



United Kingdom



Describe a successful or challenging e-health initiative your country has taken.

The National Programme for IT in England is one of the largest and most advanced e-health programmes in the world. The aim of the programme is to help the National Health Service (NHS) to deliver better and safer care to patients via new IT systems and services that link primary care general practitioners (GPs) and community services to hospitals. Key components of the programme are:

- ✦ *a new national network which connects all NHS organisations and provides a secure and reliable infrastructure for world-class networking services and sufficient broadband capacity to meet current and future needs*
- ✦ *a Care Records Service which is aiming to provide secure electronic access to up-to-date clinical records for every individual*
- ✦ *an Electronic Prescription Service which allows prescribers in primary care settings to generate and transmit electronic prescriptions which can then be received electronically by dispensers*
- ✦ *the Choose and Book electronic referrals system through which patients are able to book their hospital appointments electronically at a place, date and time which is convenient to them*
- ✦ *Picture Archiving and Communications Systems which allow X-rays and scanned images to be stored electronically and viewed simultaneously at multiple locations.*

The goal to provide a fully integrated IT infrastructure and systems for all NHS organisations in England by 2010 continues to present significant challenges. Some major elements of the programme are in place, but there is more to be done in certain areas.

What were the financial challenges and costs associated with implementation of this programme?

The National Programme for IT is a multi-billion programme of investment, spread over 10 years, in new systems and ways of working aimed at changing the way healthcare is delivered in the NHS.

The cost of the contracts over 10 years is £6.3 billion. However, the National Audit Office Value For Money Report in June 2006 estimated the overall cost to be £12.4 billion made up of a number of elements:

- ✦ *the cost of contracts with suppliers to deliver the new systems, including some new items added to the original scope*
- ✦ *the central costs of implementing the new systems*
- ✦ *the local costs of implementing the new systems within the NHS*

The key financial challenges are:

- ✦ *ensuring value for money in the use of public funds*
- ✦ *transfer of financial risk from the public to the private sector (suppliers are only paid on delivery of the systems/ services)*
- ✦ *maintaining year on year financial balance and ensuring that the overall cost envelope for the programme is achieved*
- ✦ *managing 'Scope creep', i.e. unbudgeted extension of the programme and its deliverables*

What have been the main technological challenges to implementing e-health in your country?

While the infrastructure is provided by the National Programme for IT, the realisation of benefits depends on the upgrading and integration of local systems with the infrastructure and deployments being managed by local NHS Trusts.

The main challenges faced by the programme continue to be:

- ✦ *the introduction of modern information technology and the business changes necessary to exploit it fully without impacting the safe delivery of care. The programme has set ambitious and challenging targets to deliver systems to provide defined benefits and believes it is better that there should be some delay to implementation of a system to get it right for patients and clinicians, rather than to deploy it rapidly and get it wrong. Also, significant focus is being placed on ensuring that local NHS organisations play a full part in implementing the programme to make best use of the programme's systems and to improve services, e.g. in deciding on the timing of deployment of new systems and ensuring that users are fully trained.*
- ✦ *the capacity and capability of suppliers of information technology systems to develop and implement the products and services required under the programme. To address this, the agency responsible for delivery of the National Programme (NHS Connecting for Health) has recently secured a range of framework contracts to supplement existing supply capacity and capability of IT products and services to the NHS. The frameworks will enable the streamlined procurement of IT systems and services from suppliers who have demonstrated experience in the health sector and can be used to support both National Programme for IT related work and wider IT related projects.*

Have any ethical issues been raised during the design and implementation of e-health programmes?

The main ethical issue concerning the National Programme for IT has related to the model of consent used in the design and implementation of the NHS Care Records Service (NHS CRS) Summary Care Record (SCR). The SCR is intended to be available throughout England to those who need to access it to deliver care and who have the necessary security permissions. Whilst the implementation of the NHS CRS and the SCR has received widespread support, there is a clear difference of views on the model of consent adopted for the Summary Care Record. This concerns the question of whether the creation of a SCR should require the patient's explicit consent, or whether, following a public information campaign, consent should be assumed and a SCR created unless the patient has made a specific decision that this should not happen. These two positions are often referred to as the opt-in and opt-out models and each has strong ethical arguments in its favour. The programme has consulted widely as part of a Ministerial led Taskforce and, based on this consultation, has adopted the opt-out model and is now, in the words of the Taskforce "making haste cautiously", proceeding with a public information programme in designated areas of England. This early adopter programme for Summary Care Records is being independently evaluated. The findings, which are due to be reported by Summer 2008, will determine the roll-out timetable for the rest of England.

The government takes the protection of patient confidentiality very seriously. Following the consultation with representatives of patient groups and clinicians, a care record guarantee has been made public, which sets out the terms and conditions that the government accepts as commitments to patients for the safeguarding of personal information. In terms of security, all systems and services delivered through the National Programme incorporate stringent security controls and safeguards to prevent unrestricted or uncontrolled access to personal information. The five separate levels of control are:

- ✦ *all users must prove evidence of their identity and residence to be registered for access to the national systems by means of a Smartcard*
- ✦ *access is only possible through possession of a Smartcard which, together with a passcode, confirms their identity and rights to access information*
- ✦ *role-based access ensures that staff are only able to access as much information as is needed for the purpose of their role within the healthcare team. For example, a receptionist will be able to see information about an appointment but will not have access to detailed clinical information*
- ✦ *the systems will not permit access to clinical information unless the user is registered within the system as a member of the team delivering care to the patient concerned, i.e. that the user has a "legitimate relationship" with the patient. General practitioners working as part of a team can establish a "workgroup" to confirm they have a "legitimate relationship"*

- ✦ a record (audit trail) is kept of all activity within the system and an alert is made if an apparent unauthorised access is attempted.

The work of the National Programme is also critical to improving patient safety and the quality of care provided by the NHS. In recognition of this, NHS Connecting for Health has appointed a Chief Clinical Officer responsible for ensuring that improving the quality and safety of patient care remains central to the work of the programme. Rigorous checks are also carried out to ensure that systems are fit for purpose before any new systems are deployed.

Has the implementation of e-health programmes required any legal or regulatory changes?

Only insofar as it has been necessary to put in place governance arrangements around the use of confidential patient information without consent, e.g. for non-clinical secondary purposes. Since 2001, this duty has been carried out by the Patient Information Advisory Group established under Section 61 of the Health and Social Care Act of 2000. The recently published Health & Social Care Bill sets out the government's plans to establish the National Information Governance Board as a statutory body and to transfer the functions of the Patient Information Advisory Group to it.

What have been the outcomes of your e-health initiatives?

The secure national network, the roll-out of new patient administration and clinical systems, and all of the other National Programme achievements are now supporting the NHS to provide faster, more convenient and more effective services. Examples include:

- ✦ **Choose and Book** is a national electronic referral service which gives patients a choice of place, date and time for their appointment in a hospital or clinic. Patients can choose their hospital or clinic and then book their appointment to see a specialist with a member of the practice team at the GP surgery, or at home by telephone or over the internet, at a time more convenient to them. By the end of 2007, over 6 million bookings had been made using the Choose and Book system, with a daily average of 20,000 bookings.
- ✦ the **Electronic Prescription Service** enables prescribers (i.e. GPs and practice nurses) to send prescriptions electronically to a pharmacy of the patient's choice. Over 1.5 million prescription messages are now transmitted each week between GP practices and pharmacies linked to the system (over 63 million messages transmitted since the service went live in February 2005). Sixty per cent of GP systems and pharmacy systems are now connected to the service.
- ✦ the **Picture Archiving and Communications Systems** enable images such as X-rays and scans to be stored electronically and viewed on screens. The systems are fully deployed in 127 acute hospitals in England, making X-rays on film (and missing X-rays) a thing of the past, and leading to much faster and improved diagnoses. Over 550 million digital images and 22 million studies have been stored since the systems went live in 2005
- ✦ **GP2GP** is a system which enables patients' electronic health records to be transferred directly and securely between GP practices, meaning that GPs will usually have full and detailed records available for them for a new patient's first consultation. Electronic transfers are more accurate and secure – and available in minutes rather than the current paper-based approach used by the majority of practices, which can take around six weeks to complete. Over 64,000 medical records have so far been transferred electronically using the GP2GP system
- ✦ **NHS Care Records Service** – over 153,000 patients' clinical records have been uploaded to form Summary Care Records which will be available to authorised healthcare professionals delivering patient care, principally in an urgent or unscheduled care environment. The Summary Care Record forms the national element of the NHS Care Records Service, which will hold an electronic record for every person in England (who does not object). This record will contain limited but important information such as a patient's known allergies, current medications and any adverse reactions to medicines.
- ✦ **New National Network (N3)** – over 21,000 secure broadband connections have been installed, including 11,000 in primary care locations