Health Informatics Review

Report

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Foreword by Professor Sir Bruce Keogh KBE

The Internet and its associated technology have changed our lives, expectations and aspirations. We rely on the transfer of secure information for the conduct of our daily lives – from purchasing travel tickets, managing our finances, and storing documents and photographs on the web. We also regularly use the web as a source of information, increasingly on health related topics.

There is a view that the transfer and sharing of information in the NHS has lagged behind other industries. The NHS treats around a million patients a day. Some simply require appointments, some may need a blood test or X-Ray, while others may require a series of complex investigations in different locations. Everyone would like the resultant information to be secure, but available to those who need it. Against this background there is a recognition that developing a coherent informatics infrastructure to address the issues of data transfer and security, between multiple organisations with a myriad of different systems in one of the world's largest organisations, was never going to be easy.
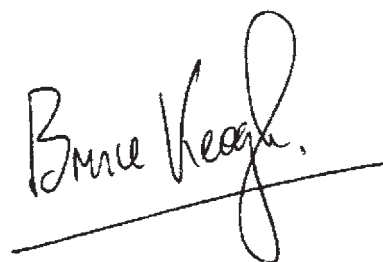
From a clinician's standpoint it is clear that we need an infrastructure that allows us to transfer patient-related information efficiently and securely, and helps us to assess our performance so that we can continue to improve; this is essential to the delivery of a high quality service.

In his NHS Next Stage Review report, Lord Darzi set out his vision of an NHS with a focus on quality as the organising principle of the NHS. Throughout his review, the requirement for information was a constant theme – information for those who are providing care, information for patients and the public to make choices about their care, information for clinicians and other care providers who wish to assess and improve their performance, and information for researchers, planners, managers and regulators to improve services. In meeting these needs maintaining the security of personal data is paramount.

For this Health Informatics Review we consulted widely, involving over 1,400 stakeholders, including patients, the public, clinicians and other health and social care professionals from every NHS region in England. Based on this consultation we have developed important themes for supporting the transformation of local and national services, endorsed in this report by all the SHA Chief Information Officers.

This Health Informatics Review report sets out a vision, supported by a number of key proposals, that describes how the coverage and quality of information can be enhanced to meet these needs and help transform health and social care and will be followed by a more detailed, technically based Health Informatics Review Implementation Report in the autumn 2008.

Professor Sir Bruce Keogh KBE
NHS Medical Director and interim Director General for Informatics
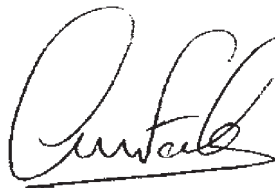
Endorsement by SHA Chief Information Officers

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Richard Caves – CIO NHS South West

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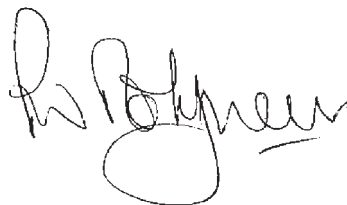
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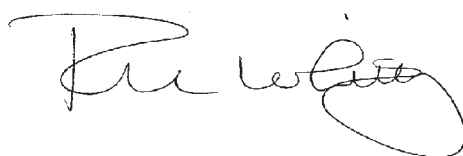
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1 Introduction

1.1 Background

1.1.1 The need for high quality information in the NHS and social care in England has never been greater. Patients can now choose where they want to be treated, across a mixture of services from the private, voluntary and social enterprise sectors as well as from the NHS. Foundation trusts have been created as independent, not for profit public benefit corporations, with accountability to their local communities rather than central government control. However, they are required to produce information for the purposes of quality assessment and local and national accountability. Decision making and commissioning have also been devolved to Primary Care Trusts (PCTs) and GPs. All of these groups need timely access to accurate and relevant information.

1.1.2 Patients want to understand the choices they can make, the treatments they are receiving, and be confident that the healthcare staff who see them have access to all the necessary and accurate information they need to provide care effectively and safely. Clinicians need reliable and relevant clinical information when they are treating a patient, regardless of where the patient was previously seen. The public expect that the people managing their healthcare use information to monitor and assure quality and to make decisions based on evidence and best practice.

1.1.3 The NHS Next Stage Review (DH, June 2008) highlighted the challenge of 'health in an age of information and connectivity' in which these rising expectations may be seen. These expectations are not met consistently across the NHS today. There is a great deal of data, but a lack of meaningful information and knowledge.

1.1.4 The NHS Next Stage Review report describes the need to ensure that people are able to access reliable information. Our recent investment in technology has created the opportunity to make a leap forward in information management for the NHS. Information is being collated and shared more and more effectively. We need to build on this progress to move forward.

1.2 Purpose of the review

1.2.1 The Health Informatics Review was therefore commissioned by the NHS Chief Executive and the Department of Health Permanent Secretary to:

> assess the supply of, and demand for, information across the NHS and social care, so that the data collected can be used to provide valuable and relevant information;

> make sure that, five years after the commissioning of the National Programme for IT, the framework for the NHS Care Records Service and the Secondary Uses Service (SUS) is in line with recent, current and potential future policy;

> make sure that the governance of informatics within the NHS and the Department of Health (DH) is clear and appropriate, and supported by the right management structure.

1.2.2 The term 'informatics' has been used to cover information, technology, processes, analytical tools and techniques, governance and the skills needed to use all of these to improve healthcare.

1.2.3 This review has been taking place alongside the NHS Next Stage Review (NSR) and reflects the informatics requirements of that review. Groups of staff, patients, carers and the public have been looking at clinical pathways and

new ways of providing care. There are needs to support access and choice, the involvement of patients and the public and to meet increasing expectations. These make this the appropriate time for a review of information requirements and how information is provided. The review is also timely because of the technological advances and the rise of the importance of information to society in general.

1.2.4 This document describes the stakeholder consultation that took place to inform the review (section 2). It describes how clinicians across the NHS are seeking to improve the quality of care (section 3) and it then considers the impact of this on the direction for health informatics (section 4). It describes what is needed to bring success (section 5), create confidence (section 6) and deliver solutions (section 7). It then outlines actions which build for the future (section 8), help with planning and ensure success (section 9).

1.2.5 Good informatics services are vital to delivering the health and social care services we hope for, and the only way of knowing how well we have delivered. By focusing on high quality informatics services, we will improve patient experience and enable NHS staff to make better use of information to improve the quality of care.

2 Listening to stakeholders

2.1 Consultation process

2.1.1 The NHS Next Stage Review has been driven by the NHS, with local groups creating, shaping and forming its conclusions. Similarly, the Health Informatics Review sought the views of a wide range of stakeholders including: patients and the public, NHS staff (including clinicians and managers) and national organisations including the voluntary sector. We engaged with over 1,400 stakeholders at national and local levels, including:

> over 1000 frontline NHS staff, through deliberative events organised by each Strategic Health Authority (SHA);

> patients and the public, through a deliberative event, online questionnaire and survey;

> a network of voluntary organisations and professional bodies, on one to one and collective bases;

> NHS management, through interviews and Management Board representation at specific discussion sessions and through existing networks; and

> SHA Chief Executive Officers and Chief Information Officers (CIOs), through briefings and existing regular forums.

2.1.2 The series of SHA events was organised as an integral part of each SHA's NHS Next Stage Review meetings with staff. The events were designed to explore expectations and hopes for how electronic patient information might be provided and used across a range of care pathways. The events addressed the following questions:

What patient information should be available electronically and how could this best be achieved?

What information do you need to help you assess and improve your own performance?

2.2 Consultation output

2.2.1 It was clear that, for the majority of people who attended these events, the availability of information was a critical issue for patient safety, quality of care, patient experience and improving services. A number of quotes from the staff and patient and public events are included later in this document.

2.2.2 We are publishing the outputs from the consultation events:

> 'Using patient information in the NHS: Findings from the public/patient deliberative event' and

> 'Using Electronic Patient Information in the NHS: Report from a series of staff engagement events'.

2.2.3 A number of challenges emerged from the consultation, reflecting eight key themes. These were then subjected to further analysis and activity from which the review team developed both interim and long term recommendations, using key stakeholders to test and validate these recommendations.

2.2.4 Table 1 identifies the themes and the section which addresses each theme.

Table 1: Themes from consultation activities

Theme	Addressed in
Owning the big picture, including strategy and future objectives	Section 4
Addressing potential future skills shortages	Section 5
Getting the most benefit from systems	Section 5
Increasing our trust in information and information management	Section 6
Delivering effective solutions and closing gaps in data coverage	Section 7.2
Improving access to information	Sections 7.3, 7.4
Overcoming fragmented governance and reporting arrangements	Section 8
Agreeing common standards	Section 8

3 Understanding the challenges ahead

3.1 Service reform

3.1.1 The interim report of the NHS Next Stage Review (DH, November 2007) outlined a number of the challenges and opportunities facing the NHS. It gave a vision of the NHS which is fair, personalised, effective and safe. In particular, the report highlighted the ambition of delivering services which are personalised to the needs of the individual patient, but are delivered to consistently high levels of quality. The Health Informatics Review took this vision and ambition as a basis for the Review.

3.1.2 Each Strategic Health Authority (SHA) has, over the past few months, been leading local service reviews. In this section, extracts from these plans illustrate key features of the plans. The plans highlight the need for patients to be actively involved in making choices about their care. The addition of new service providers is bringing an expanded range of care settings and different organisation types, including the private sector, within the reach of NHS patients.

3.1.3 The NHS Next Stage Review Final Report (DH, June 2008) has brought together the key messages of high quality care which is safe and effective and personal to each individual. There is an emphasis on addressing health inequalities and for greater involvement of patients and the public.

Improving Health: Ambitions for the South West

The quality and value the NHS offers to patients, service users and carers is not only measured by better health outcomes but increasingly is judged on the wider experience of patients as healthcare "consumers". This means delivering services which are not only convenient, safe and effective, but which address personal dignity and respect at all levels, including working together to care for the wellbeing of local communities and safeguarding limited world resources

Healthcare for London: Consulting the Capital

People want better safety for specialist care, with treatment from world-class clinicians. Patients with long-term conditions, such as diabetes and asthma, would like their care to be closer to home. There was resounding support for access to GP appointments in the evenings and at weekends

North West: Healthier Horizons

We believe the true potential for the long term transformation of health in the North West lies in creating an NHS that is driven by citizens who know that their views and decisions count and who are enabled to play their part in managing their own health and wellbeing

Towards the best, together: East of England

Six principles for progress:

> *A focus on prevention, health inequalities and timely interventions*

> *Services focussed on the needs of the individual and their carer*

> *Services localised as much as possible, but centralised where appropriate*

> *Services that are accessible and integrated, delivered by a flexible and skilled workforce*

> *Partnership with others, where possible with patients*

> *Outcomes that deliver measurable and meaningful improvement*

Healthy Ambitions: Yorkshire and the Humber

Putting Healthy Ambitions into action means the NHS will:

> *Help you to stay healthy and prevent illness*

> *Make sure local services are up to the highest clinical standards which will result in better outcomes if you are a patient*

> *Provide clear information for patients on where to get treatment and how to manage conditions*

> *Reduce trips to hospital and offer more care out of hospitals*

> *Make the most of new technology to treat patients faster and better*

> *Make sure we spend money well and make the very best use of our resources*

> *Make sure that NHS organisations work together better for you*

> *Explain what we do, why we do things and how we come to decisions*

> *Offer you better health and a better health service*

3.2 Information requirements

3.2.1 The NHS NSR Report highlights how the availability of patient information increases clinical benefit, both in providing care and in supporting audit and the development of outcome and effectiveness measures.

3.2.2 The NHS Operating Framework for 2008/09 describes how there needs to be '*sustained focus on information management and technology to underpin the reforms and deliver better, safer care*'. Informatics is increasingly important at local and national levels for accountability purposes.

3.2.3 Each of the SHA plans considers requirements for information. The following extracts reflect some of the information requirements arising from these local plans.

> ### South Central: Towards a Healthier Future
>
> *Ensuring that healthcare staff have easy access to relevant patient information is critical to delivery of high quality care.*

> ### North East: Our vision, Our future
>
> *Local Delivery Strategy for Information Management and Technology:*
>
> > *Patients' descriptions of their problems will be available to the clinicians they come into contact with …*
>
> > *Clinicians will have access to key patient information … in all critical situations*
>
> > *Clinicians will have access to basic prescribing decision support (dose, contraindications, formulary) for all prescribing decisions*
>
> > *Primary care clinicians will have access to pre-calculated risk scores for the most prevalent diseases … for all adult patients*
>
> > *Managers, clinical/care directors and commissioners will have routine and timely access to key management, operational and commissioning information*
>
> > *Practitioners will have access to key client information in all critical situations*

3.2.4 Changes arising from addressing the challenges and exploiting the opportunities are only achievable if patient information is available in an integrated way across all care settings. Some service reforms will be based around re-configuration. This means we must be able to support care across different care settings, and be flexible in identifying appropriate and convenient care settings.

3.3 Current progress on national services

3.3.1 During the consultation, stakeholders acknowledged the progress on national systems and services to date. Table 2 provides information on progress as at the end of June 2008.

3.3.2 However, there were concerns that the current requirements are not met effectively. Table 3 indicates some of the proposals about the provision of information for patients, the public and staff. The proposals for the future therefore need to address the concerns.

Table 2: National systems and services at end June 2008

Activity	Progress made
Providing IT infrastructure and broadband for the NHS	32,000 connections
A central email and directory service for the NHS	360,000 users
An individual electronic NHS Care Record for every patient in England	486,000 users registered for access to the Spine
Electronic booking service offering patients greater choice of hospital or clinic	8,652,000 bookings
To make prescribing and dispensing safer, easier and more convenient for patients	89,834,000 prescriptions
Capture, store, display and distribute static and moving digital medical images	640,764,000 images stored
To support commissioning through Payment by Results in the Secondary Uses Service	1,000,019,000 records stored

Table 3: Proposals for future provision of information

	From...	To...
Patients	> Patient records held on paper, hard for the patient to access or understand > Choice poorly understood and limited information available to support patients	> I have access to my record > I understand what is going to happen to me and my options > I can make informed choices to receive the best possible care > I can be involved in my own care > I can find out information about relevant research
Public	> Disparate sources of information to inform the public about health and wellbeing with little control of validity > Perception that NHS is not delivering value for money	> I know where to find trusted answers on health and wellness > I can see how my local health services are performing > I can see information about the quality of services provided
Staff	> Variable access to up to date, timely and accurate clinical information causing errors and cancellations > Management decisions often based on inaccurate operational and performance data, or no data at all > Few systems to provide staff with access to targeted information to help them do their jobs or personalised information on their development and learning	> Single source of patient and clinical information is available to staff at the point of care > Electronic records will reduce the burden, help to join up treatment along care pathways, and lead to improved patient care > Clinical performance indicators available for individuals, managers and organisations to improve patient care > Staff have access to relevant information and an employment, knowledge and learning support system

4 Setting the right direction

4.1 Integrating information

4.1.1 The information requirements that the consultation activities have highlighted show the need for integrated information to support patient and social care. This same information needs to be used for reporting purposes for both staff and patients. This reinforces the core objective for the NHS Care Records Service:

"to provide for each person a comprehensive electronic record for their health and care".

4.1.2 This implies that efforts to progress current informatics initiatives should continue, but with increased emphasis on:

> the role of patients and carers and the choices they make;

> the further development of integration across health and social care;

> the further development of information reporting facilities;

> work with other national bodies to provide the necessary supporting analysis capability.

4.1.3 Within the Health Informatics Review we have developed a high level model which describes the three main activities, illustrated in Figure 1.

Figure 1: Information to support high quality care
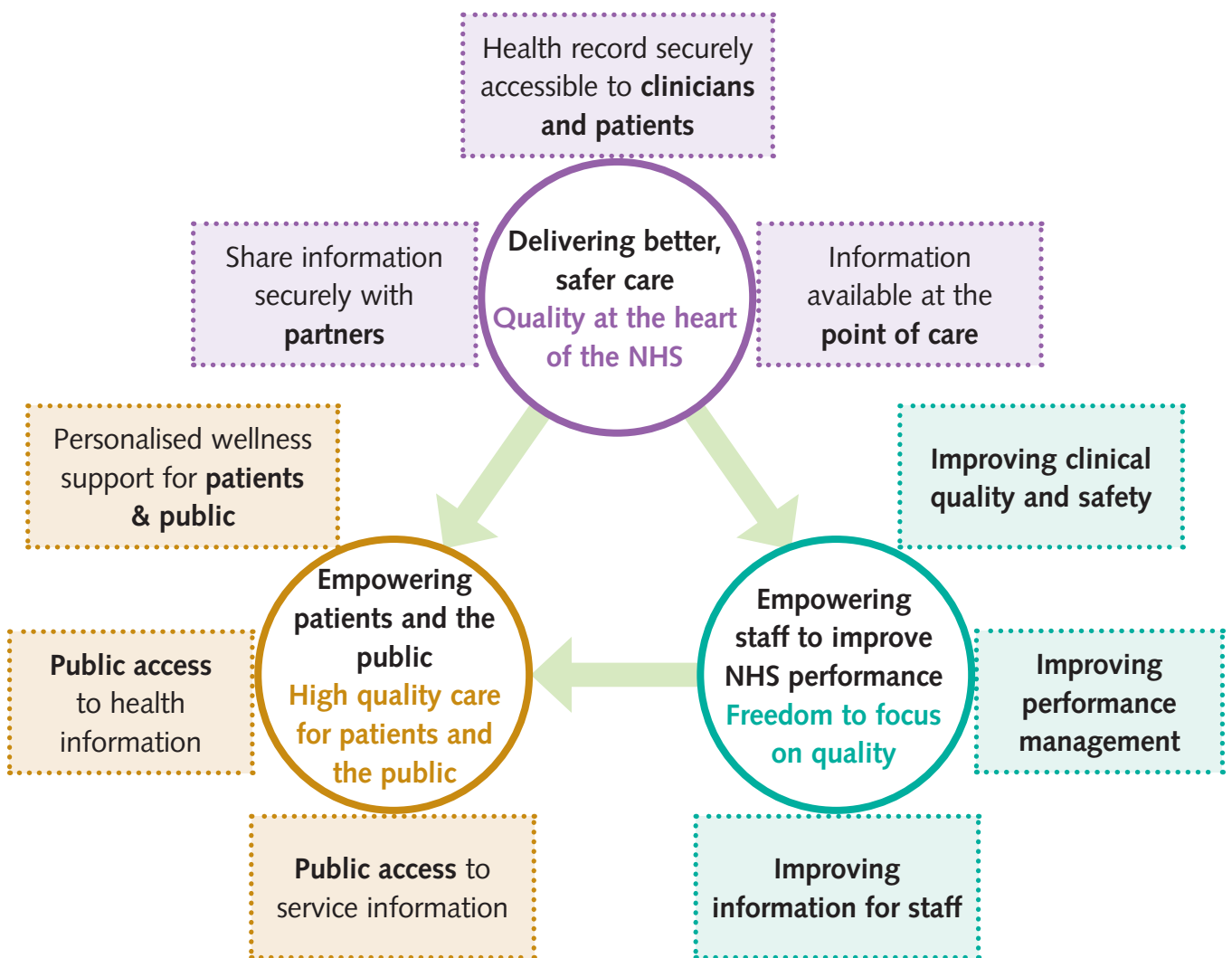
4.1.4 The key activities are:

> delivering better, safer care

– with information to support clinical and care processes,

– based around the person,

– with particular emphasis on sharing information across organisational boundaries, especially health and social care, including the independent and voluntary sectors;

> empowering staff to improve NHS performance

– through better research, planning and management,

– leading to assessment of quality and effectiveness of care,

– supporting regulatory activities;

> empowering patients, service users, carers and the public

– by making information about health, services, and patients' own conditions available (through NHS Choices),

– by enabling people to access their electronic records and to contribute to them (through HealthSpace),

– by ensuring patient and public representation on, and involvement in, appropriate boards and working groups,

– by enabling patients to exercise their rights in respect of the information held about them by service providers,

– providing an information collection point on which the DH, the Care Quality Commission (CQC), SHAs, PCTs etc can all draw, including for the purposes of accountability at both local and national level.

4.1.5 The rest of the report considers how to do this successfully by:

> developing capability;

> creating confidence, recognising the benefits of patient and public involvement;

> delivering the right solutions;

> building for the future, recognising that whilst care is increasingly carried out by many organisations, people expect well organised integrated services and informatics solutions must support this;

> planning and implementing the resulting programme with involvement from all stakeholders.

5 Achieving success

5.1 Preparing for success

5.1.1 Local plans for service improvement and reconfiguration depend on reliable and effective information systems and services. This section considers some of the actions necessary for:

> leadership from senior managers;

> developing informatics capability;

> sharing best practice on implementation;

> enabling supplier improvements.

5.2 Providing leadership

5.2.1 Achieving the benefits depends on local leadership and capability. The stakeholder engagement activities highlighted the importance of senior managers and clinicians providing leadership and ownership. Those organisations that have made most progress to date in using information effectively and in implementing successful IT systems are those where such leadership is in evidence and where the application of technology has been in support of NHS business and clinical priorities.

5.2.2 The NHS NSR has highlighted the need for leadership, and has announced the establishment of an NHS National

Leadership Council. The first phase of this informatics review has already led to the creation of the post of Chief Information Officer (CIO) for Health reporting to the NHS Chief Executive and sitting on the NHS Management Board. This appointment provides a clear message about the importance of the informatics agenda across health and social care.

5.2.3 The new CIO for Health will have formal responsibility for providing professional leadership to the key informatics organisations inside and outside the Department of Health. The CIO will also be responsible for information, governance and assurance. Strategic Health Authorities, PCTs and trusts will be encouraged to follow this model.

5.2.4 We need to continue to build on efforts to embed informatics within mainstream local planning and service delivery. We need to support NHS managers and clinical leaders in owning the informatics agenda. Informatics planning must have board level ownership and support.

5.3 Developing the capability

5.3.1 Informatics leadership is needed at a national level to address the skills shortage and to develop the profession and co-ordinate the existing expertise

to achieve the most impact. We need to develop effective professional leadership for informatics staff, to form a pool of professional informatics specialists and improve the informatics capability of the general and management workforce.

5.3.2 The framework in Figure 2 describes how this will be taken forward. This framework, mapped to the wider NHS careers framework, will guide the development of health staff from any professional group who wish to progress within informatics. The use of the term 'informatics' demonstrates the breadth of skills needed, including not just technical and programme management skills, but other important areas such as the development of information analytical skills required to support areas such as world-class commissioning, health needs analysis and service improvements.

5.3.3 The review has identified a general shortage of the skills required to plan and implement change programmes in all their stages, from effective integrated planning, through technical deployment, business change and on to benefits realisation. This shortage, of appropriately experienced change, programme and project managers, is present in both the NHS and the independent sector. Recent work to improve information governance processes following the high profile public sector data losses has also identified a shortage of staff with appropriate knowledge and skills in many parts of the service.

Figure 2: Initiatives to develop the informatics workforce

Career pathways and development	> Embed health informatics into the NHS Careers Framework > Clearly define standardised pathways with criteria for advancement > Provide skills and training modules linked to each career level > Create options for different paths to support different individual skills and aspirations
Workforce development and planning	> Encourage the development of a skilled talent pool with relevant qualifications through partnership with educational institutions > Strengthen long term planning of informatics workforce requirements, and expand recruitment sources > Confirm professional leadership arrangements
Attraction, motivation and retention	> Generate excitement around a rewarding informatics career in health and social care > Ensure recognition of success > Ensure management commitment to supporting informatics staff > Strengthen the competitive position of critical informatics roles relative to other career opportunities, in IT, information management and analysis > Local consideration of recruitment and retention premia, consistent with Agenda for Change > Attract and develop more individuals through the existing graduate/fast track scheme > Develop informatics apprenticeship and talent management schemes
Performance management	> Reinforce expectations and accountability for individual performance > Introduce strong performance feedback systems to promote personal growth > Develop mechanisms for providing assurance about informatics services, processes and people

Source: Team analysis; expert interviews

5.3.4 Stakeholders commented on the importance of training ready for using new processes and systems. In particular, training needs to happen with the version of the software that will be used. It needs to be timely (not too early or too late) and to address the relationship between the new system and the new ways of working. There are opportunities for greater central support for the local delivery of training, particularly in respect of eLearning tools and distance learning methods. We will explore the approach to accreditation of informatics courses and qualifications.

> "Staff need to know they are accountable for the information they record and realise the implications of that."
>
> "I also find electronic systems slower to use than paper because of a lack of training and because of the lack of support."

5.3.5 We will work to improve the skills of new staff coming into the NHS by working with clinical and non-clinical training bodies:

> We will seek to develop an informatics specialist curriculum for medical staff in training in partnership with the NHS medical director and the appropriate training bodies;

> we will also seek to work with Royal Colleges to incorporate information and IT training into the basic training for doctors, nurses and other clinical staff;

> we will develop standard packages for graduate and postgraduate management courses to enable higher education institutions to incorporate good quality health informatics information into their management and other general courses.

5.3.6 We will aim to improve the informatics skills of the existing workforce through:

> Investigating the development of a series of linked training schemes to ensure that staff from Ward Clerk, to Ward Sister, to middle manager, to Clinical Director, to Board Member have access to the appropriate training to allow them to fully utilise information and evidence to do their jobs;

> continuing to develop NHS Connecting for Health's existing eLearning toolset in order to enable staff to receive workplace-based training.

5.4 Sharing implementation experience

5.4.1 There is a general view from stakeholders that there should be a full review of the process involved in putting new systems and services in place, including its effectiveness and subsequent achievement of significant beneficial changes in working practices. Sharing experiences across the NHS and other agencies through a national implementation, benefits and business change support function should be available. This function's responsibility should be to identify sources of best practice and make the practical knowledge from those sources accessible

to others. This will reduce the risk to subsequent projects and will make sure that lessons are learnt and applied in a structured and systematic way. At a more local level, this can be further co-ordinated and supported by SHAs.

5.4.2 This knowledge sharing should be supported by technology. New approaches such as 'just-in-time' and context-dependent knowledge management can add significant value in creating and supporting an adaptable workforce. We should make technology supported guidance, lessons learnt from implementation and benefits realisation, along with informatics planning tools, widely available to the NHS to aid PCTs in local planning with their provider partners.

5.4.3 In order that Foundation trusts and non-NHS organisations can be committed to the planning and implementation processes, they will require either evidence of clear benefits to them, or a clear and explicit requirement to conform, either through commissioners or through regulatory frameworks. This will apply particularly to the implementation of relevant information standards.

5.5 Enabling supplier improvements

5.5.1 Supplier capability is very important for us to meet stakeholder expectations regarding the delivery of systems that are fit for purpose, installed on time and within budget. Delays have occurred, particularly in Local Service Provider (LSP)

projects, where the planned delivery dates for systems have not been met. We will continue to closely monitor supplier capability and performance and establish joint governance arrangements (where these do not already exist) with suppliers to monitor delivery against plans and to manage risks jointly.

5.5.2 From discussions with suppliers, it is clear that they can run into problems in deploying systems to the NHS for reasons outside their control. The NHS needs to deploy new or upgraded IT systems at the same time as continuing to provide care to patients. This can lead to changes in deployment dates, often at short notice, for a variety of valid clinical, safety and service management reasons. Progress monitoring should acknowledge the need to maintain NHS 'business as usual', and the inevitable knock on effect on the plans for other trusts, whose deployments may have to be re-scheduled.

5.5.3 Suppliers also commented on the extent of individual changes to software required by trusts in planning deployments. It is acknowledged that there will always be a need for some local changes and local configuration, and we will work with suppliers and local programmes to find practical ways to ensure timely implementation which balances specific local needs with the early delivery of patient benefits.

6 Creating confidence

6.1 Preparing the ground

6.1.1 The stakeholder engagement process highlighted a number of areas that need to be addressed for there to be increased confidence in the ability of informatics bodies to deliver the long term goals, in particular with the local care record (sometimes referred to as the detailed care record).

6.1.2 It is clear that confidence will be improved by putting in place all the recommendations arising from this Health Informatics Review. This section identifies other specific activities which are needed for engaging stakeholders, keeping patient information safe and secure, ensuring greater visibility of product plans, and publicising governance arrangements.

6.2 Engaging stakeholders

6.2.1 The stakeholder engagement approach, via workshops hosted by SHAs that tested the review findings, has proved effective in consulting with a wide range of NHS stakeholders across the country. We will continue this process of engagement during the implementation period.

6.3 Ensuring safe and secure patient information

6.3.1 The consultation highlighted concerns from both patients and staff about the confidentiality of personal information held within the NHS Care Records Service and the national reporting capability through the SUS. These concerns reflect a lack of effective communication and understanding of how this complex issue is being addressed and also the need for a balance between confidentiality and appropriately shared information that supports the integrated delivery of patient care.

6.3.2 Patients have the right to confidential services and appropriate respect for their privacy as signalled in the draft NHS Constitution published for consultation on 30 June 2008. Recent high profile data losses have also focussed public and media attention upon security practices and there is a justifiable expectation that the highest standards will be met by all parts of the NHS.

> "When you are young, it's embarrassing that everyone like the receptionist knows everything – the receptionist could be your friend's mum."

6.3.3 Significant progress has been made in areas such as:

> the launch of the NHS Care Record Guarantee for England, which is owned and reviewed by the National Information Governance Board for Health and Social Care;

> increased utilisation of the private, secure N3 network and NHSmail;

> an intensive review of NHS information governance arrangements conducted by an Information Governance Assurance Programme between February and June 2008. This has resulted in a number of improvements in line with the recommendations of the Cabinet Office Data Handling Review, including:

– the development of a clear information governance framework for the NHS,

– information governance assurance now required through all trust Statements of Internal Controls and Annual Reports,

– the creation of a national framework for encryption of data,

– the elimination of the need to exchange clinical and other sensitive information through the use of exchangeable media such as CDs.

6.3.4 Patient and public confidence in the security of electronic patient information is critical to the success of the National Programme for IT (NPfIT) and there is a clear recognition that more needs to be done. It is important to recognise however that effective information security has both technical and cultural elements.

6.3.5 There is a need to raise awareness and understanding by explaining more clearly how personal data is protected and secured. This should take into account both the benefits and risks of electronic and non-electronic approaches. We need to listen to and address concerns in a clear way. A campaign is needed to raise awareness and improve public and staff confidence in the security and safeguarding of personal information by the NHS. This should include patient and public involvement in the design and delivery of the campaign and focus on more explanation of the protection methods being used and the risk management approach being adopted. It should build on the NHS Care Record Guarantee for England and be overseen by the National Information Governance Board for Health and Social Care.

6.3.6 We are undertaking further work to reduce access to identifiable data, and are about to start consultation on the use of information to support research activities.

6.3.7 It is also important to develop confidence in the information provided through all systems. There are often concerns expressed about the quality, completeness and timeliness of data. We will establish a quality grading scheme to support the assessment of data quality and we will quality grade all national information reporting.

6.4 Developing products and plans

6.4.1 Some stakeholders expressed concerns about some of the products and services being put in place to support the local care record service, especially around whether they are fit for purpose. Some participants in the public engagement activity were concerned about the robustness and reliability of large scale IT systems in general. Whether these concerns are founded on experience or a perception based on media coverage, they need to be addressed. More needs to be done to explain how the products and services work in practice and to provide 'live' demonstrations. This will increase the confidence of frontline staff and patients.

6.4.2 Stakeholders also commented on not being able to see future plans and 'roadmaps'. There are important roles for SHAs, NHS Connecting for Health (NHS CFH) and the local NHS in working together with suppliers, developing informed and credible local plans that support an overall plan and 'roadmap'. It requires a combination of:

> SHAs providing leadership at a local level and quality assurance of informatics plans, in line with the NHS Operating Framework;

> local trust knowledge of internal processes and existing systems;

> NHS CFH providing expertise in infrastructure, problem resolution, access to tools, skilled resources and lessons learnt;

> using demonstrations of actual software to improve NHS front line user confidence in the fitness for purpose of IT systems.

6.4.3 Each trust should have an outline view of their implementation 'roadmap' agreed, where appropriate, with SHAs and shared with NHS Connecting for Health. The precise timings within this will be subject to contract reset agreements. The 'roadmap' should include the plans for both interim and strategic system enhancements and a commitment to effective information governance.

6.5 Publicising governance arrangements

6.5.1 Stakeholders commented on a lack of understanding of roles and accountabilities for decision making and planning. There is a need to update and publicise the governance arrangements within the NHS and supplier organisations. These should include the increasingly important role of PCTs and of their Chief Executives as Senior Responsible Owners of local planning teams.

6.5.2 Governance arrangements, to support decision making, risk management and planning at local trust level, should be reviewed, updated and made available at all levels, to ensure clarity in roles and accountabilities. Where appropriate, these may need to be supported and co-ordinated by the Strategic Health Authority.

7 Delivering solutions

7.1 Developing proposals

7.1.1 The consultation process has highlighted that whilst there is strong support for the objectives of the NHS Care Records Service, local delivery, particularly into acute hospitals, has not progressed as quickly as people would wish. Despite significant successes, such as the implementation of essential infrastructure (e.g. N3) and digital imaging (PACS), more must be done to enable trusts to realise benefits earlier.

7.1.2 This section addresses information services for each of the three areas in the high-level model described in section 4: information to deliver care, information for research, planning and management and information for patients and the public.

7.2 Information to deliver better, safer care through the NHS Care Record Service

7.2.1 The SHA plans described in section 3 highlight the need for patient information to support clinical pathways, especially where these pathways cross organisational and geographical boundaries.

7.2.2 Stakeholders confirmed the continuing relevance of, and belief in, the strategic information services being developed and provided by the Local Service Providers (LSPs). The LSP contracts were designed to make sure that systems were fast, reliable, resilient and secure, with full support arrangements in place.

> "You need to know who's been seen, by whom, where, when etc … and who's seen what records at any given time."

7.2.3 However, there is a need for interim initiatives so patient information can be made available across different IT systems, different care providers and different care settings ahead of strategic systems' delivery. The recommendations respond to the need for speedy achievement of benefits, taking account of differing local priorities and variations across SHAs.

7.2.4 Stakeholders asked that solutions be:

> **responsive:** Solutions should be responsive to local needs and priorities. There may be real and legitimate differences in terms of requirements and priorities because of the specific healthcare needs of a local population, or because of the systems currently in place;

> **pragmatic:** The principle should be *'Don't let perfection be the enemy of the good'*. There are effective local systems currently in use delivering benefits to patients today and we need the opportunity to use these as interim solutions elsewhere if there is a sound business case and a roadmap to the strategic systems;

> **timely:** In some cases, benefits need to be achieved for patients and clinicians sooner than waiting for the strategic systems. Timescales must be realistic. Solutions are needed for the interim pending delivery of the strategic systems.

7.2.5 Therefore, the overall direction is one that retains the focus on the strategic vision whilst having the potential to adopt interim solutions in the short term and so bring forward benefits. To do this, we will investigate options with the supplier community to gain NHS access to appropriate interim solutions for the short term.

"Systems need to be able to record what the clinician does, not make the clinician record what the system wants him/her to record."

7.2.6 Solutions need to be acceptable to the NHS. They must demonstrate that they deliver real clinical benefit.

7.2.7 Clinical stakeholders identified a minimum specification of functionality that would make a system acceptable to them, specifically in secondary care. The intent is to identify the essential functionality that will create a pull effect from clinicians who see it as useful and valuable in conducting day-to-day business. This will create a 'tipping point' in the acceptability and demand for the strategic IT systems. The five key elements (the 'Clinical 5') for secondary care are:

> a Patient Administration System (PAS) with integration with other systems and sophisticated reporting;

> Order Communications and Diagnostics Reporting (including all pathology and radiology tests and tests ordered in primary care);

> letters with coding (discharge summaries, clinic and Accident and Emergency letters);

> scheduling (for beds, tests, theatres etc.);

> e-Prescribing (including 'To Take Out' (TTO) medicines).

7.2.8 Local informatics plans should identify the 'roadmap' that achieves these 'Clinical 5' as soon as possible. The local programmes (in London, the South and the North, Midlands and East) will each develop their respective LSP roadmaps and will, with the relevant SHAs, lead the development of appropriate strategies. Similarly, local informatics plans should identify how community services will be supported in a more integrated way with primary care and other local services.

> "It is not useful for diagnosis at the moment, there are too many pockets of information. For example a new patient with a kidney tumour, to find scans you use one IT programme, for blood test results you have to use another … it's all too complicated and you could spend a day trying to gather information for one patient."

7.2.9 Some products and services currently available from individual LSPs are already delivering demonstrable benefits. They should therefore be made more widely available to the NHS as potential interim solutions or to meet a need not addressed by an LSP's main strategic offering. We will look at the feasibility of extending the availability of IT solutions through LSPs to deliver benefits earlier.

7.2.10 The NHS is already using a number of effective solutions that are in addition to the scope of current national contracts. Recognising the likely timescale for the delivery of the strategic solutions, NHS organisations should be able to consider the benefits of additional interim solutions where they offer the chance to deliver patient benefits sooner, provided that they are able to confirm a roadmap to converge with the strategic solutions within the timescales of the national contracts.

> "The lack of continuity between GPs and hospitals at present surprised me. I am quite worried that this is not being done."

7.2.11 SHA CIOs and NHS CFH should work together to develop and publish case studies of best practice IT systems that can be adopted as interim solutions by local organisations to deliver benefits earlier, subject to local approval and funding. The case studies should be produced without any associated endorsement or commercial sponsorship. These can be based on any solution currently in operation in an organisation providing care to NHS funded patients. They should be published. NHS organisations should be encouraged to think about the opportunities they have to use these products and services in a well-informed way pending deployment of the strategic systems.

7.2.12 It will be for SHAs and PCTs to decide, in the context of local informatics plans, how the adoption of any interim solutions would be implemented locally. Such plans would, however, need to give due consideration to patient safety, information sharing, service support and resilience. The adoption of any interim solution will need local and SHA sponsorship and will need to be locally funded. The possibility of 'enterprise-wide' procurements will be considered where appropriate.

> "The information is not always available where it is needed. In the community, IT equipment needs to be available in all the touch points and needs to be secure."

7.2.13 Current arrangements are mainly focused on NHS organisations. The scope of the NHS Care Records Service needs to embrace other providers of care to NHS-funded patients, including social care, voluntary sector organisations, independent sector treatment centres, hospices and local dental and opticians' services. We need to look at how we can best meet the needs of those service providers, their patients and staff and also how we ensure that all providers adopt the same high standards of information governance and confidentiality. This is a condition of access to NHS records.

7.2.14 National plans should address the exchange of patient information with independent sector and voluntary sector providers and with social care. Future local planning guidance will emphasise the need for the inclusion of plans for non-NHS service providers, including the independent and voluntary sectors, as partners in the use of information and IT to deliver services to NHS-funded patients.

7.3 Information to empower staff through the Secondary Uses Service

7.3.1 The SHA plans indicate local targets for health and service improvement. The measurement of these will be dependent on good quality, timely information presented clearly to those who need it.

7.3.2 The consultation also highlighted how important information is to supporting a wide range of research, planning and management activities. Through the NHS Care Records Service, we can collect operational data and make this available for many other purposes that assist in improving the quality, efficiency and effectiveness of care subject to appropriate confidentiality and consent procedures. So far, information has not been easy to get at. More value will be gained by exploiting and publishing this information, particularly in aggregate form.

> "There is too much data and too little information. There are too many people collecting data using different formats and professionals are not confident that they can compare apples with pears."

7.3.3 Early outputs from the Health Informatics Review will therefore concentrate on the exploitation of data, which are already available, for analysing clinical performance, through 'clinical dashboards'; improving staff access to information, through a 'staff portal'; and improving data quality.

National Quality Framework based on clinical metrics

7.3.4 The NHS NSR has highlighted the need to focus on clinical metrics that improve quality, in the context of patient safety, patient experience and patient outcomes. The lack of a national set of clinical outcome and quality measures has slowed progress towards a culture of continuous quality improvement. It has prevented meaningful institutional comparisons and deprived the public of essential information to underpin meaningful and informed choice. The NHS Operating Framework for 2008/09 included a requirement for collecting Patient Reported Outcome Measures (PROMs).

7.3.5 We will work to select and introduce sophisticated clinical quality metrics for NHS organisations. There are sophisticated clinically orientated datasets in widespread use in Germany and parts of North America. We will look at these and develop clinically credible outcome and quality measures, which will provide a platform for continuous clinical quality improvement and support meaningful institutional and international comparisons. We have started piloting selected indicators in the North West of England.

Clinical dashboard

7.3.6 NHS clinicians are dependent upon good quality information and data to make sure they are providing the right services to patients. They must have appropriate access to data whenever they need it, in a usable format. The provision of a clinical dashboard will improve the clinical team's ability to focus on improving the quality of care locally. It will provide NHS clinicians with good quality information that will help them make sure that they are providing the right services to patients. It will give them appropriate access to data, whenever needed, in a usable format and will present them with meaningful clinical indicators, defined by local teams, in an immediate and impactful way. We are developing a prototype which will be evaluated prior to further development.

7.3.7 Figure 3 is an example screen display from the NHS Comparators application which allows primary care clinicians to be more informed about local patterns of care and thus more involved in commissioning decisions to support the local health needs of their populations.

Figure 3: Screen display from NHS Comparators
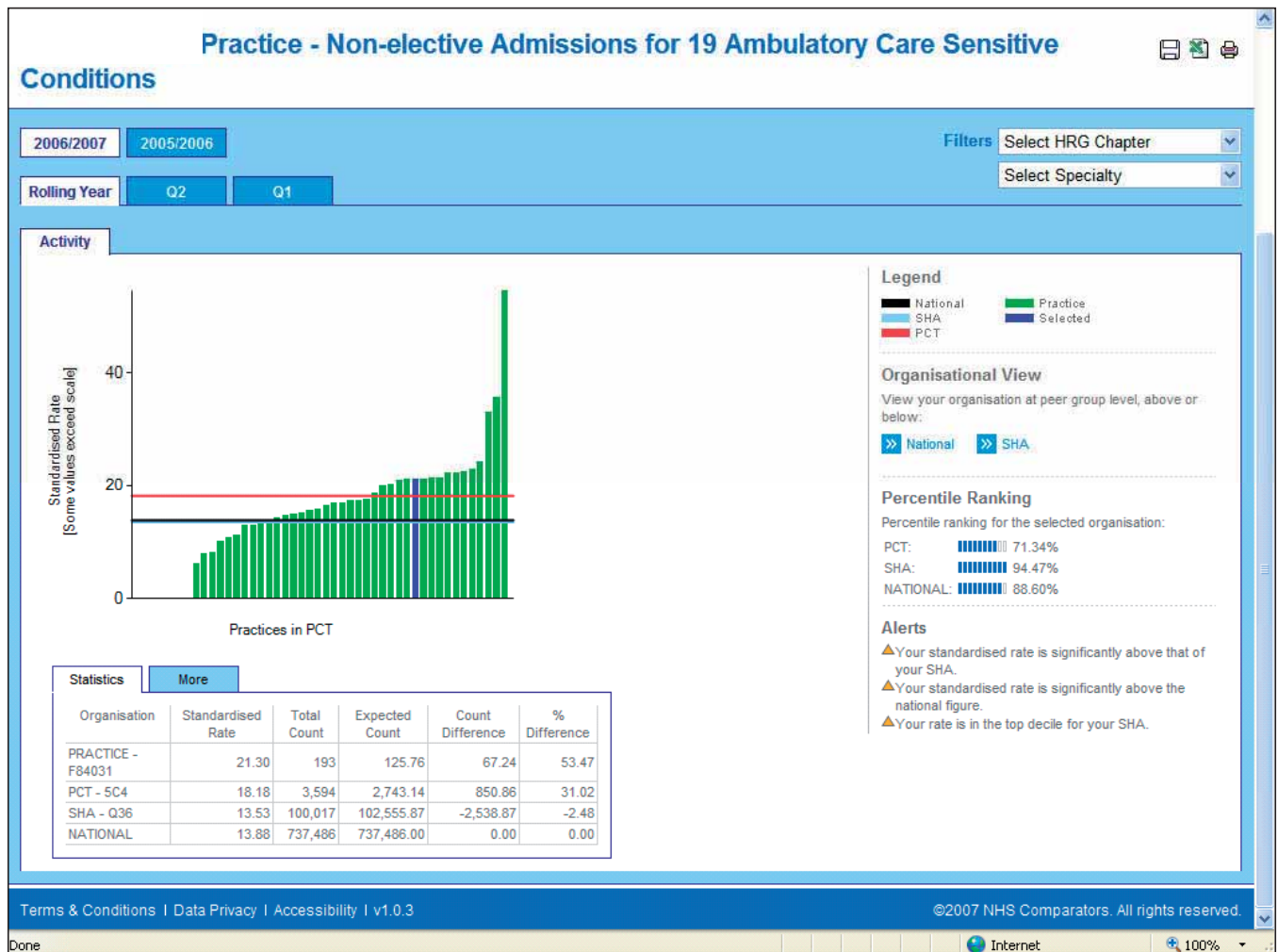
Staff portal

7.3.8 The NHS NSR highlights the need to support NHS staff in delivering first class quality of care through education and training and through access to knowledge and information. Currently, NHS staff have to access many different internal information and IT systems to do their job. This wastes time searching between systems for relevant information (if it is available at all).

7.3.9 The solution to this is the development of a staff portal (mystaffspace) which would provide a 'one-stop-shop' for the key information sources that are used regularly. It will enhance our staff's ability to do their job well. It will provide functionality to support:

> communications;

> staff interaction;

> knowledge sharing and management;

> performance;

> other dashboards;

> a collaboration space;

> a gateway to other single sign-on applications.

Professional portfolio

7.3.10 NHS clinicians need a single access point to information about professional outcomes, development and knowledge. The solution is the development of the professional portfolio. This will be achieved by extending the staff portal to bring further specific features for clinicians and to act as an entry point to the professional portfolio. This would be a space for storing information essential to appraisal, revalidation and clinical excellence awards and an individual online log of personal activity and outcomes, and hence supporting continuing professional development.

Consolidating current solutions

7.3.11 The value of information is critically dependent on its quality, timeliness and comprehensiveness. The quality of data does not improved until it is used. We will progress actions to make sure that central services are reliable and that data quality reporting is present on all main data feeds. This will allow local organisations to monitor and improve both the timeliness

and the accuracy of their core data flows. Such measures and reporting apply to the independent sector provision of NHS care as well as to NHS providers, and this will enable comparative reporting.

7.3.12 NHS Connecting for Health (NHS CFH) and the NHS Information Centre for health and social care will work with other key national bodies such as Monitor, the Care Quality Commission (CQC), the National Institute for Health and Clinical Excellence (NICE) and the NHS Institute for Innovation and Improvement to achieve a consistent approach to providing advice, support and subsequent appropriate monitoring on progress. The CQC may have a role in determining the extent to which the supply of enhanced and accurate data by providers should be made a registration requirement. This might support approaches to regulation using information-led assessment of risk (for example identifying poor performance quickly through continuous monitoring and surveillance).

7.3.13 We will also work with national suppliers to make sure that current services, such as SUS support for Payment by Results and 18 weeks pathway management, are reliable. More developments are necessary in these areas. It is important we make sure that information, once collected, is sent back to users in accessible and useful formats.

Strategic approaches to reporting

7.3.14 There needs to be a strategic approach to reporting that:

> assesses the types of information collected;

> considers how that information may be collated and processed;

> provides mechanisms for presenting information to users in a variety of formats;

> considers how best to manage reporting solutions at local and national levels.

7.3.15 This approach will consider the consolidation of data from different systems. Information is needed not just from health records systems but also other applications such as finance and workforce. During the review, we created a digital dashboard of information supporting the 'vital signs' used to report on finance and workforce.

7.3.16 The aim is to make sure that information is collected as a by-product of operational systems. Rather than increasing the burden of data collection on the NHS, the intention is to prevent duplication of effort whilst adding value by providing increased reporting capability. This is consistent with central Government requirements to reduce burden of data collection by 30%. This will require joint working with standards setters and regulators.

7.3.17 There are large areas where standard definitions do not exist, and we will develop appropriate standards for specific settings such as community, mental health and adult social care, or for types of information such as outcomes and quality measures.

7.3.18 We are currently reviewing the existing national data collections for adult social care. In addition to this, we are working on a strategic work programme to identify and meet the gaps in information available on adult social care to ensure that information needs are met as they relate to performance and other agendas, including business improvement, research and the needs of the service user.

7.3.19 Two initiatives will be addressing important areas of reporting requirement. The GP Extract Service, being established by the NHS Information Centre for health and social care, will enable the capture, consolidation and reporting of data from primary care systems. The aim of the Research Capability Programme, being run jointly by the Department of Health and NHS Connecting for Health, is to improve quality and safety of care by enabling and supporting research studies. The ability to link data from different sources provides a big opportunity to perform new analyses such as longitudinal reporting.

7.3.20 The DH and the NHS are not equipped, or indeed expected, to provide all analytical services, and the private sector has an important role to play in

adding value to NHS data with its tools, presentation methods and expertise. The NHS Information Centre for health and social care has a central role in helping to create an information market, acting as an honest broker, ensuring equity of access and facilitating links across different data sources.

7.4 Information for patients and the public through NHS Choices and HealthSpace

7.4.1 The NHS NSR describes the vision of an NHS that empowers patients and the public. All the SHA plans have indicated a need for greater involvement of patients and the public. This was also reflected in the Health Informatics Review consultation, from which there was a strong theme that more information should be provided to patients about the services on offer, with more specific information about their condition and their care.

> "Giving patient access to their information could mean that they could monitor their own blood sugar levels, electronically record the information and send it to their GP or nurse."

7.4.2 Further developments of NHS Choices will allow much more information to be available, not just about hospital care but also about primary and community care, and to be the reliable source of information to help patients understand their illnesses and stay healthy. Also, in time, other services such as those provided by social care will be included.

> "The GP used my record to see when I had come in with a chest infection in the past, and asked me whether the antibiotics he had prescribed last time worked. I felt very reassured that there was up to date information on my health history."

7.4.3 Where the local NHS, clinical specialties or the DH create new metrics and dashboards, we expect those metrics will, in time, be published through NHS Choices.

7.4.4 For many patients, particularly those with long-term conditions, information must include that about, and from, the different organisations which might be involved in their care. The information needs to include the best evidence so patients, carers and service users can decide which treatment is right for them. They can then make choices about which providers to use, based on clinical performance, quality of care and other factors.

7.4.5 The consultation highlighted strong support for the HealthSpace initiative, through which patients can record information about their own care and through which they can access their own Summary Care Record.

Figure 4: Proposed HealthSpace features

1. Self Care

I can monitor my condition regularly and load the results for my GP to see. We can discuss them in my next appointment.

2. My Health Information

I can now review my medical record online in my own time. I can store information and preferences that help clinicians to plan better personalised care for me. I can even do this when I am away from home and need medical care.

8. Privacy & Security

My records are secure but now I can see who else has seen my information – this gives me confidence in the service.

3. Better Care

My clinician can make better decisions because they receive up to date information on my condition before the appointment.

7. Accessibility

I can access all of the HealthSpace services easily and securely, even if I have special access requirements.

4. My Health Updates

I get reminders on tests, appointments and screening. Information on my long term conditions is personalised to me.

6. Appointments

I can see available slots and book an appointment with my local GP, Practice Nurse or Hospital at a time convenient for me.

5. Communicator

I have secure online interaction with my GP, which also enables me to email a request for repeat prescriptions.

7.4.6 HealthSpace already provides patients with a mechanism for recording information relating to their own health. It could also be used to record treatment preferences. Similarly, there is the early adopter work that allows patients to see their own Summary Care Record. We propose an early implementation of a shared record for patients with long-term conditions, such as diabetes, which will allow a more active and participative role in their care. Figure 4 illustrates the types of requirements under consideration.

"I had a hysterectomy whilst I was living up North a few years back, but after moving … no one can explain or clarify why this important piece of my NHS history has been lost on my records."

7.4.7 The proposed increase in the scope of NHS Choices and HealthSpace will provide an integrated service, delivering extensive qualitative benefits in patient choice, care personalisation and self-care. Specific benefits include:

> increasing patient safety and the quality of care: for example, the extra information provided by patients via HealthSpace will allow them to jointly manage their health, have access to their care plans, become 'expert patients' and provide a more complete picture on which clinical decisions can be based;

> improved efficiency and effectiveness: for example, better self-management of long term conditions by patients will improve outcomes and enable the health service to redirect resources;

> providing targeted information on health and health services with specific work around the development of care pathways (e.g. for coronary heart disease);

> improved experience for patients and service users: for example, because they are able to state their preferences, they can give feedback and have greater involvement in their healthcare or may indicate that they wish to receive information on clinical trials pertinent to their condition.

7.4.8 Through advances in technology, there are chances to adopt easy-to-use assistive technologies (e.g. for home monitoring) which will allow patients to play a greater part in their own care, in a more convenient setting. Demonstrator projects are underway, and these will look at how we can introduce such equipment, improve the quality of life of patients and integrate with our work on HealthSpace.

> "A dying person's wishes and choices are likely to change as time passes, medical professionals would value the electronic patient record as it would provide them real time access to these and would help them in meeting them."

7.4.9 The aim is to ensure that NHS Choices, HealthSpace, homecare and other related services, such as NHS Direct, are integrated and provide a coherent set of information resources. This will empower patients and the public, through access to their health records to drive improvements in quality.

8 Building for the future

8.1 Setting the right structure

8.1.1 One of the recurring themes during the consultation was the development of NHS services to support high quality, personalised care for patients. To ensure an appropriate architecture for the future, we must put in place clear leadership and accountability arrangements that strengthen local ownership and responsibility and develop the strategic linkage with policy. The NHS, as a national system, requires sound standards, and the development and maintenance of standards is another key theme.

8.1.2 The first phase of this informatics review has already recommended the creation of a Chief Information Officer (CIO) position on the NHS Management Board. This is needed to provide clear central leadership, through which the roles of NHS CFH, the NHS Information Centre for health and social care and DH Information Services can be co-ordinated, along with the work of other relevant arms-length bodies. The CIO for Health will also provide the national lead on information governance.

8.1.3 The CIO's leadership team will encompass SHAs and involve the wider NHS in decision-making. It will bring about greater responsiveness and empowerment

throughout the NHS. It is expected that there will be appropriate representation of informatics in key decision-making bodies, and that all SHA, trust and PCT Boards have a credible, capable CIO able to contribute fully to strategic leadership and Board decisions.

8.1.4 Within this framework, we will clarify:

> the role of NHS CFH as the source of technical, commercial, service and programme management support expertise to the NHS, not simply as the implementers of the NPfIT;

> the scope of the NPfIT as a platform for innovation within the NHS, and being perceived as a platform for service transformation;

> the role of the Department of Health Information Services to supply internal IT to the Department of Health, standardising where appropriate with the NHS and driving the deployment of the DH knowledge infrastructure;

> the role of the NHS Information Centre for health and social care to:

– maximise the value of data collected in the NHS and social care systems by

promoting standardisation, improving data quality and encouraging data re-use through a properly governed data 'syndication service',

– enable and actively promote access to national and other information resources (eg SUS data, benchmarks and comparisons, publications, analytical reports etc) through a new information signposting service,

– encourage innovation in the information and data analysis markets; simplifying and standardising access to national data resources,

– be the source of data for official statistics published by DH, CQC and other bodies, for the purposes of accountability, etc.;

> the role of the National Information Governance Board for Health and Social Care:

– as the top level information governance body for health and social care,

– its role in supporting improvement in information governance practice in health and social care,

– its statutory powers;

– the integration of social care informatics work under a dedicated Programme Board.

8.2 Aligning policy, strategy and programmes

8.2.1 The CIO for Health will establish a policy and business informatics support function that helps the DH policy directorates to understand the opportunities and implications that informatics brings. This will bring about better integration between policy and informatics, routine informatics impact assessments of new policy proposals, and so will enable consistent and proportionate informatics investment decision making.

8.2.2 This co-ordination will give a broader view of informatics requirements. It will support the development and use of strategic systems, rather than the creation of ad-hoc solutions that are simply linked to the objectives appropriate to operational use.

8.2.3 Each new policy and programme proposal needs appropriate justification and governance. We will introduce a single process to help us develop and process informatics requirements. This will be underpinned by a structured information investment governance process for approving all new investments by DH and arms-length bodies. It will clearly assign accountability for each phase of the investment process, including central and NHS costs.

8.3 Developing and approving standards

8.3.1 The review has highlighted the importance of informatics standards across the NHS, further emphasised by the need to support a wider range of organisations and types of provider. These standards will need to go beyond the NHS Care Records Service to include all information and data in the NHS, if there is to be a coherent reporting system that addresses all areas of NHS activity and performance.

> "We need reassurance that we are interpreting the information in the way it was intended to be used – that means data codes and standards."

8.3.2 This implies a major programme of standards development. The review has highlighted large and important gaps within some healthcare settings, such as community and mental health, and for clinical outcomes and quality of care. Standards also include areas such as identity management and even record-keeping standards. All of these need to be addressed, with a clear understanding of the end-to-end implications for patient pathways and for the process for their development through to implementation.

8.3.3 We will conduct studies on the information needed to support the delivery of care pathways for coronary heart disease, stroke, diabetes and dementia.

8.3.4 We recognise the changing nature of the NHS and will create the technology and standards required to allow high quality local solutions to be integrated within hospitals and across care settings and a wide range of providers.

8.3.5 We will carry out a full review of the existing NHS data model, including short term improvements that meet immediate needs and reduce unnecessary bureaucracy. This will create a new model suitable for a 21st century NHS.

8.3.6 We will implement a rigorous process that makes sure existing standards are adopted (e.g. standardisation of the use of the NHS number across health and social care), and manage the future implementation of standards such as SNOMED in a better way.

8.3.7 It is important to make sure that proposed new standards are planned and co-ordinated to minimise the burden of collection on the NHS. Linked to the informatics assessment of policy proposals, we will develop a process for managing the end-to-end process of standards development.

8.3.8 It will be necessary to make sure that there are stronger mechanisms in place for the assessment, approval and implementation of such standards to ensure standards are implementable and supported. Where necessary, they will be included in the NHS Contract or within an appropriate regulatory framework.

9 Planning and implementation

9.1 Resourcing implications

9.1.1 The Health Informatics Review has identified a number of issues and has developed proposals to address these. Many of these can be implemented within existing resources, programmes and governance arrangements. There are some recommendations, however, which generate new requirements and that will need new investment. These are the minority, but reflect gaps in the ability to deliver the local plans described in section 3. They are:

> information for patients and the public;

> improved reporting for staff;

> extending the scope of NHS Care Records Service to meet the needs of patient pathways and to allow information exchange with social care and voluntary sector organisations, such as hospices;

> national work on standards development, implementation and training.

9.1.2 There is also the need to ensure that the resource implications of future changes and new policy initiatives are taken into account. This will link to the informatics impact processes described in the previous section and will need to consider the need for resources to deliver changes and to drive a process of continuous quality improvement into the systems and services being delivered.

9.1.3 Local organisations must take greater responsibility for implementation and subsequent transformational change, through strong local leadership from management and clinicians. This must be complemented by strong national leadership where it is needed. This will speed up implementation and the achievement of benefits, whilst remaining true to the ultimate goal, namely that of using information and IT to support better, safer care for NHS patients.

9.2 Implementation programme

9.2.1 Those proposals that have significant implications, either of a financial or contractual nature, that need policy decisions or wider consultation, will be taken forward through the Health Informatics Review implementation programme. This will include any proposals that require an impact assessment, feasibility studies and business case reviews to determine the most appropriate way forward.

9.2.2 A number of proposals relate to activities that are already happening, and will need some realignment and reprioritisation so that they form part of a coherent programme going forward. New proposals that have few additional demands or impact will be worked up as part of 'business as usual' arrangements.

9.2.3 A Health Informatics Review implementation programme has been established to make sure that, over the period up to the end of March 2009, the momentum, renewed stakeholder relationships, the expectation of positive change and investment in the Health Informatics Review are progressed by:

> issuing the Health Informatics Review implementation report;

> establishing appropriate governance for the delivery programme;

> integrating the Health Informatics Review recommendations with the NHS Next Stage Review recommendations;

> delivering the Health Informatics Review recommendations through a managed programme co-ordinated across all NHS organisations;

> initiating and tracking delivery of Health Informatics Review recommendations.

9.2.4 The aim of these activities is to support the NHS in delivering real and lasting improvements to the quality of care. In autumn we will publish the Health Informatics Review Implementation Report describing progress and next steps in more detail. Together with the SHAs, we will publish plans for the next steps. The proposals will enable the involvement of patients and the public and improvements to the effectiveness and efficiency of the services delivered.

Department of Health