Can the NHS get connected?

The recent review of information technology in the NHS has once again highlighted problems with England’s national programme, reports Michael Cross

Whatever the outcome of the next UK general election, which is due by June 2010, the basic model of the National Health Service seems secure. David Cameron, leader of the front running Conservative party, has pledged to maintain the principle of providing a service free at the point of care and to exempt the NHS from otherwise severe cuts in public spending.

However, political consensus does not extend to one high profile reform introduced under Labour—the £13bn (£15bn; $21bn) programme to computerise the NHS in England. The NHS National Programme for Information Technology (often referred to as Connecting for Health, after the agency set up to run it) has emerged as a symbol of what opponents describe as the government’s incompetence in procuring and developing information technology (IT) systems and cavalier attitude towards civil liberties. Fears are now growing, even among the programme’s critics, that populist short term measures may set back the NHS’s already delayed move towards computerising medical information.

In August the Conservative party pledged to “dismantle Labour’s centralised IT infrastructure” and cancel large supply contracts. Instead, it would allow NHS institutions to pick their own IT from “a catalogue of accredited systems.” The policy announcement followed the publication of a Conservative sponsored independent review of IT in health and social care carried out by an expert group chaired by Glyn Hayes, a general practitioner and president of the UK Council for Health Informatics Professionals.1 The year long review is one of the most authoritative investigations of the computerisation of health care in Britain to emerge in the past decade. It considered wider questions than the systems being installed in the English national programme (box), and some of its conclusions do not necessarily agree with Conservative policy.

The review’s central charge is that aiming for a politically driven utopia of universal, comprehensive electronic health records has prevented the English NHS from developing IT services of real benefit to patients. It points to “a centralist procurement strategy and the lack of clinical engagement” in IT. However, it concludes that the national programme should not be abandoned. “Rather, it must be adapted and recast to better meet the needs of patients.” Central to this change is a perception that health informatics must provide a way of organisng health and social care information around the needs of patients, rather than “as a tool to extract data from the NHS.”

The review is particularly critical of the distinctive “local service provider” contracts negotiated by the programme, under which a single contractor is responsible for upgrading systems across one of five geographical areas. “Many of our witnesses suggested that the presence of local service providers . . . was a key factor inhibiting delivery.” The review called for the contracts, worth around £1bn each, to be halted or renegotiated. Instead of having to accept standard technology procured under centrally negotiated contracts, trusts should be free to choose systems that meet local needs from a catalogue of accredited systems. This approach should encourage innovation, especially from smaller suppliers.

NHS Connecting for Health acknowledges that the process of installing electronic care record systems in acute hospitals under the local service provider contracts is badly behind schedule. Earlier this year, Christine Connelly, NHS director general for informatics, said she had set contractors a deadline for the end of November to achieve “significant progress” in acute hospitals. The agency would not say what will happen if the deadline is not met, but possible options include replacing one or both of the two main hospital software suppliers, BT and Computer Sciences Corporation.

On other elements of the programme, the review is more ambivalent than the Conservative party announcement implied. It comes out strongly in favour of the drive to install electronic picture archiving systems (PACS) for handling x rays and other clinical images: “An initiative that has greatly aided the work of clinicians by providing instant access to electronic images of x rays and other scans straight from the desktop.” It also supports electronic prescribing, which it says could improve patient safety and drive down costs. The review calls on the government to support professional bodies in the development of clinical record standards—the lack of which is a big obstacle to computerisation—and incorporate these standards into mainstream professional education.

Regarding the debate over the confidentiality of electronic health data, the review notes that the concept of a national database of health records “has caused extreme anxiety.” It concludes that irrespective of how well founded these fears are, a central database “is not required in a localised vision of NHS IT.” Rather, it says, the strategy should be to create localised electronic medical records at hospital and general practice level, with the ability to transfer data between them when necessary.

Access to data

The review also calls for patients to be engaged in the management of their electronic records. In a statement that attracted much media attention, it

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NHS national programme for IT*

- The programme, conceived in February 2002, envisaged an infrastructure of nationally available electronic health records across the NHS by about 2014
- Programme activities fall into two separate categories:
  - National infrastructure projects—These include the “spine,” a central resource of administrative and summary clinical data; the electronic prescribing service; and a system to operate the Choose and Book service
  - Local service projects—To implement the programme, the NHS in England was split into five geographical areas with a contractor appointed to develop and install standard systems for all NHS organisations within each area. There were initially four contractors: Accenture (East and Northeast regions), BT (London), Computer Sciences Corporation (Northwest), and Fujitsu (South). The contracts with Accenture and Fujitsu have since been terminated
- The National Audit Office estimates the total cost of the programme as £12.7bn

*IT policies in Wales and Scotland are the responsibility of devolved governments. Both are pursuing electronic records. Scotland’s programme is aimed at making a summary record available nationally; Wales aims to extend a full electronic record gradually through trusted communities of users. Both programmes are more modest in scale than in England and have attracted far less attention.
proposes that this could be achieved by adopting personal online health databases such as those launched by the software companies Google and Microsoft. It suggests that such products might be considered as replacements for the HealthSpace online personal health record being developed under the national programme and as an infrastructure product to link disparate electronic health record systems in the NHS. However, it notes: “It should be taken into account that these models may not always be immediately applicable to the NHS and may need extensive adaptation to benefit the provision of care in the UK.”

Connecting for Health says that it is already planning to give patients access to their records through the HealthSpace website but that the idea of patients transferring their entire medical records to Google or Microsoft is unrealistic. It says the proposal ignores the need for clinicians to access and update information and that relying on a patient being able in all situations to give passwords to get access to an external website “ignores problems which may have serious consequences for patient safety.”

Although the review admits that it was unable to assess the cost of the programme—“contracts have been withheld from the public and parliamentary domain due to commercial confidentiality clauses”—it claims that scaling back and localising procurement arrangements “does point to a more cost effective approach to NHS IT.” Savings would come from more competition between suppliers and reducing the size and scope of central administration. However, Connecting for Health says the review produces no evidence to support the assertion that this approach would be cheaper.

Despite the stated independence of the review, responses followed party lines. The Conservative party said the review’s conclusions are “consistent with our plans to free the NHS from Labour’s central control and interference so that it is locally accountable to patients.” It said that governments across the world are introducing IT systems that enable greater personal control of health records and invited views on the issues raised. The government, however, dismissed the review as “nothing new—we already know that quality health care can be delivered through the effective use of IT.”

Reaction among healthcare informatics experts was mainly favourable. Some, however, raised fears that “an incoming Conservative government might cull valuable projects as a political gesture.”

Ewan Davis, director of the health and social care consultancy Woodcote, warned against the temptation to “sweep away the national infrastructure.” Even in an environment of locally procured systems, he said that the NHS would still need a core data “spine” of the type created under the IT programme to handle patients’ demographic data, function as a service directory, and control secure access to systems. Delivering the Conservative vision requires the spine, he said, “and if we didn’t have it we would soon need to develop something very much like it.”

However, even without a Conservative government, it seems time is running out for the programme in its current form. If the significant progress expected by November fails to materialise, ministers may decide to neutralise the controversy by taking many of the critics’ points on board.

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See **PERSONAL VIEW**, p 809
A conference last month showed the universal nature of a safety culture, reports Oliver Ellis

It is not always immediately obvious what health professionals can learn about improving patient safety from the likes of sport, aerospace, banking, or the fight against apartheid. But the idea that health care has much to learn from other industries was the main thrust behind Risky Business, a conference held on 17-18 September hosted by Great Ormond Street Hospital for Children and supported in part by the BMJ. Speakers from all over the world gathered in London to tell how their organisations have improved safety and discuss what lessons medicine can learn.

One common ground between sport and health care is the use of effective communication to ensure that teams work well together. Brendan Venter, a general practitioner and director of rugby for Saracens, described how he implemented a change in the way players communicated. Peter Laussen, chief of cardiovascular intensive care at the Children’s Hospital of Boston, described several initiatives put in place at his hospital, including “closing the loop” and “situation, background, assessment and response” (SBAR). In essence, closing the loop is ensuring that your message is understood by getting the recipient to repeat the information given.

Adapted from procedures on nuclear submarines, SBAR is a framework to enable fast and comprehensive communication. “An example might be, an emergency room nurse calls you and says, ‘The situation is I have a 10 year old who was in a car crash,’” says Professor Laussen. “His blood pressure is X. Now he has abdominal pain, a low blood pressure, and a fast heart rate. The background is that he was unrestrained in the rear seat of the car, the assessment is that the patient has some abdominal injury, and my response is that I would like you to come and see the patient immediately.”

But there have been difficulties: “It’s a very effective way, particularly for junior faculty nursing staff and support staff, to express concerns to more senior staff. However, it has been difficult to adopt,” he said. “The expectation was that somebody could come up to you and say, ‘I’m going to give you an SBAR.’ Some people don’t respond to that.”

Be prepared
Good planning is important in any high risk procedure, including aerobatics. “You wouldn’t want last minute indecision about who’s going to go left and who’s going to go right,” said former Red Arrows pilot Simon Stevens. “So we make sure that’s all sorted out on the ground.” He added that that the Red Arrows rely heavily on briefing to ensure that everyone knows what they are doing: “Every show we go to we look at maps beforehand, and we brief what we’re going to do beforehand wholly on the ground before we do it in the air.”

Debriefing is also a priority for the Red Arrows—to learn from mistakes and encourage critical self analysis by pilots. “We’re trying to build on what we’ve learnt, and through that trip take it forwards to the next trip, to become better at what we do. Why do we do it? To correct mistakes in technique and knowledge, so we don’t get a little bit of what we call hearsay promoted throughout the team,” said Flight Lieutenant Stevens. He acknowledged that debriefing can be unpopular but said that with the right culture it is a positive learning experience. “I think some medical people look at debriefing as almost like criticism, but it’s to make somebody already very good even better. To join the Reds you have to have a certain amount of ability and flying hours, and we get good pilots. We’re just trying to make them better.”

Space shuttle launches are among the most complicated and risky procedures there are. Tom Henricks, four time shuttle astronaut, said that extensive briefings were essential. “Six hours before launch I and the other pilot had been briefed on the maintenance issues that were still open and unresolved; we launch typically with a handful of known problems with the vehicle. It’s got 2.5 million parts, so it’s got redundancy to compensate for some of those failures. We’ve also been briefed by the weather team on global weather, because we are concerned not only about the launch weather in Florida but about conditions where we may have to land in Europe or Africa. And then we’re suited up, the doctors give us a final medical check, and we’re taken out to that van, to the launch pad. And the final briefing is built into the countdown checklist.”

He said that checklists were an essential part of a briefing, to ensure people can see the big picture: “They’ll bring you through a process that avoids errors of omission and leads everyone to that place of confidence that preparation is complete. That means you need to be involved in the development of your checklists and during the improvement, because a snapshot in time is not going to produce the best product. You have to continually upgrade your checklist.”
But he cautions that checklists aren’t everything: “You have to have your mindset such that you’re not just a checklist follower because, just as in an operating environment, you never know what’s really going to challenge you that day,” he said. “A checklist can’t cover every eventuality but you have to have the confidence that you can deal with every eventuality.”

Checklists have been adopted in some areas of health care, especially pre-hospital medicine. The London Emergency Helicopter Service has recently implemented a checklist for rapid sequence induction of anaesthesia outside hospital. Clinical director, Gareth Davies, said that “It’s a high risk procedure in any environment, but particularly out in the streets, and many things can go wrong.” He acknowledged that having a checklist may seem like heresy to anaesthetists: “To have to read through exactly what you are going to have to do and what equipment is there, and check it before the event happens has been a difficult cultural issue for us because it challenges people’s professionalism—there is a perception that if you can’t do this you’re not professional, if you need this you’re not professional,” he said. “But actually in the context of the pre-hospital environment, where so many things go wrong, it really is important to make sure that the drip is actually working and that the Ambu [resuscitator] bag is indeed there.”

Aftercare
Despite best efforts, adverse events do occur. The conference participants heard from Adam Spink, an air traffic controller, and Peter Birkill, the pilot who last year landed a Boeing 777 safely at Heathrow airport despite it heading for a crash 25 seconds beforehand. Each received support from their employers after the event. Unfortunately, this isn’t always the case in medicine, although it is increasingly recognised that medical professionals also need care after an adverse incident, as the so-called second victims.

Jörg Leonhardt, head of human factors in the safety management division of German air traffic control services, spoke about the importance of caring for workers after a critical incident. His organisation has set out procedures for dealing with workers who are exposed to such events. He said, “Early intervention and early support is best. Brief—get in, listen and talk, and get out. Don’t talk about history, don’t talk about family, don’t talk about [how] it was when you were a child.” He also emphasised support should be from peers: “In our experience it’s not helpful to go to a psychologist outside the company, or to another professional outside the company,” he said. “This would be very, very irritating.”

But all too often people shy away from their mistakes. Claire Bowen spoke about the death of her daughter during a routine splenectomy for hereditary spherocytosis: “Blood stained surgeons, nurses, and the anaesthetist walked into a tiny hospital waiting room with no warning at all to tell us, ‘There’s been a problem; something awful has happened.’ I had to ask the question. They could not say it. ‘Is she dead?’

‘Yes, we cut through a blood vessel; she bled to death.’”

She said that she had to fight for every detail: “We continued to hit brick walls and an unrelenting denial from the hospital with no open release of information.” Finally, the family resorts to legal action to force the information into the open, and were awarded £10 000 (€11 000; $16 000) in damages.

Although there are moves to improve openness after mistakes happen, some hurdles remain to be overcome before full disclosure can be achieved. Many senior surgeons believe more transparency would be a good thing, but they are still cautious about specifics and what the medicolegal implications would be.

The need for good lines of communication between professionals, patients, and families was a recurring theme—together with good leadership from the top—with widespread agreement among delegates that improvements here would lead to better safety in health care. Gerald Hickson, director of the Vanderbilt Center for Patient and Professional Advocacy, underlined this: “We have thousands of individuals that enter the system each day, who will provide us great wisdom and insight if we are willing to listen and willing to act upon the stories that are shared,” he said. “The key is listening.”

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