem that leads to unnecessary interventions and hospital admissions.

RFID has the potential to reduce errors, automate administration and produce a comprehensive record of care. It is already developing and may

eventually evolve into one of a spectrum of wireless techniques that could further integrate computers and care.

Enthusiasts of the technology think there is no reason to hang back. Dr Carol D Daniel, who helped to set up the RFID Centre in Bracknell, said: 'The National Patient Safety Agency has identified a 10 per cent mismatch between required and delivered treatment to patients. In the private sector, such an error rate would never be tolerated or in fact be commercially viable. However, I have seen little evidence that the NHS recognizes and takes seriously enough the importance of AutoID and RFID.'

Colin Jervis, director of healthcare at Kinetic Consulting Ltd, has 20 years healthcare experience as a supplier and consumer and has led three NHS electronic patient record programmes. He writes a healthcare technology blog, Future Health IT, and is a committee member of this Specialist Group.

Cypak Intelligent Pharmaceutical Packaging Cypak. © Cypak AB

Group news

The London and South Specialist Group committee met on 20 July and heard that it remains 'solvent' and its membership is growing slowly. Members can only join electronically so that email announcements can be sent to all.

The committee agreed to support this new HIF newsletter. This may become the main route for publishing the group's meeting reports.

Attention was given to the forward programme – see page 30 of this newsletter for forthcoming events.

Words from the chair
Richard Hayward

A definite high point for the Nursing Specialist Group was when several members attended Nursing Informatics 2006 in Seoul, South Korea. This attendance would not have been possible without some financial support from BCSHIF for which we are extremely grateful.

The conference, held every three years, was attended by delegates from all corners of the globe and much use was made of networking opportunities. It seems as though we share many similar problems, so maybe similar solutions will work. A full report appears opposite.

The conference also marked the end of Heather Strachan's term as Chair of IMIA –NI. She performed this role in an exemplary fashion.

I would recommend attending the next conference in Helsinki, Finland in 2009.

The Nursing SG and RCN Inform group recently joined forces in responding to the National Audit Office report into NHS Connecting for Health. The key message for any large-scale implementation of technology is that users must be involved from the start. A full report is on p24 , and a letter was published in *The Times* on 27 June.

This was a joint nursing response from me as chair of NSG and Dame June Clark as chair of the RCN Inform group. It is hoped that this will be the start of closer relationship with the RCN.

A copy of the letter can be found at: **www.timesonline.co.uk/ article/0,,592244112,00.html**

If you would like to include anything in the nursing section of this newsletter, please contact me at: rjh7@canterbury.ac.uk

Conference report: NI2006

Technology as a driver for change

Several members of the Nursing Specialist Group attended the 9th International Congress on Nursing Informatics (NI2006): 'Consumer-Centered, Computer-Supported Care for Healthy People'. They produced two reports on the event.

U-Korea: Ubiquitous Computing and Healthcare

This major triennial nursing informatics conference took place in Seoul, Korea between 9-14 June. It was attended by a total of 712 participants from 34 countries, including 14 from the UK.

The congress was boosted by local attendance from Korea, Japan and Taiwan. Indeed the Japanese Nursing Informatics Society held a one-day conference during the pre-conference tutorial days, which included sessions by Peter Murray and Graham Wright.

Of the small UK contingent many were involved in pre-conference tutorials and workshops, presenting papers, sitting on panels, running workshops, chairing sessions and judging student presentations in the main conference. There were 151 paper contributions, 138 poster presentations, 8 panels, 14 workshops and 18 demonstrations.

The International Medical Informatics Associations – Nursing Informatics (IMIA NI) meeting took place during the pre-conference days and the chair was passed from Heather Strachan of the UK to Robin Carr of New Zealand. The structure of the executive of IMIA NI also changed with the introduction of four new vice chairs.

The book 'Nursing and Informatics

for the 21st Century' was launched at a special event during the conference. It is edited by Charlotte Weaver, Connie White Delaney, Patrick Weber and Robin Carr. It has international contributors, several of whom are from the UK.

The opening ceremony was stunning with an inspiring speech on 'U-Korea: Ubiquitous Computing and Healthcare' and traditional Korean music and dance.

The parallel sessions included topics such as: organization impacts and changes; education for consumers and healthcare professionals; ethical, legal, financial and administrative issues; and nursing and health standards.

The 10th International Congress on Nursing Informatics in 2009 will be held in Helsinki, Finland.

Helen Betts and Graham Wright

Mind-numbing amount of papers on offer

The main congress at the conference followed two days of tutorials. The first keynote looked at ubiquitous computing and healthcare in South Korea – an impressive overview which gave us much food for thought during the welcome reception.

The next three days of the conference started at 8.30am in the morning with a keynote and finished at around 6pm in the evening – obviously the programme committee wanted to give as many of the nearly 400 submissions an opportunity to present at the congress. There were too many papers, workshops and panels for individual comment here – the full proceedings are available as a book or CD.

Although the title of the congress suggested a movement away from a hospital setting, a large proportion of the papers focused on in-patient care. There seemed to be limited acknowledgement of the dramatic change in healthcare and the increasing provision of care in the home.

The clinical practice papers tended towards a 70:30 split between secondary health care and primary or community-based healthcare. Education was well represented with many papers and workshops primarily on web-based learning. Of course nursing language and standards were well represented, although demonstrating slow movement from the last world congress in 2003.

The keynote speakers were a mixed bunch. Roy L Simpson for Cerner (USA) gave an impressive talk: 'Coherent Heterogeneity: Redefining Nursing in a Consumer-Smart World'. He used the notion of evolution to argue that in a consumer-centric world it was incumbent upon nurses to change or face the inevitable consequences. Interestingly he considered the driver for the change to be technology and he felt that technology could aid nursing towards a unified profession in a global market.

Professor Vimla L Patel from Columbia University, USA, gave a keynote on 'Cognition and Nursing: Knowing, Thinking and Doing'. This was an interesting paper that considered the different reasoning strategies used by clinical workers. The paper took the diagnostic process to highlight differences in clinical reasoning and decision making – it seemed to be based mainly within a medical domain, although the word 'nurse' was frequently mentioned.

This was a thought provoking paper but, given its highly technical nature, we were left wondering whether those receiving simultaneous translation would have been able to follow – our

heads were reeling and we had received it directly from the speaker.

The final keynote speaker was Professor Dame June Clark of the UK. She had stepped in at the last minute following the withdrawal of the original planned speaker. Although many of the key issues to face nursing today were considered, at times they were lost in the sheer range of topics covered during the delivery of the paper. It is never easy to prepare a presentation quickly – the rest of us had nearly a year to get ours in order.

During the congress there were special health-orientated visits built in, but sadly the majority of these were during the afternoon of our main workshop on 'Nursing, Information and Litigation', which resulted in seven delegates attending a session that was planned for 20. At least they each had personal attention.

Overall, I found the conference mind-numbing due to the sheer number of papers on offer, the differing quality of presentations and the difficulty always encountered when sessions run in parallel – the same being true of supermarket checkouts – I wish I had been in the other one. Also, with the parallel papers, where a presenter was not present, the subsequent papers tended to be moved forward, thus completely ruining any chance of

actually hearing the papers identified as being useful.

Nursing informatics is moving forward, though maybe not as fast as some would like. A lot of technology is now being used in a variety of forms, but it still seems to me to be mechanizing processes rather than using the true power of computer technology. It is always useful to immerse oneself every three years in the nursing informatics world, to meet old friends, to make new friends and to leave with some ambition to change the way in which one works based upon knowledge gained at such a congress.

More information can be found on the blog site, which was set up and is maintained by Peter Murray.
The address for access to the blog is: **www.differance-engine.net/ni2006blog**

Paula Procter

Report generates a mainly positive reaction

Below is a joint response to the National Audit Office report on The National Programme for IT in the NHS by the Nursing Specialist Group and the Royal College of Nursing.

Nurses broadly welcome the National Audit Office (NAO) report into The National Programme for IT (NPfIT) programme.

Richard Hayward, chair of BCS Health Informatics (Nursing) Specialist Group, said: 'It is important that we look to how to make the programme a success in the future rather than focus on the failings of the past. The need for clinical engagement and leadership is emphasized in the report. Since many nurses at present lack the skills necessary to engage with these developments, we welcome and support the importance that the report places on education and look to the NHS to ensure that all nurses have access to these opportunities.'

Dame June Clark, chair of the Royal College of Nursing (RCN) Information in Nursing Forum, said: 'Nurses are the largest single professional grouping in the NHS, and are key to the success of the programme. Lack of involvement in the specification and design of the systems will mean that the systems will fail to 'fit', much less support, nursing practice, and therefore risk being rejected by nurses. Moreover, since nursing is critical to patient outcomes, it is critical that the EHR contains appropriate nursing data; without it outcomes cannot be properly identified, or patient safety improved. What is needed now is a real commitment to involving nurses in the programme and major investment in education.'

The Nursing Specialist Group and the Royal College of Nursing IN Group

broadly welcome the National Audit Office Report published on 16 June 2006. It is acknowledged that the report is mostly retrospective, exploring the procurement phase and cannot explore the future value for money.

The report states: 'The main implementation phase of the programme and the realization of benefits are mainly a matter for the future and it will, therefore, be some

> **'Winning the support of staff is vital, and nurses are key to this as the largest single professional group.'**

time before it is possible to fully assess the value for money of the programme.'

The report praises NHS Connecting for Health for the speed of procurement and whilst this is acknowledged, it is questioned if clinical involvement was sacrificed in the achievement of this speed. The skills required for procurement are very different from those of implementation. Change management and redefining how healthcare is delivered will need to be

explored in detail to ensure that patient care is of the highest order. Financial constraints and cost savings must be secondary to improvements in the patient experience.

The report makes three key recommendations:

- Ensuring that the IT suppliers continue to deliver systems that meet the needs of the NHS, and to agreed timescales without further slippage.
- Ensuring that NHS organizations can, and do, fully play their part in implementing the programme's systems.
- Winning the support of NHS staff and the public in making the best use of the systems to improve services.

Suppliers will need to work closely with clinicians as well as NHS Connecting for Health to ensure that implementation is effective in supporting frontline staff. The role of the clinical leads is identified as a positive influence and it is suggested that this should be made a full-time post for nursing, given the importance of dissemination highlighted by the report.

Ensuring that NHS organizations fully play their part in implementing the programmes' systems is a key priority that must utilize nurses and their skills to ensure that clinically credible, safe and effective systems are introduced across the NHS.

There is an apparent perception that the programme is focused on the

provision of systems for acute hospital trusts, and indeed the implementation has been patchier in this sector. There has been a great deal of successful provision in the primary care sector, although access to this by community nurses in particular continues to be problematic.

Winning the support of staff is vital, and nurses are key to this as the largest single professional group in the NHS. Champions must be found to support the clinical leads in celebrating the successes of the programme.

It is too easy to find fault in a programme of this size and highlighting the benefits both to staff and patients in terms of improved outcomes must be a priority to ensure that there is support from clinical staff across the NHS and private sector. This must be reinforced by transparency in the timetable of roll out from NHS Connecting for Health.

The report highlights: 'The Department, NHS organizations and NHS Connecting for Health should put in place training and development programmes to strengthen capability, including project management and IT skills available to the wider NHS, and continuing its work with the Office of Government Commerce. The shortage of such skills is an immediate risk to the timely implementation of the Programme, and strengthening capacity in these areas will be a long-term asset for the NHS.'

In a time of difficult financial constraints, education and training tend to be low on the list of priorities. The emphasis placed on the need for continuing education is welcomed and supported wholeheartedly by both groups.

The Health Minister Lord Warner told the national local medical committees' conference that a taskforce would be set up to speed up the delivery of the National Care Records Service (NCRS) and improve clinical engagement. He said that the taskforce will be chaired by a layperson and involve a cross section of clinical representatives, including deputy chief medical officer Professor Martin Marshall, and will develop a 'detailed implementation plan' for speeding up delivery of the NCRS.

Lord Warner told the conference: 'I understand fully the concerns and

reservations some doctors have about electronic patient records. We will fully consult with all professional interests and patients on the nature of the summary record and the confidentiality safeguards. But now is the time for leadership in this area and by that I mean clinical leadership as well.'

It is imperative that this taskforce represents all interested parties: suppliers, clinical staff including nurses and the professions allied to medicine

as well as doctors, professional bodies and NHS Connecting for Health staff.

This is a great opportunity for improving the patient experience and revolutionizing the way that care is delivered in the 21st century. With transparency and a constructive dialogue between clinical staff and NHS Connecting for Health, the investment will be worthwhile.

Online encylopaedia is in need of redrafting

Could you help improve the coverage of the NHS and UK healthcare issues on Wikipedia? Rod Ward, the Nursing Specialist Group's webspinner, encourages you to have a go.

Wikipedia – **http://en.wikipedia.org/** – is an online encyclopaedia which any-one can edit. Currently its coverage of the NHS and UK healthcare issues is generally poor. A group of users have got together to create a 'NHS wikipro-ject' to try to improve this: **http://en.wikipedia.org/wiki/Wikipedia:WikiProject_National_Health_Service**

Examples of how you could help include adding information or pictures of a hospital you know or describing (in an encyclopaedic way) an organization that you are familiar with. The idea is to improve the quality of information available to everyone and, as Google ranks Wikipedia pages very highly, get that information to a wide audience.

Since its creation in 2001, Wikipedia has rapidly grown into the largest reference website on the internet, currently with over 1 million pages of information in the English version. The content is free, written collaboratively by people from all around the world.

Editing is usually high quality

Wikipedia uses a simple page layout to allow editors to concentrate on adding material rather than page design. It has robust version and re-version controls, which means that poor quality edits or vandalism can quickly and easily be reversed or brought up to an appropriate standard by other editors, so inexperienced editors cannot accidentally do permanent harm if they make a mistake in their editing. As there are many more editors intent upon good quality articles than any other kind, articles that are poorly edited are usually corrected rapidly.

Wikipedia's greatest strengths, weaknesses and differences arise because it is open to anyone, has a large contributor base, and articles are written by consensus according to editorial guidelines and policies. This means that it is less susceptible to retaining bias, is very hard for any group to censor, and is far more responsive to new information. It is also more easily vandalized or susceptible to unchecked information.

In three years the usage of Wikipedia has grown massively placing it in the top 20 accessed sites on the web, which, along with the number of incoming links from other web pages, means that it is rated highly in Google searches, and is more likely to be found by users looking for information on any given topic.

Because the articles are free to all and can be edited by anyone there are a lot of discussions about the quality of the material. There have been studies which suggest that Wikipedia is broadly as reliable as Encyclopaedia Britannica (Giles, 2005). However, this varies widely amongst the articles and topic areas. As with any source it should be

read with caution, but at least on Wikipedia you can do something about poor quality which is often not possible elsewhere.

All Wikipedia articles must be written from a neutral point of view, representing views fairly and without bias. Although this is not easy, you can learn to do it. If you let your biases show someone will fairly soon point it out to you (generally very politely), or edit whatever you have written to present a more balanced picture (Lipczynska, 2005).

It is also recommended practice to cite your sources with a designated referencing format, although this is not essential except in particular areas such as the Medical 'wikiproject' – **http://en.wikipedia.org/wiki/Wikipedia:WikiProject_Medicine** It is also considered good practice to link to other sources (books, websites and so on) which provide further reading about the topic, but blatant advertising is banned.

> **'wikis are increasingly being used in many organizations for collaborative drafting'**

Wikipedia contributions are voluntarily given under the GNU Free Documentation License, which applies the legal principle known as copyleft, a way of using the copyright process to prevent information being controlled by any one person, to ensure it remains freely accessible forever (GNU project, 2006). It also means that anyone can take anything you contribute to Wikipedia and use it themselves as long as they comply with rules about citing the source and making their work freely available.

If you are a novice user of Wikipedia, it's worth taking a look just to see what other people are writing about topics that are of interest to you,

whether it's organizations such as the BCS – **http://en.wikipedia.org/wiki/British_Computer_Society** – a page which probably needs some editing, your professional interests (for example current work), to improve the coverage of UK nursing **http://en.wikipedia.org/wiki/Nursing_%28United_Kingdom%29**, a hospital you know of, or the NPfIT – **http://en.wikipedia.org/wiki/NPfIT**.

Of course, you may want to visit articles on some other interest, hobby, sport, home town and so on – it is unlikely you will find a topic without an article.

If you spot errors or can add other useful and unbiased information click on the edit tab and have a go. The photographers among you can also upload photographs to illustrate the articles.

More experienced Wikipedians may like to get involved in projects to improve the quality of whole groups of pages or help in sorting categories or lists. Some users also dedicate themselves to anti-vandalism, attempting to rapidly revise spurious deleterious edits by others.

You will not get any monetary reward for your efforts. However, you will find a supportive group of people for whom collaboration is a way of working and, occasionally, grateful thanks from readers who have found your contributions useful.

It is also possible that having a good entry on Wikipedia will help organizations improve their profile and public perception.

The process of contributing to Wikipedia will also help individuals learn about the advantages and disadvantages of using wikis, which are increasingly being used in many organizations for collaborative drafting work.

Wikipedia will continue to grow and you can help to influence it. The readers of this newsletter are likely to be amongst the most IT-literate and informed and could make a really useful contribution, particularly in relation to the NHS wikiproject.

References

Giles, J. 2005. *Internet encyclopaedias go head to head.* Nature. Published online: 14 December 2005; Updated online: 22 December 2005 ; Updated online: 28 March 2006 doi:10.1038/438900a [Online] **www.nature.com/news/2005/051212/full/438900a.html**

GNU Project, 2006. *What is Copyleft?* [Online] **www.gnu.org/copyleft**

Lipczynska, S. 2005. *The role of Wikipedia in higher education.* SCONUL Focus 35 [Online] **www.sconul.ac.uk/pubs_stats/newsletter/35/8.rtf**

Further Information

The best way to find out more is to go to Wikipedia and then visit the help page: **http://en.wikipedia.org/wiki/Help:Contents**

It includes advice on:
- Getting started;
- Policies and guidelines;
- Browsing Wikipedia;
- Communication methods;
- Editing Wikipedia;
- The Wikipedia community;
- Links;
- Resources and lists;
- Images and media;
- Account settings and maintenance;
- Keeping track of changes;
- Technical information.

There is also a helpdesk: **http://en.wikipedia.org/wiki/Wikipedia:Help_desk** where you can ask questions and generally get a useful response fairly quickly.

Modelling should predict new systems' behaviour

The Northern Specialist Group ran a series of ten evening meetings during the 2005-2006 season. All were talks by experts in their area and all reached a high standard. As chair I (Tom Sharpe) have chosen this particular meeting, held on 11 April, for the newsletter because it provides an outstanding example of health informatics making a difference. The work gained the speaker the Healthcare IT Effectiveness Award 2005 for Best Use of IT in the Health Service. What follows is the speaker's own abstract followed by a digest of the meeting report.

Abstract: designing improved healthcare processes: discrete event simulation

Simon Dodds, consultant surgeon, Good Hope Hospital NHS Trust, Sutton Coldfield

'Every system delivers exactly the performance it is designed to deliver'[1] – so if an NHS system does not deliver the performance you want then you need to re-design it.

The problem is that NHS systems are very complex and redesign could easily result in worse performance. The well-known industrial design technique called discrete event simulation (DES) is the appropriate method for process modelling but simulation packages designed for factories are not directly applicable to healthcare, which is one reason why they have had little impact.

Simon Dodds, a consultant surgeon and trained software engineer, adapted the DES method to healthcare process simulation and created a new software tool called Care Pathway Simulator (CPS) that allows simple or complex healthcare systems to be modelled and their behaviour accurately predicted. With this new tool it was possible to run 'virtual experiments' for any number of proposed service improvement changes and determine which would give the greatest improvement in quality and performance.

The design methodology was successfully used to create custom outpatient clinic booking schedules that have increased capacity by 40 per cent, reduced waiting times for patients and improved the working environment for staff – a win-win-win solution.

The CPS designed outpatient booking template is still in use 18 months after it was introduced and is still delivering the predicted performance.

For the full story see:
www.simondodds.com

Talk by Simon Dodds

Simon Dodds is a consultant surgeon specializing in vascular surgery. Unusually, he took a degree in computer science within his medical training at Cambridge.

The talk that he gave to the Northern Specialist Group described part of his work in changing the way that a leg ulcer outpatients' clinic operates. He divided the talk into three sections (why, what, and how) and then took questions.

Why use simulation?

The goal is to achieve a win-win-win situation – for the doctor, the patient and the healthcare organization. One cannot experiment with the patients and kill them by mistake.

Patients want quality care without having to wait too long. Staff want satisfaction without stress. Managers want to achieve targets without tears. So for a win-win-win we want quality, motivation, and performance. We don't want mistakes, threats or waste.

We had a vision for outpatients. The interface between patients and the hospital was not working well, therefore we needed to change it. The question was: 'How would we like it to look?'

The answer was:
- Deliver all care in one visit (Q);
- Minimize waiting and maximize capacity (P);
- No late finishes and easy to implement (M).

This vision corresponds with the three elements of Lean Thinking [2] – Quality, Performance, and Motivation.

What could be done?

If every system delivers the performance it is designed to deliver, then if you want to change the performance of the system you have to redesign it.

We needed to improve the service to patients by doing everything in one visit.

We needed to give staff in primary and secondary care better access to data by creating an image-based shared electronic record.

We needed to make our clinics run better and reduce waiting times in spite of unpredictable mixtures of cases – it wasn't so obvious how to do this.

How to do it?

We didn't use the traditional PDSA (plan, do, see, act) approach to work out what to do – it's only good for making small incremental changes – but we did use many other standard techniques.

It's no good trying to over-simplify a problem like this. An all-too-common mistake is the so-called 'flaw of averages' [3] where you don't make enough allowance for variation. This often gives the wrong answer and is a reason for many planning failures in the NHS.

Discrete event simulation (DES) is really a bottleneck detector. Using the DES software and putting in a mixture of cases and data about resources etc, you can see where bottlenecks are. Each case goes through a number of steps, but only some of them 'add value'. For example, in an aneurysm only two steps add value: the consultant reading the notes and the consultant talking to the patient. Other cases are more complex.

One of the problems was to decide at which times a group of patients should be booked in to make the clinic as short as possible. The audience made several suggestions and the simulation was run to try them out. The results for the three main contenders were:
- Hard cases first: four hours;
- Easy cases first: five hours;
- Hard cases spaced out unevenly throughout clinic: three hours.

The third method gave the best result and is the one used in practice.

But you don't need a computer in the clinic – a paper template is used for clerks to book patients in by type.

Summary

Our vision is to move from the vicious circle of threats, error, and waste that predominates in the NHS now (purgatory) to a virtuous circle of motivation, quality, and performance (perfection). If there is a problem you need to do something new. Use brainstorming, prototyping, feasibility studies, simulation, piloting, and trial. Use the lessons of computer science to do design in stages. Identify 'low-hanging fruit' – it can lead to big improvements for little effort. Health informaticians have a major role to play in all of this.

Questions

Questions followed, including 'Did it help to be a medic?' to which the answer was 'Yes, but you can still introduce innovation if you first ask what is the problem'. The take-up has been slow amongst other clinics, but it follows the standard diffusion of innovation model. Finally, if you would like to read more, the book 'Three Wins: Service redesign through flow modelling' is available at: **www.kingshampress.com**

References

[1] Sir John Oldham: *Sic evenit ratio ut componitur – The small book about large system change.* Kingsham Press, Chichester 2004. ISBN: 1904235271.
[2] James P Womack et al: *The Machine That Changed the World: The Story of Lean Production.* Harper Business 1991. ISBN: 0060974176
[3] **www.analycorp.com/uncertainty/flawarticle.htm**

The full meeting report is available at: **www.bcs-nmsg.org.uk**

Full meeting report by Phil Paterson: phil.paterson@tiscali.co.uk
Digest by Tom Sharpe: tom.sharpe@manchester.ac.uk

Argyll and Clyde receives online cancer information

Quality information online on cancer and palliative care is in plentiful supply but it can be a challenge to find it quickly and easily. To help get round this problem, a directory of services and information has been set up for interested parties in the Argyll and Clyde area. It is led by project manager Praveena Oliphant, who explains what it is all about.

The new Cancer and Palliative Care Information Service (CAPCIS), which is funded by the Big Lottery, is intended to be a practical 'one-stop shop' cancer and palliative care information service for everyday use, offering high quality, up-to-date resources, and adopting robust evidence-based and knowledge management approaches.

Cancer and palliative care are currently undergoing enormous changes in the services and treatments available. A contributory factor is the fundamental change in the way in which information is exchanged through information technology, including the internet and the World Wide Web. The latter is increasingly becoming an important source of information for patients and carers and an indispensable tool for professionals caring for people with palliative care needs.

There are many quality online information resources on cancer and non cancer palliative care conditions, but locating these sources of information quickly and easily, assuring their quality and collating related information in one place, remains a big challenge for the average user of the web.

Internet search engines such as Google or Google Scholar can be very time-consuming and frustrating. Search engine results contain too much 'noise' in the form of irrelevant or low-quality material. Choosing suitable search terms is not straightforward, and once a list of hits is obtained, the user has to wade through them to separate the information.

Although this has been recognized as a problem for some time, nowhere does relevant, high quality, reliable information appear to be pulled together into one trustworthy source.

> '**Search engines contain too much noise in the form of irrelevant or low-quality material.**'

CAPCIS is an internet information gateway which aims to provide an organized, easily accessible and up-to-date directory of key services, service providers and appraised information on cancer and non cancer palliative care conditions.

The information will include patient information resources, benefits information, legal information and professional resources. The emphasis is on quality and an evidence-based approach.

CAPCIS will catalogue, organize and harness the web to the advantage of our users. Identification of potential subject overlap is important, to avoid unnecessary duplication of effort.

The main purpose of CAPCIS is to support Argyll and Clyde patients, relatives, informal carers, and healthcare professionals. The focus is on patients with cancer and other conditions needing palliative care services.

The services it provides are:

For patients, carers and the public

- Access to sources of reliable information about cancer, cancer prevention, screening, the availability of local services, and other aspects of cancer care.
- Access to sources of reliable information on non-cancer conditions where palliative care is required, including the availability of local services.
- Signposting about services available in local hospitals, hospices, nursing homes and other palliative care services.

For healthcare professionals

- Access to reliable health information.
- Convenient access to the best research evidence, clinical guidelines and decision support tools.
- Support for clinical governance and quality of care initiatives.

- Effective means of communication with colleagues.

For health authorities, policy makers, managers and others responsible for public health

- Support for local health improvement programmes.

The Cancer and Palliative Care Information Service is based at the Clinical Development Centre at Dykebar Hospital, Paisley. Praveena is supported in the core project team by patient information facilitator Pauline Cameron.

A small editorial team, which includes members from the palliative care network, clinicians and members of voluntary organizations, provides advice on major issues of policy, content and quality.

A wide-ranging stakeholders group has been established to ensure that the needs and views of all potential users are taken into account.

The stakeholders group includes representation from patient and carer support groups, representatives from patient organizations such as the MND Association, Huntington's Association, Alzheimer Scotland's and local hospice services.

www.scotshi.bcs.org.uk

Content building strategy

Individual web resources on specific topics are identified through systematic and regular searching of a core set of resources:

- Websites of professional bodies, cancer and non cancer information and support charities, and other organizations relevant to cancer and non cancer palliative conditions.
- Sources of evaluated patient information within the UK.
- Sources providing access to guidelines, pathways and policy documents.
- Sources for systematic reviews and quality-assured synopses of evidence.
- Internet resource guides, such as Health on the Net Foundation and Organizing Medical Networked Information (OMNI)s.
- Sources for news and events.

Internet search engines will also be used regularly to search for relevant resources, helped by meta-search tools such as Copernic.

Taxonomy for content indexing, organization and navigation

CAPCIS content is organized by topic and resource type (for example patient resources, professional resources, carer resources and young person resources) to facilitate retrieval by users.

Tagging of resources in CAPCIS has been as detailed as possible, with tagging to multiple topics when this will help retrieval by users. Resources are tagged to gender specific and age specific headings as well as to condition headings. Thus, for example, it is possible to click on the menu topic for female cancers and find all relevant resources and also click on cervical cancer and find all relevant resources. Resources are also tagged for 'speciality' when they are likely to be of interest to particular user group, such as patients, carers or professionals.

www.capcis.org.uk

Forthcoming events

September

London and South East Specialist Group
21 September. 5.30pm for 6pm.
Aspects of Robotics in Healthcare.
Presenters: Colin Jervis and Parvinderpal Sain.
Attendance free, but please notify
Barrie.Winnard@moorfields.nhs.uk five days in advance.
BCS, 5 Southampton Street, London, WC2E 7HA.
www.hilsesg.bcs.org/fevents.htm

ASSIST Yorkshire and Northern
29 September.
*Death, Destruction and the Civil Contingencies Act 2004:
How prepared are you for the next disaster?*
Contact: Carole Archer carole.archer@leedsth.nhs.uk
http://yorkshire.assist.org.uk/?tabid=917

October

Northern Specialist Group
11 October. 6.15pm for 7.00pm.
Things you didn't want to know about NPfIT.
Speaker: Phil Sissons.
Manchester Conference Centre, University of Manchester,
Sackville Street Campus, Manchester M1 3BB.
www.bcs-nmsg.org.uk

Interactive Care Specialist Group
12 October.
BCS, 5 Southampton Street, London.
www.hiicsg.bcs.org/events.htm

ASSIST North West Branch
19 October. 2.30pm.
Continuing Professional Development.
Warrington Hospital Postgraduate Centre.
http://northwest.assist.org.uk/events/events.htm

November

London and South East Specialist Group
15 November. 5.30 for 6pm.
Voice recognition.
Speaker: Mark Farrar from CfH.
BCS, 5 Southampton Street, WC2E 7HA.
www.hilsesg.bcs.org

December

Northern Specialist Group
14 December. 6.15 pm for 7pm.
Telecare – the need for smart devices and systems.
Manchester Conference Centre, University of Manchester,
Sackville Street Campus, Manchester, M1 3BB.
www.bcs-nmsg.org.uk

January 2007

Northern Specialist Group
11 January. 6.15 pm for 7pm.
The Eye and Diabetes.
Speaker: Dr Tim Morris.
University of Manchester, Sackville Street Campus,
Manchester, M1 3BB.
www.bcs-nmsg.org.uk

London and South East Specialist Group
18 January.
Informatics in the Independent healthcare sector.
www.hilsesg.bcs.org/fevents.htm

February

Northern Specialist Group
15 February. 6.15 pm for 7pm.
Delivering CfH PACS and ensuring benefits are realised.
Manchester Conference Centre, University of Manchester,
Sackville Street Campus, Manchester, M1 3BB.
www.bcs-nmsg.org.uk

March

BCS Health Informatics Forum
HC2007: 19-21 March 2007.
The most comprehensive health informatics event in Europe.
Harrogate, North Yorkshire.
www.health-informatics.org

Health Informatics (Northern) Specialist Group
22 March. 6.15 pm for 7pm.
Decision Support in Primary Care.
Manchester Conference Centre, University of Manchester,
Sackville Street Campus, Manchester, M1 3BB.
www.bcs-nmsg.org.uk.