Informed to care

Managing IT to deliver information in the NHS in Scotland

AUDIT SCOTLAND

Key messages

Background

The planning and delivery of NHS services need to be underpinned by good information to ensure that patients get the best possible care within the resources available. Better information supports better care. The NHS in Scotland is undergoing large scale national change: new structures such as NHS boards and Community Health Partnerships (CHPs) have been put in place; new staff contracts are being implemented; and the way forward for service delivery has been set out in *Delivering for Health*.[1]

The need for the NHS to work in partnership with others, including local authorities, to plan and deliver joint services where appropriate is an additional challenge. It is important that the arrangements for providing information through Information Management and Technology (IM&T) to support these changes are fit for purpose. In the NHS, IM&T and e-Health are often used interchangeably – for the purposes of this report e-Health (patient-related systems) is a subset of IM&T. Exhibit 1 gives a picture of current national IM&T developments in the NHS in Scotland.

The main report provides a high-level overview of the national picture covering:

1. the background to IM&T in the NHS in Scotland

2. how IM&T is being led

3. the nature and extent of stakeholder involvement

4. how programmes and projects are being managed.

This summary gives the main findings and recommendations.

Main findings

Delivering for Health signals a more corporate approach for IM&T in future where "... *previous freedoms to procure and implement systems locally will be curtailed to ensure that local systems align with the move to Electronic Health Records.*"[2]

This is a significant cultural shift in the way in which IT is managed within the NHS – from local autonomy to a more corporate approach – and will take time to plan and implement.

The Scottish Executive Health Department (SEHD) recognises the need to review the governance and management arrangements for IM&T throughout the NHS and is currently taking steps to improve them.

The SEHD is establishing new national governance and organisational structures for IM&T (Exhibit 2). These reflect good practice but it is too soon for us to assess compliance with these arrangements and their effectiveness. In addition, we remain unclear how the governance of back room support systems, such as human resources and finance, will be addressed.

At the time of our audit it was not clear who was accountable for directing IM&T strategy development and implementation to ensure that benefits are identified and achieved. The respective roles and responsibilities of the SEHD and NHS National Services Scotland (NSS) still need to be clarified, and the balance between national mandatory requirements (such as standards) and freedom to implement local solutions needs to be agreed. In addition more work is needed to

ensure that the new governance and management structures demonstrate a clear connection between information and IT; clarify responsibilities for all IT programmes; and ensure that responsibilities are fully communicated to the wider NHS in Scotland.

There is not an overarching information framework or strategy to inform the development of integrated IT solutions in the NHS in Scotland. The overall IM&T strategy needs to be revised to take account of the full range of information needs and recent policy initiatives.

An IM&T strategy should be driven by a clear information strategy that outlines NHS information requirements including outcomes, quality, activity and cost. The IM&T strategy should clearly identify how IT systems will help meet these information needs. We found that there is not a national information framework or strategy which is aligned to the Scottish Executive's overall strategy for health and underpins the IM&T strategy.

The SEHD is assessing capability of the current e-Health programme to deliver against *Delivering for Health*. In doing this it needs to ensure that there is:

- Clarity about the information needed by the NHS in the light of *Delivering for Health*, including clinical and management information and how IT solutions will address these needs.

- A basis for developing an implementation plan. This should set out timescales and identify the expected IM&T contribution towards the overall health strategy, including benefits expected such as improved quality, productivity or financial savings.

1 *Delivering for Health*, SEHD, November 2005.
2 http://www.scotland.gov.uk/Publications/2005/11/02102635/26380

Exhibit 1
Current IM&T programmes and projects

e-Health programmes and projects	Back room support systems
• Accident and Emergency (A&E) • Emergency Care Summary (ECS) • ePharmacy • Generic clinical system • GP systems • Hospital electronic prescribing and medicines administration • Hospital patient administration systems • National clinical dataset development • National screening and surveillance • National cervical cytology roll-out system • New ways waiting times definitions • Picture and Archiving Computer Systems (PACS) • Radiology information system • Scottish Care Information (SCI) store • SCI gateway • SCI diabetes • SCI index • Sexual health system • Theatre management system	• Scottish Workforce Information Strategic System (SWISS) • Finance • Supplies

Infrastructure	• Telecommunications (secure broadband – N3) • National staff directory and NHS mail • Applications management • Desktop support

Source: SEHD, July 2006

Exhibit 2
Proposed new structure for managing national IM&T projects in the NHS in Scotland
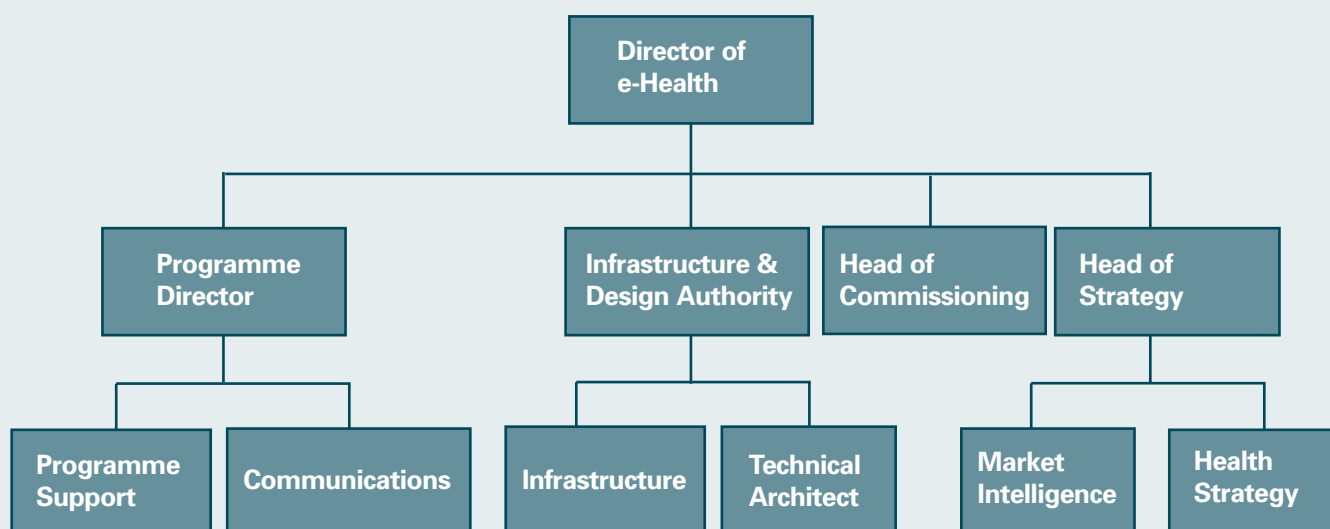
Source: SEHD, May 2006

- A basis for local board strategies and implementation plans which complement the national strategy.

- Agreement with boards to bring local IM&T solutions arising from past investments into line with the national strategy in an acceptable timescale.

The NHS does not know exactly how much it spends on IM&T overall. The SEHD needs to improve the way it funds IM&T programmes in future by developing business cases, and introducing 'stage gate' funding for all projects so that funds are released on a phased basis as projects achieve specified outcomes.

The NHS in Scotland does not know exactly how much it spends on IM&T overall, but the estimated national IT revenue budget of £65 million and £35 million capital in 2006/07 falls well short of the Wanless target of 3-4 per cent of total health spend.[3] This would be over £373 million for 2006/07. Even so the growth in investment is substantial and will continue into 2007/08, when the revenue budget is expected to be over £100 million and the capital budget £40 million. The challenge is to ensure that it represents value for money and delivers the information that people need to provide services to patients.

Funding should be based on a sound business case which clearly specifies the justification for the investment over the whole lifetime of the project, and the benefits that the investment will deliver. Currently this only happens where the capital spend of a project is over £2 million.[4] In addition, a 'stage gate' approach should be adopted whereby revenue and capital funds are released on a

phased basis once success criteria have been achieved. This is not routinely in place.

The NHS recognises the importance of stakeholder engagement but it needs to do more to involve clinicians, managers and policy makers to ensure that their information needs are met through IT.

The main stakeholders are the information users such as clinicians, managers and policy makers and they are critical to the success of any IT implementation. If stakeholder information needs are not identified and incorporated at the specification stage of an IM&T initiative, it is often expensive and, at best, difficult to meet their information needs.

Given the size, complexity and interdependencies of IT systems in the NHS, planning, managing and monitoring stakeholder engagement is crucial. As the NHS moves to a more corporate model for IM&T, led at a national level, and as the size and complexity of programmes undertaken increases, this task becomes more difficult.

In our review of the existing IM&T strategy and the four case studies we carried out, we did not find evidence of a formal, structured approach to ensure that stakeholders are identified and engaged, and their needs met through IT programmes.

As part of the new governance arrangements, the SEHD has indicated that the Chief Medical Officer (CMO) will have responsibility for engaging with clinicians on the e-Health agenda. But gaps remain for other stakeholders, and work is needed to develop and implement a comprehensive stakeholder plan.

The SEHD needs to ensure that existing good practice in project and programme management is applied consistently throughout the NHS in Scotland. This is essential to identify emerging problems, and inform IM&T investment decisions about what to start, stop or accelerate to achieve overall objectives.

There is limited evidence that expected benefits are identified, monitored and delivered.

Effective programme and project management is essential if the NHS is to deliver the ambitions of the e-Health and wider IM&T strategies. We found examples of good practice in some elements of project management. For example, there is reasonable compliance with generally recognised programme and project management standards according to the evidence from our case studies. However, our four case studies showed that improvements are needed to ensure that:

- business cases are made for all projects

- formal project plans are developed and used to monitor progress

- a standard framework for risk management is introduced

- the quality and completeness of information in project reporting are consistent

- post implementation reviews are carried out.

We also found that benefits identification, tracking and realisation are not standard components of

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3   *Securing our Future Health: taking a long-term view*, HM Treasury, April 2002.
4   This figure is the threshold for undertaking a Full Business Case.

NHSScotland's approach to IM&T programmes. For example, strategy documents do not specify the contribution that their delivery will make to the achievement of the overall strategy for the NHS in Scotland.

Our study

In carrying out the study we commissioned Pricewaterhouse-Coopers (PwC) to:

- identify, and assess the NHS in Scotland's performance against, internationally accepted good practice in terms of the planning, management and delivery of IM&T solutions within complex environments. These are from sources including the Office of Government Commerce (OGC),[5] the National Audit Office (NAO)[6] and PwC's global network[7]

- review documentation at national level relating to, or with implications for, IM&T

- interview key individuals covering both IM&T users and providers at the SEHD, NHS NSS[8] and NHS boards

- carry out reviews of four national IM&T projects as case studies to provide further evidence to support findings from the review of documentation and interviews. The four case studies were Accident & Emergency, Best Procurement Implementation of eProcurement Scotl@nd, Emergency Care Summary, and Scottish Care Information. These were selected to cover clinical and non-clinical topics; and long-running and more recent projects.

The fieldwork was completed in March 2006. At the time of the review the SEHD did not have in place fully developed arrangements to demonstrate IM&T leadership, stakeholder involvement and project and programme management to meet internationally recognised good practice standards. However, we recognise that this is an area where work is in progress; for example, the SEHD has made some changes to the high-level governance for national IM&T projects. We reflect these in the main body of the report.

Findings and recommendations from the audit should help the SEHD in improving the effectiveness of IM&T. Given the level and importance of the investment, Audit Scotland will follow up progress against the SEHD's targets and plans.

Key recommendations

The NHS in Scotland should:

- take a more formal, structured approach to stakeholder identification, engagement and communication to ensure that IM&T programmes and projects meet stakeholder information requirements and deliver expected benefits.

The SEHD should:

- extend proposals for more robust governance and organisational design to cover all IM&T and, once implemented, monitor their effectiveness

- clarify responsibilities and accountabilities for IM&T strategy development and implementation at a national level.

- develop and implement a comprehensive IM&T strategy which clearly links IT solutions to information requirements, including outcomes, quality, activity and costs

- require NHS boards to develop clear plans to bring any local IM&T solutions, arising from past investments, into line with the national strategy in an acceptable timescale

- develop business cases and implement funding allocation processes to support a gateway review approach for major IM&T programmes in line with OGC good practice

- introduce benefits-led business cases as a mandatory component of programme and project commissioning

- identify and monitor total capital and revenue spend on IM&T.

The SEHD and NHS NSS should:

- extend the role of the national project office to include benefits monitoring and reporting for the national IM&T programmes

- ensure that programme and project boards establish a performance baseline within the start-up phase of future IM&T work programmes in order to provide a basis for measuring future benefits delivered.

5   http://www.ogc.gov.uk
6   http://www.nao.org.uk
7   http://www.pwc.com
8   NHS NSS has direct responsibility for the ongoing management of a number of national projects and programme management responsibility for many of the national IM&T solutions.

NHS boards should:

- ensure that local governance and organisational design for IM&T align with national arrangements

- clarify responsibilities and accountabilities for IM&T strategy development and implementation at a local level

- develop clear plans to bring any local IM&T solutions, arising from past investments, into line with the national strategy in an acceptable timescale

- develop business cases and implement funding allocation processes to support a gateway review approach for local IM&T programmes in line with OGC good practice

- identify and monitor capital and revenue spend on IM&T.