Development of National strategies for integration of ICT into healthcare in England

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Summary
This article traces how the strategies for integrating Information and Communication Technologies (ICT) into healthcare in England have evolved over the last 20 years or so. Since 1992 the direction of travel for IM&T has been guided by the principle of person-based systems that enable the integration of care around the patient, with good quality information for management (primarily) as a by-product. This way forward has been reaffirmed by Government and NHS-wide developments in citizen and patient-centred policies. Until 2001/2 progress in the NHS was based on local IM&T implementations guided by national strategy, standards and infrastructure. But this approach was not delivering what the NHS needed. Since then a national programme to deliver IT services has begun to accelerate progress in achieving integrated care.

The 1990s
The early 1990s were a period in which the Zeitgeist of the market economy encouraged “a thousand flowers to bloom”. There were many suppliers of systems to general practitioners and hospitals. Many were “home grown” by enthusiasts. The 1992 strategy for NHS information systems gave a national lead in terms of policy, standards, guidelines, and disseminating good practice. But it was for managers, clinicians and IM&T staff locally to interpret and incorporate national policies into local strategies to maximize the opportunities from the central lead, and to make sound local procurement decisions which supported the strategy and complied with national standards. One verdict on this strategy was that “while it did deliver some important national infrastructure, it was over-concerned with management information, and failed to address the real needs of the NHS for information to help clinicians and managers deliver more effective healthcare and improved population health” [1].

The Information for Health strategy of 1998 was also a “national strategy for local implementation”. But it was accompanied by the announcement of a £1 billion investment programme. It also had widespread support from the clinical and management communities in the NHS. Delivery was predicated on the ability of health authorities to develop “local implementation strategies” that reflected local priorities so that they could achieve in their local information systems the vision set out in Information for Health. Although the strategy was funded with money to support local implementation, the funding went into local baseline budgets allocated to NHS organizations – albeit that it was “hypothesised” and then “ring fenced” for use on IT. In practice, however, the pressures of balancing the budgets and hitting other targets meant that in many NHS organizations the funds were spent on other priorities.

2000 to mid-2002
Until 2000 there was no framework for ICT across the public services in England. However, a strategic direction for the modernisation of public services was given in “e-Government: A strategic framework for public services in the Information Age” [2]. It proposed that the public sector must embrace new ways of citizen-centric thinking and new ways of doing business (e.g. using intermediaries). The intent is to give people information about and transactions with the services they want, when they wanted them and with the minimum cost and bureaucracy. And to do this the e-government interoperability framework of standards (such as e-gif) was established [3].

The strategic direction for the modernisation of the NHS, as set out in the NHS plan published in 2000, reflects the e-Gov-
ernment strategy. "Step by step over the next ten years the NHS must be redesigned to be patient-centred – to offer a personalised service" [4]. While the structure of the NHS evolves [5] shifting power closer to the "frontline", and national standards for care are established [6], citizens need to have more choice and knowledge about services available, performance criteria, health conditions and treatment options.

To support the delivery of the NHS plan, reflect the e-Government strategy and to update "Information for Health", in 2001 a document was published entitled "Building the Information Core: Implementing the NHS Plan" [7]. This described how the integration of health services, both internally and externally in the context of e-Government, would be supported by the development of a modern ICT infrastructure capable of supporting a wide range of applications, knowledge management, and electronic records.

During 2001, however, it was becoming clear that relying on "local implementation" to deliver the national health ICT strategy was not working. Many in the NHS were asking the Centre to take a stronger lead in delivery and arguing that whilst local ownership of solutions remained important, it was more important to have some robust national solutions in place which could be tailored locally. Particularly from a local perspective, the complexities of the IT procurement process were daunting, although the benefits of framework agreements in a national procurement strategy were acknowledged. Nevertheless, the NHS was clearly "punching below its weight" in getting value for money from IT procurements.

At the same time, however, the Government was beginning the process of "shifting the balance of power" and decentralizing control. So a shift towards more central control of IT was counter-culture. Nevertheless, the inability of the NHS to take a long-term view of the need to invest in IT – difficult when there is frequent structural change in organizations and a high turnover of managers – was clearly threatening delivery of IT, and thereby the modernisation of the NHS.

At the end of 2001, an important conference was held at which the then Secretary of State, the Rt. Hon Alan Milburn, and the NHS Chief Executive, Sir Nigel Crisp, affirmed the need for all to understand that Information and IT had to be part of the "mainstream" of modernisation. It was vital to invest in IT if the NHS is to become more patient-focused and patients receive integrated care [8]. In February 2002 a meeting with the Prime Minister secured that most vital ingredient in any corporate IT development namely support from the very top. The meeting endorsed the need for a dramatic increase in funding, a shift towards a centrally driven, standardized, performance-managed implementation.

In April 2002, a report by Derek Wanless for HM Treasury entitled "Securing our Future Health" was published. It confirmed that "national, integrated ICT systems across the health service can lay the basis for the delivery of significant quality improvements and cost savings over the next 20 years. Without a major advance in the effective use of ICT the health service will find it increasingly difficult to deliver the efficient, high quality service which the public demand. This is a major priority which will have a crucial impact on the health service over future years" (paragraph 6.22) [9]. Wanless too argued for significantly greater investment of resource in IT.

Mid-2002 to date

In May 2002, the policy document promised at the February meeting with the Prime Minister and entitled "Delivering 21st Century IT" was announced [10]. Additional central funding IT was announced in late 2002 – £400 million for 2003/04, £700 million in 2004/05 and £1.2 billion in 2005/06. This funding was additional to local investment, currently running at about £850 million a year from baseline allocations. In order to protect the central funding, stronger controls will be introduced for its allocation. A further indication of the seriousness and determination behind delivering this national agenda for NHS IT was the decision to appoint a Director General of IT. An individual with the necessary expertise, experience and drive could only be found in the private sector and the UK Government had to be prepared to extend its salary structure to secure the best person.
The Director General (Richard Granger) arrived in October 2002 and established the National Programme for IT (NPfIT).

The National Programme is focussed, in its first phase on four key deliverables: appointment booking, an integrated NHS care records service, prescribing and an underpinning IT infrastructure with sufficient connectivity and broadband capacity to support the critical national applications and local systems that will be richer and richer in subsequent phases.

The outcomes from this investment in the four key elements of NPfIT will be as follows: a summary patient record to assist out of hours and emergency care; improved patient-centred care through high quality integrated clinical systems for healthcare professionals. This will be available at the point of care and supply patient summaries, prescribing summaries, test and specialist referrals and results, digital images and assessment and care planning when and where required. Other systems will monitor admissions, lengths of stay and discharges to transform hospital bed management. Next, there will be improved choice and convenience for patients through electronic appointment booking and the electronic transfer of prescriptions. Electronic booking will reduce the waiting times for hospital appointments, the number of Did Not Attends and provide reassurance that care is progressing. The electronic transfer of prescriptions in the community will provide better value for money, improve patient safety and deliver the modern service that patients and the public expect.

An infrastructure will be established with key national applications to support automated, technology-assisted care that will in turn support more local services for instant access, day surgery or intermediate care. Additionally, there will be investment in a modern high capacity broadband network that will support all of the NHS’ messaging and electronic transfer requirements. And finally, the largest corporate e-mail and directory service in the world will provide NHS staff with rapid electronic communications and access to online information and services. This will accelerate the flow of information around the NHS and thereby assist in the improvement of patient care.

The procurement process for NHS IT has been transformed. The current National Programme is one of the world’s largest IT procurement programmes and has a challenging timetable for all parties to meet. Rapid procurement enables the speedy production of benefits to patients and has the added advantage of limiting the cost of bidding for suppliers. The process involved advertisement in the Official Journal of the European Community, the issuing of an Output Based Specification, evaluation of suppliers’ responses and negotiating contractual arrangements.

The National Programme will deliver an integrated service to the NHS through the recently completed appointment of local and national service providers. National applications include the data spine for the Integrated Care Records Service and the national electronic booking service and these will be delivered by National Application Service Providers (NASPs). There will be a single National Infrastructure Service Provider (NISP) which will be responsible for the provision of networking and supporting services for the NHS that will underpin the National Programme for IT.

For the local provision of IT systems and services, England has been divided into five geographic clusters, London, the South and the South East, the West Midlands and North West, the East Midlands and East of England and finally the North East, Yorkshire and Humber. A Local Service Provider (LSP) will have responsibility for delivering a full range of IT services in each of the clusters. They will ensure that national applications can be delivered locally to meet both national standards and local business needs.

A Design Authority has been established to define the business and technical architecture for IT applications and systems and also the standards needed to ensure that suppliers develop software and systems that are compatible and capable of sharing information. It will draw on NHS, UK e-Government, European and international IM&T standards as appropriate.
The Way Ahead

The delivery in the UK of broadband, digital TV and increasing use of mobile computing is likely to reinforce the existing direction of travel. This use of new media is focused on delivering an infrastructure that will allow citizens, patients, and those caring for them to make progressively better informed decisions at all stages of any care pathway (whether it is formalized as one or not), anywhere and at anytime. Building on the lessons learnt from local implementations from 1992 to 2002, the means of delivery is now shifting towards the "industrial strength" solutions needed to deliver integrated care to the required quality. But national installation of IT solutions needs NHS staff who are ready, willing and able to use it if the benefits are to be realized. Improving the management of information remains at least as great a challenge as delivering the necessary IT. And a way must be found of accelerating this agenda if the 21st century IT is to underpin the modernisation of the NHS as effectively as it could.

References

3 The most up to date, interoperability-related, listings are held on www.govtalk.gov.uk – current subsections include: Gateway, e-GiF, XML Schema, Metadata, GCL, and e-Services Framework.