

Summary

Over the next ten years, health service in the United Kingdom will incorporate information systems to support the improvement of quality of service and overall care. This use of information and communications technologies (ICT) is “fundamental to the concept of integrated care, considering the needs of patients, rather than institutions, and introducing a ‘whole system’ approach.”¹

The UK’s National Programme for IT is already providing essential services to support patient care and the smooth operation of the National Health Service (NHS), without which it could not properly function. Installation of a modern, high-speed, secure infrastructure and national network has been completed ahead of schedule and supports millions of NHS business transactions daily. Key systems have been successfully deployed on time and are benefiting patient care. At the heart of the National Programme is the NHS Care Records Service, which will provide a lifelong, electronic personal health record for NHS patients in England.

¹ Sir Derek Wanless, “Securing Our Future Health: Taking a Long-Term View,” An Interim Report, HM Treasury, November 2001, http://www.hm-treasury.gov.uk/consultations_and_legislation/wanless/consult_wanless_interimrep.cfm.

HIT Adoption

Growth in volumes of activity on National Programme for IT systems is rising dramatically with the increase in functionality across the NHS Care Records Service (NHS CRS) and continuing roll out of the various elements of the system. The spine is already the world’s largest structured healthcare messaging system. The national Picture Archiving and Communications System (PACS) program will ensure that all acute trusts will have the technology in place by the end of 2007, with the south and London on target to achieve this by the end of March. By the end of 2007, every GP and community pharmacy in England will have access to the Electronic Prescription Service (EPS).

In the three years since NHS Connecting for Health contracts were awarded, over 15,000 instances of new IT deployments of all types have gone live. Progress includes the following:

- over 339,000 users registered for access to the NHS Care Record Services
- over three million Choose and Book Electronic Bookings since July 2004
- nearly 19,000 National Network (N3) secure broadband connections, including 9,637 GP locations (practices and branch surgeries)
- 193 million digital images stored using PACS live in 84 NHS sites
- nearly 16.5 million prescriptions transmitted using Electronic Transmission of Prescriptions (ETP) system since February 2005
- over 8,600 GP practices (more than 28,000 GPs) using the Quality Management Analysis System that pays GPs £600m based on quality outcomes daily
- over 241, 000 registered NHS secure e-mail users, many of whom use the system daily

Government Policy

21st Century IT—National Programme for IT¹

NHS Connecting for Health has awarded contracts worth a total of £6.2 billion to deliver the National Programme. The contracts—to run until 2013—have been awarded to local systems and services to:

- facilitate access and use of the NHS Care Records Service
- provide IT support at a local level
- provide essential infrastructure
- connect to existing systems in the NHS

The contracts underpin the delivery of the NHS Care Record and the Choose and Book Service (Electronic Booking). Suppliers are now working in partnership with the National Programme and the NHS to achieve a successful implementation. The Summary Care Record went live in early adopter sites in spring 2007. Development of the detailed care record continues. Core elements include:

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| <p>NHS Care Records Service</p> | <ul style="list-style-type: none"> • The NHS Care Records Service (NHS CRS) is being developed to provide a live, interactive NHS Care Record for every patient in England, accessible 24 hours a day, seven days a week, by authorized health and care professionals, in whichever NHS organization they work. When implemented, the NHS CRS will function across care settings and organizations, supporting planned and unscheduled care, giving individuals access to their health record. • The rollout of the NHS CRS across the NHS will be phased over several years with completion expected in 2010. |
| <p>Choose and Book (Electronic Booking Service)</p> | <p>Choose and Book enables patients to select hospital appointments from a choice of those available at a time, date, and place to suit them.</p> |
| <p>The NHS National Network (N3)</p> | <ul style="list-style-type: none"> • The network will allow more than 100,000 doctors, 380,000 nurses and 50,000 other health professionals to send and receive information, including voice and video, e-mails, medical information, and test results—in a secure manner. |
| <p>Picture Archiving and Communications System (PACS)</p> | <ul style="list-style-type: none"> • PACS captures, stores, distributes, and displays static or moving digital images such as electronic X-rays or scans, for more efficient diagnosis and treatment. • The images are available to all health professionals authorized to access them by reason of their role and their relationship with the patient, and subject to the patients' consent • PACS will enable centralized storage of images as well as full compatibility with the National Programme's other services and will provide 100% access to digital images in NHS organizations throughout England. |

¹ UK Department of Health, "The NHS Plan: A Plan for Investment, a Plan for Reform," July 2000, <http://www.dh.gov.uk/assetRoot/04/05/57/83/04055783.pdf>; and "The NHS Plan, A Summary," <http://www.dh.gov.uk/assetRoot/04/05/58/63/04055863.pdf>.

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| Electronic Transmission of Prescriptions | The ETP program delivers a service that will prescriptions generated by GPs (and other primary care prescribers) to be transferred electronically between prescriber, dispenser, and reimbursement agency. |
| Quality Management and Analysis System (QMAS) | QMAS is a single, national IT system, which gives GP practices and Primary Care Trusts objective evidence and feedback on the quality of care delivered to patients. |
| NHSMail | A secure national e-mail and directory service is provided free of charge for NHS staff in England and Scotland and has been developed specifically to meet professional requirements for clinical exchange between NHS organizations. |

Who Drives HIT Adoption?

The national HIT implementation framework in the UK is designed to encourage innovation and investment from the private sector, for example through initiatives like the Preventative Technology Grant that promote the use of telecare to enable older people to live independently and with dignity for longer.

Investment in HIT and the coordination of HIT implementation is led through national programmes such as the National Programme for IT and its equivalents in the devolved administrations. The underlying drive for the adoption of HIT in healthcare, however, comes from clinicians and hospitals concerned with the good clinical practice and the safe and effective delivery of healthcare.

Who Pays For HIT?

The Government funds the vast majority of HIT in the UK both via the Department of Health in England and the health departments of the devolved administrations in the remaining UK. The National Programme for IT is funded directly by the Department of Health. The NHS in England spends roughly \$2 billion on information management and technology. Individual hospitals also make significant individual investments in IT.

Challenges

Historically, the NHS has not developed IT as a strategic asset in delivering and managing healthcare. While effective, usually local, IT initiatives sponsored by enthusiastic visionaries have existed, they were outweighed by an overall lack of funding and priority given to IT at all levels. Good experiences were not captured, and successful implementations were not scaled from their local origins to NHS-wide application. A number of barriers to the effective use of IT as a strategic tool in the delivery of healthcare by the NHS existed, including the following:

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| Funding | IT funding has been a low priority for many Primary Care and Acute Trusts, leading to low levels of investment. |
| Standards | Data and system standards lacked a cohesive, nationally-led IT architecture to allow information and processes to follow the patient's journey through the NHS seamlessly. |
| Coordination of resources | Improved coordination of IT resources and procurements was needed to increase the pace of implementations and provide fast, better value for money IT projects. |
| Infrastructure and security | NHS staff has been limited by low levels of secure, high-bandwidth connectivity, backed by means authenticating users to access sensitive patient information. |

Healthcare Landscape

Expenditure

- Net expenditure in the NHS (England) is about 7% of GDP in 2006–2007. The largest portion of NHS spending is on Hospital and Community Health Services, discretionary Family Health Services (HCFHS), and related services.
- General government expenditure on health in 2003 (WHO): 85% of total health expenditure
- Private expenditure on health in 2003 (WHO): 14.3% of total health expenditure
- General government expenditure on health in 2003 (WHO): 15.8% of total government expenditure

Coverage

Healthcare is available free of charge at the point of need to all UK residents and is funded through national taxation. About 11% of the population is covered by private healthcare insurance, used predominantly as complementary to NHS healthcare (e.g., for cosmetic or non-urgent procedures).

The distinction between public and private healthcare provision is not always clear. Private hospitals can offer NHS treatment, and NHS hospitals can offer private treatment. Having private health insurance (or otherwise paying for private treatment) does not of course preclude patients from receiving NHS care, and it is quite possible for a patient to elect to pay for private treatment as part of a course of NHS care.

Infrastructure

- **Primary Care Trusts (PCTs).** About 150 PCTs cover all parts of England and report to their local Strategic Health Authority, buy and monitor health services, and support NHS organizations.
- **General Practitioners (GPs).** GPs attend to local community health and provide over 300 million consultations each year. Every UK citizen has a right to be registered with a local GP. Surgery visits are free.
- **Hospitals.** Acute Trusts manage hospitals to ensure efficient operations and the highest quality healthcare. Some Acute Trusts are regional or national centers for

more specialized care. Others are attached to universities and help to train health professionals. Acute Trusts can also provide services in the community, for example through health centers, clinics, or in people's homes. There are about 174 private hospitals in the UK, run by nine organizations, and just under 100 private units in NHS hospitals.