

# Informed to care

Managing IT to deliver information in the NHS in Scotland

Prepared for the Auditor General for Scotland

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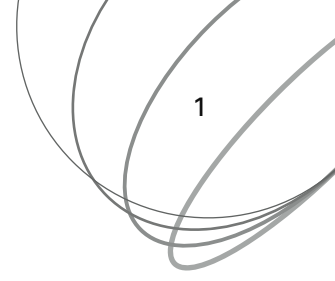
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# Summary



1. 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 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*.<sup>1</sup> The need for the NHS in Scotland 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.<sup>2</sup> 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.

## Key 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.*”<sup>3</sup> This is a significant cultural shift in the way in which IT is managed within the NHS in Scotland and will take time to plan and implement.
- At the time of the review the Scottish Executive Health Department (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. In the main body of the report we highlight areas where work is in hand to address these issues.
- The SEHD recognises the need to review the governance and management arrangements for IM&T and is currently taking steps to improve them. Its proposals are in line with good practice but it is too early to say whether they are sufficient to address the issues raised during the course of our review.<sup>4</sup>
- There has been limited strategic planning for IM&T at a national level. For example, there is not a national information framework or strategy which is aligned to the Scottish Executive’s overall strategy for health, although we have been advised that this is being undertaken as a matter of priority by the Information

1 *Delivering for Health*, SEHD, November 2005.

2 IM&T is also sometimes known as Information and Communications Technology (ICT).

3 <http://www.scotland.gov.uk/Publications/2005/11/02102635/26380>

4 Good practice applies to all aspects of IM&T management in both commercial and public sector organisations. See Appendix 3.



Services Division (ISD). Existing IM&T plans and structures focus on e-Health and it is difficult to get a picture of IM&T as a whole, including operational and support services such as finance and human resources systems.

- There is considerable room for improvement in other aspects of leadership and governance of IM&T so that in future:
  - it is clear who is in charge and where accountabilities lie
  - the NHS in Scotland's IM&T strategy is aligned to its overall health strategy, and the expected contribution of each IM&T programme and project to the delivery of the strategy is clear and its performance monitored.<sup>5</sup>
- 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.<sup>6</sup> 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 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.<sup>7,8</sup> 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 do their jobs.

- The SEHD and NHS boards recognise the importance of user or stakeholder engagement. However, we did not find evidence of a formal, structured approach to ensure that stakeholders are identified and engaged and their needs met through IM&T programmes and projects.
- There is reasonable compliance with generally recognised programme and project management standards according to the evidence from our case studies. PRINCE2, a formal project management method, is often applied but the rigour with which standards are applied varies.<sup>9</sup> There are also limited arrangements for sharing best practice and lessons learnt. In particular, there is little evidence that expected benefits are identified, monitored and delivered.

### About the study

**2.** In this report we provide a high-level overview of the national picture covering:

- the background to IM&T in the NHS in Scotland

- how IM&T is being led
- the nature and extent of stakeholder involvement
- how programmes and projects are being managed.

**3.** Specifically we examined whether:

- there are clear, unambiguous leadership and governance arrangements in place, ensuring that IM&T investment is focused on achieving better services for patients
- stakeholders are properly engaged and their information needs are identified and addressed in accordance with agreed priorities
- programme and project management is effective so that stakeholders' needs are met and they have appropriate buy-in. The aim is to ensure that systems are not only implemented to specification, on time and within budget but also that they deliver the expected benefits.

**4.** In carrying out the study we commissioned PricewaterhouseCoopers (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),<sup>10</sup> the National Audit Office (NAO)<sup>11</sup> and PwC's global network<sup>12</sup> (Appendix 3).

<sup>5</sup> A programme is a management framework for coordinating related projects to deliver desired outcomes.

<sup>6</sup> This figure is the threshold for undertaking a Full Business Case.

<sup>7</sup> *Securing our Future Health: taking a long-term view*, HM Treasury, April 2002.

<sup>8</sup> *Draft Budget 2006/07*, Scottish Executive. <http://www.scotland.gov.uk/Publications/2005/09/06112356/24114>; capital figures supplied by SEHD, October 2006.

<sup>9</sup> Prince2 is the designated programme and project management methodology for all large scale projects within the NHS in Scotland.

<sup>10</sup> <http://www.ogc.gov.uk>

<sup>11</sup> <http://www.nao.org.uk/>

<sup>12</sup> [www.pwc.com](http://www.pwc.com)

- review documentation at a national level relating to, or with implications for, IM&T
- interview key individuals covering both IM&T users and providers at the SEHD, NHS National Services Scotland (NHS NSS)<sup>13</sup> 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 (BPI) of eProcurement Scotland; Emergency Care Summary; and Scottish Care Information. These were selected to cover clinical and non-clinical topics; and long-running and more recent projects. (Appendix 4 outlines the findings from these reviews).

**5.** The fieldwork was completed in March 2006. 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.

**6.** Findings and recommendations from the audit should help the SEHD in improving the effectiveness of IM&T, and the assessment against good practice can be used as a mechanism for monitoring progress and identifying areas of greatest risk. Given the level and importance of the investment we will follow up progress against the SEHD's targets and plans.

<sup>13</sup> 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.

## Part 1. Setting the scene



“Information Management and Technology (IM&T) is about the information which NHSScotland needs to deliver effective healthcare, the technology needed to deliver that information to the right person at the right time and the range of processes such as training and support services needed to make it happen.”<sup>14</sup>

## Key findings

People in the NHS in Scotland need information to do their job and to support the improvements to patient care and service performance envisaged in *Delivering for Health*. Given the size and complexity of the health service, information technology will increasingly be required to meet information needs efficiently and effectively.

But providing IT technical solutions is not enough – they need to be tailored to the needs of the end user and often require changes in working practices.

### Information is vital to improving services for patients but any investment in IM&T needs to be managed well

7. Both the Audit and Health Committees of the Scottish Parliament have been critical of the quality and coverage of information in the NHS in Scotland.<sup>15</sup> Audit Scotland has also drawn attention to poor information and the slow implementation of information systems in its reports.<sup>16</sup>

8. IM&T in the NHS needs to support a range of people with diverse information needs. (These people are commonly known as stakeholders). For example, the NHS needs IT systems to provide the right information at the right time for:

- clinicians, to support the current and future delivery of individual patient care in a range of settings

- managers, to support the operation and continuous improvement of their service
- policy makers and planners, to support decisions on future services.

9. These stakeholders need to make decisions based on a wide range of data including activity, cost and quality. These data come from different information systems, so looking at one IM&T programme or project in isolation is unlikely to be an effective strategy. There needs to be clarity about how each IT programme or project fits with, and supports, the NHS in Scotland's corporate policies, strategies and plans. This is even more challenging given the requirement to work in partnership with others, including local authorities, to plan and deliver joint services where appropriate.

10. Effective IM&T can benefit patients and staff in a number of ways (Exhibit 1). To achieve this it needs to be viewed as a central part of change and innovation, not as a back room technical function. It is not enough for IT projects to offer the right technical solution – a PwC and Mori survey undertaken in 2003 shows that 85 per cent of projects have the right solution, but 70 per cent fail because of poor implementation.

11. Information only adds value if it is fit for purpose and is used. The NHS is big and complex so getting information to the right people when they need it will not happen by chance. It requires a structured approach, with clearly

identified investment at national and local levels, otherwise there is a real danger that costly IT solutions will not meet stakeholder information needs and support the large scale national change envisaged in *Delivering for Health* (Exhibit 2). To date the UK public sector has experienced a number of high profile IT failures, so the challenge for the NHS in Scotland is to ensure that IM&T investment is well managed, represents value for money and delivers the intended benefits.

### The NHS in Scotland does not meet Wanless targets for IM&T investment

12. Effective IM&T is a powerful enabler for change as highlighted in the Wanless Report:<sup>17</sup>

*“Without a major advance in the effective use of information and communications technology, the health service will find it increasingly difficult to deliver the efficient, high-quality service which the public will demand. This is a major priority which will have a crucial impact on the health service over future years.”*

13. The Wanless Report also makes clear that the NHS has a poor record on investment in IM&T compared with other public services in the UK and with health services in other countries. Average spend on IM&T in the public sector is typically 2-4 per cent of budget. In other industry sectors spend can be 7 per cent or more depending on the extent to which IM&T is crucial to the business. The Wanless Report recommended that spending should rise to 3-4 per cent of total UK health spend in order to make progress.

15 *Reports on the NHS overview and staff pay modernisation*, Audit Committee, July 2004 and *Budget process report to the Finance Committee*, Health Committee, Session 2, 2004.

16 For example, *A Scottish prescription: Managing the use of medicines in hospitals*, Audit Scotland, July 2005 and *Overview of the performance of the NHS in Scotland, 2004/05*, Audit Scotland, December 2005.

17 *Securing our Future Health: taking a long-term view*, HM Treasury, April 2002.



## Exhibit 1

### Benefits of effective IM&T

Effective IM&T can benefit patients, clinicians and managers. Managed well it can:

- provide clinicians with quick access to clinical information to inform their decisions about appropriate care even in emergency care situations
- provide patients and clinicians with access to specialist advice from remote locations through the use of telemedicine
- speed up diagnostic reporting from radiology and laboratory systems
- allow patients more control over appointment booking
- improve confidentiality and security by applying strict access rules and firewalls to protect data and information
- support capacity planning and management by identifying, for example, real time bed availability
- support performance management by allowing comparisons between similar organisations to test efficiency
- support the Efficient Government programme by speeding up processes and reducing paperwork.

Source: Audit Scotland

## Exhibit 2

### Meeting the needs of information users

Meeting the needs of information users requires a structured approach to IM&T to ensure there is clarity about:

- the NHS objectives and the associated questions that need to be addressed such as 'If we invest £x million, what can we get for it in terms of improved quality of care or efficiency?'
- the information and intelligence needed to support the NHS objectives which usually require combining data from multiple sources
- the data requirements to underpin the information
- the standards and definitions required to ensure that data can be exchanged between NHS and partners' systems and that any summaries or comparisons are meaningful
- governance arrangements, including those for security and confidentiality
- potential ways of providing the information – in the 21st century we would expect this to be through IT systems, although some important manual systems remain such as many medical records (case notes).

Source: Audit Scotland

**14.** The White Paper *Partnership for Care* highlighted the importance of IM&T and the need to invest in this. It states:<sup>18</sup>

*“Staff need to have the tools to do their job. So we are investing heavily, not only in the NHS staff themselves, but also in modernising the infrastructure of NHSScotland and above all in the information systems and communications technology necessary to deliver redesigned healthcare. NHS staff need access to the right information at the right time, if they are to meet patients’ needs. We urgently require an e-health culture to be established, driven by clinical leaders ... Our goal is to deliver an Integrated Care Record jointly managed by patients and professional NHS staff with in-built security of access governed by patient consent.”*

**15.** The SEHD published its strategy to achieve this in 2004, focusing on e-Health.<sup>19</sup> There has not been an all-encompassing or fully understood definition of e-Health and the NHS in Scotland appeared to use it to cover those systems that underpin the development of a single record for patients.<sup>20</sup> Current documents remain unclear about whether e-Health includes support systems such as finance, human resources and supplies as well as operational elements such as applications management and desktop support. The IM&T strategy needs to ensure that there is appropriate coverage and linkage of support systems such as finance and human resources.

Exhibit 3 provides a summary of current national IM&T programmes and projects in the NHS in Scotland. Appendix 2 provides further information on the current status of these, including budgets and timescales where these are known.

### **The NHS in Scotland faces real challenges as it seeks to make best use of IM&T**

**16.** Ensuring that people get the information they need to do their jobs and support service change presents enormous challenges for the NHS (Exhibit 4). New systems which provide people with better and more timely information require changes in ways of working for both capturing and using information.

**17.** Failure to meet these challenges leads to information being:

- unavailable to those who most need it
- received too late to be of use
- of poor quality
- in conflict with that received from alternative sources
- not relevant.

18 *Partnership for Care*, SEHD, February 2003.

19 *e-Health/IM&T strategy 2004-2008*, SEHD, April 2004.

20 Examples include the Community Health Index (CHI) number, Picture Archiving and Communication System (PACS), Emergency Care Summary (ECS), National A&E system, and ePharmacy.

## Exhibit 3

### Current IM&T programmes and projects

#### e-Health programmes and projects

- 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

#### Back room support systems

- 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 4

### Key challenges for IM&T in the NHS in Scotland

- The size and complexity of the NHS.
- Changes in policy resulting in changes in organisational goals, objectives and structures.
- The complexity of translating policy, goals and objectives into a comprehensive information needs specification on which to build an IM&T strategy and associated plans.
- The urgency of the need to provide IT support for people, especially clinicians and the resulting pressure to be 'seen to be doing something' to deliver 'quick wins'.
- Ensuring that planning and management information is produced wherever possible from systems which support clinical activities.
- The historic autonomy of the elements (eg, boards and trusts) within the NHS that encouraged 'local' approaches and solutions to IM&T within a federated structure. This has resulted in variation in the systems and technologies across Scotland.

Source: Audit Scotland

## Part 2. Leading the way



“Using IT to help transform public services needs coherent, joined up leadership and governance; portfolio management of the technology programmes; development of IT skills; strengthening of the controls and support to ensure reliable project delivery; improvements in supplier management; and a systematic focus on innovation.”<sup>21</sup>



## Exhibit 5

### Leadership for IM&T in the NHS



Source: PricewaterhouseCoopers

### Key findings

*Delivering for Health* signals a more corporate approach in future. This is a significant cultural shift in the way in which IT is managed within the NHS in Scotland and will take time to plan and implement.

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 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.

There is not an overarching information framework to inform the development of integrated IT solutions in the NHS in Scotland.

The overall IM&T strategy needs to be revised to reflect the full range of information needs and recent policy initiatives.

The NHS in Scotland needs to build on recent efforts to improve IM&T governance arrangements and the organisational structures which underpin these.

The SEHD needs to improve the way it funds IM&T programmes in future – for example, funding should be based on a sound business case and it should adopt a ‘stage gate’ approach whereby funds are released on a phased basis.

The NHS in Scotland does not know exactly how much it spends on IM&T overall.

#### Why leadership matters

**18.** Without strong leadership it will be extremely difficult, if not impossible, to deliver integrated information and technology across

Scotland which meets the needs of clinicians, managers and the public and delivers benefits to patients (Exhibit 5). If shortcomings in leadership are not addressed promptly, there is a real danger that programmes will be unrealistic; NHS boards might refrain from signing up to national solutions; and staff might not fully engage with initiatives.

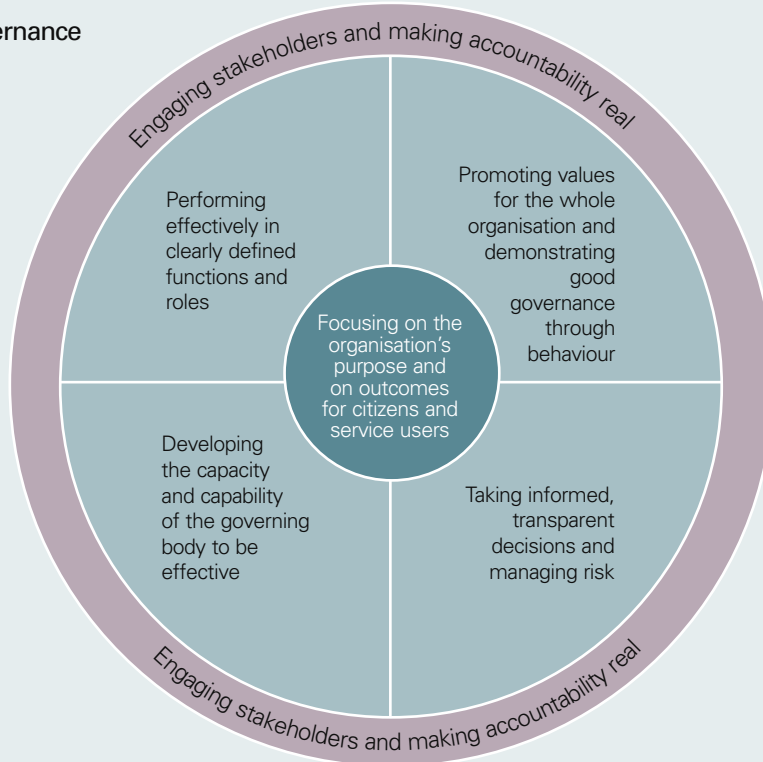
#### Developing a corporate approach will require a cultural shift

**19.** Those tasked with leading IM&T at a national level need to set a clear vision and goals. They then need to achieve a balance between directing the implementation of those aspects of the IM&T strategy for which they are directly responsible, and influencing implementation at boards and other organisations not directly within their control.

**20.** Historically boards have had a significant degree of local autonomy. They have determined whether or not to invest in national or local IM&T solutions depending on their

## Exhibit 6

### Elements of good governance



Source: *The Good Governance Standard for Public Services*, CIPFA/OPM, 2004

own priorities. As a result the SEHD and NHS NSS have had limited authority and impact in driving the full implementation of national solutions in local NHS boards. The SEHD has used health department letters (HDLs) to seek local action on IM&T development. However, we did not find any formal processes or assurance arrangements for ensuring compliance with these letters and they are not always clearly understood. For example, in April 2005 the SEHD increased delegated limits for capital spending on IM&T by all NHS boards from £1 million to £2 million specifically to provide greater autonomy.<sup>22</sup> A further HDL issued in October 2005 required boards to inform the SEHD about any new significant e-Health proposals, defined as those costing more than £100,000.<sup>23</sup> The second HDL focuses specifically on board spend on e-Health proposals. Given the lack of a consistent definition of e-Health in the past, there has been the potential for differences in

understanding between the SEHD and boards as to whether or not a given procurement falls within the scope of this HDL.

**21.** *Delivering for Health* signals a more corporate approach 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."<sup>24</sup> This is a significant cultural shift in the way in which IT is managed within the NHS in Scotland and will take time to plan and implement.

**22.** This is because there are tensions between national and local priorities for IM&T. Boards have been expected to base their IM&T decisions on local business cases and these have been judged against other competing projects and initiatives. This means that boards have opted in or out of national systems depending on their local circumstances. For example:

- SCI Store is at different stages of adoption in NHS boards with different versions in operation and take-up is elective. Additionally no clear business case, benefits realisation plan or future development plan exist for SCI. The lack of these structured processes increases the risk that the NHS does not get the full benefit from the system and increases the costs of support.
- Some boards have been allowed to opt out of the national system for A&E where their existing system met national standards. However, there may be an impact on development costs if the SEHD's reporting requirements change over time.
- The potential to achieve cost savings and service improvements in procurement will only be maximised through improved collaborative working across Scotland. BPI aims

22 NHS HDL (2005)16 Delegated Limits.

23 *e-Health: Guidance for planning and development pending single record*. HDL(2005)46.

24 <http://www.scotland.gov.uk/Publications/2005/11/02102635/26380>

## Exhibit 7

### Components of IM&T governance

An effective governance and risk management framework is crucial for IM&T in the NHS in Scotland to:

- Create a governance structure with clear accountabilities and decision making criteria able to demonstrate alignment between health strategy, and the IM&T work programme that incorporates both information and IT.
- Implement control mechanisms to ensure performance is within tolerance of plans and reported on transparently.
- Develop a review lifecycle with timings, frequency of decision making reviews and planning updates to maintain alignment.
- Manage national IM&T risks rigorously with clear action plans, accountabilities and ongoing monitoring. This is important because of the need to guard against losing or corrupting patient information.
- Review the overall performance of IM&T, and its individual programmes and projects, against a standard quality framework to identify problem areas requiring attention.
- Communicate clearly and unambiguously to customers of IM&T on plans, strategic decision making and ongoing performance.

Source: PricewaterhouseCoopers

to support this and, since its inception in 2003, 12 boards have signed up.<sup>25</sup> However, it is unclear how well embedded the system is at a local level, or what impact it is having in terms of generating savings. In addition, although NHS Greater Glasgow & Clyde and NHS Fife are engaged in the BPI Programme, they have not yet signed up to the eProcurement Scotl@nd Service.

**23.** These examples may reflect the fact that the NHS in Scotland is in transition, moving from the previous approach of local autonomy, which contributed towards the current fragmentation, to one which is more corporate. However, during our fieldwork we did not find evidence of a convergence strategy which would ensure that all boards have plans to comply with the national strategy over time. A paper on convergence has subsequently been considered at the June 2006 meeting of the e-Health Strategy Board.

**24.** We reviewed current IM&T leadership in the NHS in Scotland in terms of:

- governance and risk management
- organisational design
- strategic planning
- funding.

#### Good IM&T governance is essential

**25.** The principles of good governance (Exhibit 6) help to ensure good management, good performance, good stewardship of public money, good public engagement and ultimately, good outcomes from IM&T programmes and projects.

**26.** Exhibit 7 shows the elements that need to be in place to ensure that IT solutions support the health service's objectives.

#### The SEHD is reviewing its governance and risk management arrangements

**27.** The NHS in Scotland recognises that it needs to ensure that its governance arrangements are in line with the elements of good practice outlined in Appendix 3. Responsibility for IM&T within NHS Scotland currently sits with:

- The SEHD, which is responsible for defining the strategy for IM&T.
- NHS NSS, which has direct responsibility for the ongoing management of a number of national projects and programme management responsibility for many of the new national IM&T solutions. In addition, NHS NSS provides extensive Scottish health and care statistics to the service.
- Local boards, which have traditionally been responsible for the delivery of IM&T within their own organisation.

**28.** At the time of our review it was not clear who was accountable for directing IM&T strategy development and implementation to ensure information needs are met and benefits are identified and achieved. The relationship between the SEHD, NHS NSS and NHS boards still needs to be clarified and the balance between national mandatory requirements (such as standards) and freedom to implement local solutions needs to be agreed.

**29.** The SEHD and NHS boards have taken a number of steps to improve governance. For example:

- ISD has developed a programme office which now provides status reports on the overall e-Health programme. The reports provide Red, Amber, Green (RAG) styled progress indicators of status but do not provide any assessment of progress against a benefits realisation plan, risks or inter-programme dependencies. In addition, its scope does not include reporting on other programmes or projects such as the BPI Programme, the Logistics Programme, Shared Services or SWISS.
- The SEHD commissioned an external consultant to review and develop revised governance arrangements in November 2005. These are being further developed along with implementation plans. These new arrangements incorporate:
  - an e-Health Strategy Board responsible for the strategic direction of e-Health
  - an e-Health Delivery Board responsible for the delivery of the e-Health programme

- a Design Authority responsible for the technical oversight and assurance of the strategic fit of proposed national IM&T solutions.

- As of February 2006, the e-Health Strategy Board had met once and the other two groups were still to be established. The effectiveness of the groups will depend on their terms of reference, clear roles and responsibilities for group members, and on the right membership. There are documented briefs for the e-Health Strategy Board and steering groups. These identify group members but they do not set out individual members' responsibilities and accountabilities.
- The SEHD has accepted that clarification of its role along with those of NHS NSS and health boards is an important part of the work of the e-Health Strategy Board.
- In order to ensure that national and local governance arrangements complement each other, the SEHD began a tendering process in May 2006 *"to define the governance arrangements and standards required to deliver the e-Health Programme and set out a plan for their delivery."*

**30.** The new governance arrangements currently planned 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.

**31.** The SEHD also needs to improve existing systems for:

- Linking funding for initial procurement, implementation, maintenance and future development of IT systems to achieving key milestones or delivering benefits. Existing funding mechanisms do not ensure that the continuation of a programme, project or initiative is dependent on meeting agreed success criteria.
- Monitoring the progress of IT programmes and projects in the context of the national IM&T strategy. We found little evidence to demonstrate that this was happening, with programme and project boards operating in isolation. A number of key stakeholders commented on this.
- Managing risks consistently across all projects and programmes and reporting these to programme and project boards. At present, risk management and assurance are carried out at a project level and there is no standardised risk management framework or approach to assurance. The SEHD recognises this and has been working with external consultants to develop a framework which will be introduced as part of the new governance arrangements.

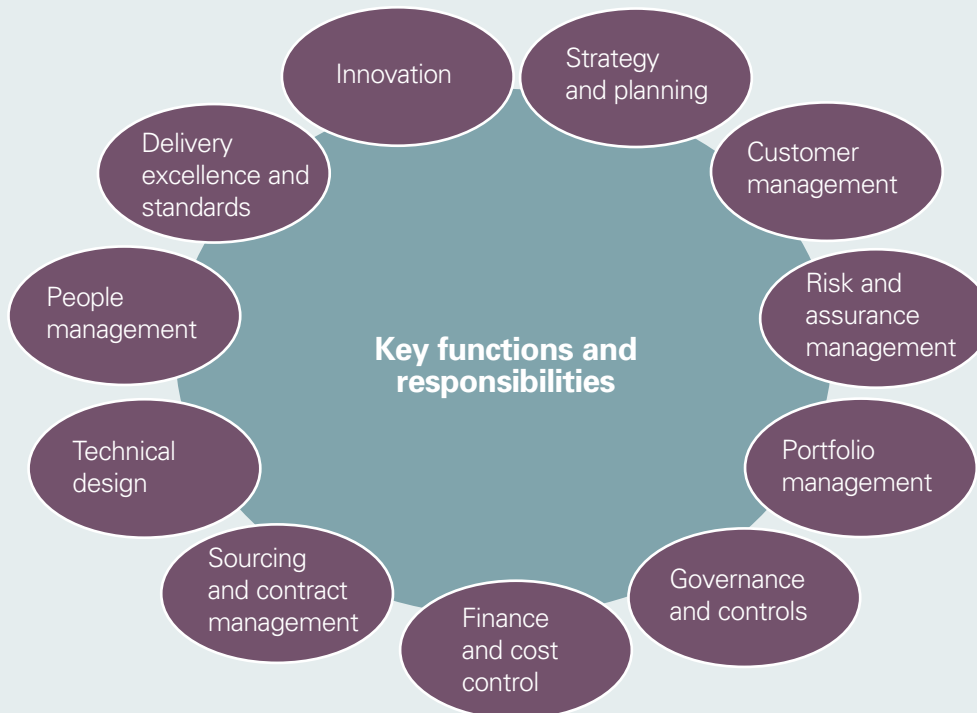
### **The current organisational structure does not support clear accountability**

**32.** There is no right organisational structure for IM&T. But whatever structure is adopted it is essential that IM&T professionals and others are clear about who is accountable for each of the areas and services shown in [Exhibit 8](#) and how they are delivered to, and by, the NHS in Scotland.



## Exhibit 8

### Key functions and responsibilities for IM&T



Source: PricewaterhouseCoopers

**33.** At the time of our review, responsibility for IM&T management was fragmented between the SEHD, NHS NSS and NHS boards, and it was not always clear how functions were shared. This uncertainty made overall accountability unclear and stakeholders were confused about who had overall responsibility.

**34.** In particular, we found that:

- there was a lack of clarity about the roles, responsibilities and accountabilities between those in charge of information and those in charge of IT at NHS NSS and the SEHD, and how they should link
- more effective arrangements were needed to fulfil the role of a technical design authority, providing technical oversight and assurance of the strategic fit of proposed national IM&T solutions

- there was not a common understanding as to who, or which body, was responsible or accountable for ensuring that the NHS in Scotland was focusing on the right priority areas for IM&T and for reviewing the IM&T programme on an ongoing basis
- there were some examples of initiatives to develop practices, methods and tools to support consistent implementation such as the Electronic Clinical Communications Implementation (ECCI). However, no group had lead responsibility for developing and implementing these for all IT systems. Interviews with stakeholders in boards highlighted the Centre for Change and Innovation (CCI) as having a key role to play in supporting the delivery of business change and adoption of best practices. But its remit appeared more aligned to the redesign of front line services

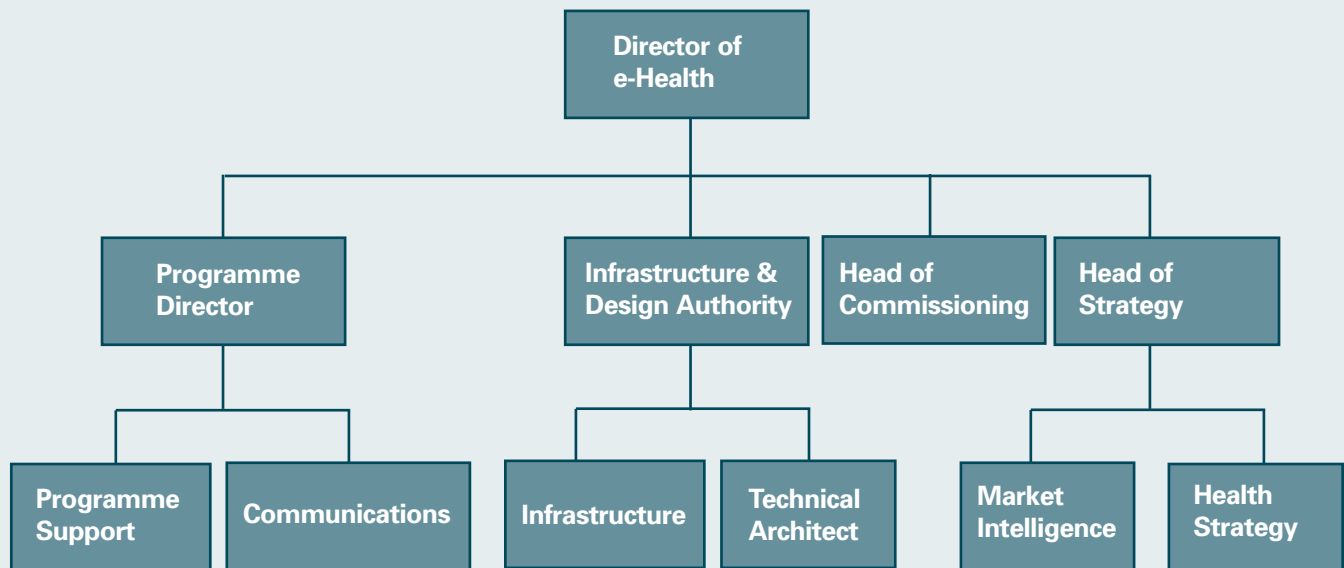
rather than supporting the delivery of IM&T programmes, and there was little evidence of CCI involvement in the case studies we reviewed

- many stakeholders were of the view that projects tended to be managed in isolation rather than as part of a portfolio. This meant that there was no overarching view of projects to identify what was going well or not so well in relation to other projects and the changing priorities of the NHS.

**35.** The SEHD recognised that achieving the major milestones set out in *Delivering for Health* will require a joint approach between the SEHD and boards and assigned lead responsibility for e-Health to the Director of Policy and Strategy in the SEHD and the Chief Executive of NHS NSS.<sup>26</sup> Currently e-Health at the SEHD remains the responsibility of the Director of Primary & Community

## Exhibit 9

Proposed new structure for managing national IM&T projects in the NHS in Scotland



Source: SEHD, May 2006

Care and the Director of Finance leads the Analytical Services Division (ASD) which covers information. In NHS NSS, responsibility for e-Health and information is also split between two interim directors.

**36.** Since the completion of our fieldwork the SEHD has announced a new organisational structure for IM&T (Exhibit 9). This is in line with good practice but it is too early for us to assess the degree of implementation or the effectiveness of the new structure. More work will be required to ensure that the new structure demonstrates a clear connection between information and IT; clarifies the respective responsibilities and accountabilities of the SEHD and NHS NSS; clarifies responsibilities for all IT programmes; and ensures that responsibilities are fully communicated to the wider NHS in Scotland.

### Strategic planning for IM&T needs to get better

**37.** Strategic planning is about ensuring that medium to long-term IM&T plans fully support the health strategy for Scotland. It means being clear about priorities and plans; using the resources available to deliver a defined set of benefits and objectives; and reviewing these on a regular basis to ensure the benefits are realised.

### There is not an overarching information framework or strategy to inform the development of integrated IT solutions

**38.** An IM&T strategy should be driven by a clear information strategy outlining NHS information requirements including outcomes, quality, activity and cost. It should identify how IT systems will help meet these needs. Information needs should be identified in a structured way so that it is clear what information the NHS in

Scotland needs; where it should come from; who should provide it; how it should be analysed and quality assured; and how this can be supported by IT.

**39.** There is not an agreed information framework linked to the health strategy, on which to base strategic plans for improving the availability and quality of information, although there are some initiatives underway which could help address this situation (Exhibit 10).

### The current IM&T strategy needs to be revised

**40.** The current *National e-Health/IM&T strategy* was published in 2004, and was informed by the health policies in place at that time.<sup>27</sup> The strategy identifies areas of the policies that IM&T could support; provides a view of the position at that time; and identifies what more needs to be done. The SEHD is assessing the capability of the current e-Health programme to

## Exhibit 10

### Current information initiatives in the NHS in Scotland

Current initiatives	Comment
<p>The SEHD's ASD and NHS NSS ISD undertook a major review of health and care statistics in Scotland in 2005. The review aimed to ensure that the genuine needs for information for policy development, monitoring, planning and analysis are being met and that priorities for new developments are identified.<sup>1</sup> The report was published in December 2005 and recommends the development of an information framework.<sup>2</sup> This is currently being taken forward by ISD as a matter of priority.</p>	<p>To date there is not a formal remit, scope or timescale for this work, but we understand that ISD and ASD have jointly developed an initial framework as a basis for discussion with the SEHD and the NHS in Scotland about future data development priorities. The information strategy needs to be comprehensive, covering for example, outcomes, quality and finance as well as activity.</p>
<p>A SCOTSTAT Health and Care Committee was set up in 2005 with a standard remit "to identify the key strategic statistical information required by all interested parties, and to develop and implement a strategy for prioritising and meeting these needs while minimising, where possible, the burden on data suppliers and maintaining quality fit for purpose".<sup>3</sup></p>	<p>The ability of the group to deliver on that remit depends on its status, resources and a clear mandate to do the job.</p>
<p>Since 2004, ISD has sought to involve stakeholders in formally prioritising its work plans via the ISD Steering Group.</p>	<p>Although chaired by a board chief executive, the group's membership has drawn mainly from the SEHD. However, additional NHS representatives have recently been recruited.</p>
<p>ISD has led a substantial piece of work to develop and publish the Health and Social Care Data Dictionary. This provides data definitions and standards to support direct patient care and communication between care professionals; and as a by-product it also supports audit and quality improvement.<sup>4</sup></p>	<p>The challenge for the NHS in Scotland is not only to continue to develop the dictionary but also to ensure that it is widely used to ensure that data collected are consistent and allow meaningful comparisons to be made.</p>
<p>ISD has a data development programme to address gaps in information. The emphasis has been on how to meet the developing needs of clinicians and how to take advantage of technological developments that offer better ways to capture and disseminate information. It is now envisaged that data development priorities will be driven by the developing information framework.</p>	<p>The challenge is how to ensure that the needs of all information users are met, with management information being produced whenever possible as a by-product of patient-based systems.</p>
<p>The SEHD has identified 'The Core Set' of targets and measures for 2006/07 based around the NHS in Scotland's four priority areas: Health improvement; Efficiency and governance improvements; Access to services; and Treatment appropriate to individuals. These are commonly referred to as HEAT and performance indicators are being implemented to provide the SEHD and local NHS boards with standard performance information.</p>	<p>Those responsible for performance monitoring now need to ensure that people throughout the NHS in Scotland are using common definitions and formulae to ensure that comparisons are being made on a consistent basis. There is evidence that this is now beginning to happen. For example, there are now clear rules about how to measure sickness absence as a result of staff governance.</p>

#### Notes:

1. ASD/ISD Stage 2 consultation briefing, 2005.
2. *Strategic Review of Health & Care Statistics in Scotland*, SEHD, December 2005.
3. <http://www.scotland.gov.uk/Topics/Statistics/scotstat/HealthandCare>
4. <http://www.datadictionary.scot.nhs.uk/>

Source: Audit Scotland

## Exhibit 11

### Typical KPIs for IM&T

IM&T organisation and service delivery	IM&T development and application of legacy systems
<ul style="list-style-type: none"> <li>• User satisfaction including:               <ul style="list-style-type: none"> <li>– Percentage systems availability.</li> <li>– Percentage network availability.</li> <li>– Response times.</li> </ul> </li> <li>• Return on IT investments.</li> <li>• Percentage of IT professionals to business users.</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of business goals addressed with new applications.</li> <li>• Increase in productivity attributable to new applications.</li> <li>• Time and cost savings generated by new applications.</li> <li>• Increase in process performance generated by new applications.</li> </ul>
IM&T investment	Balance between maintenance and development
<ul style="list-style-type: none"> <li>• IM&amp;T spend as a percentage of total revenue.</li> <li>• Percentage of projects delivered on time, budget and quality.</li> <li>• IM&amp;T cost per service user.</li> <li>• Ratio of IM&amp;T users to service staff.</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of IT staff time spent on maintenance.</li> <li>• Percentage of IT staff time spent on application development.</li> <li>• Percentage of IT budget spent on maintenance.</li> <li>• Percentage of IT budget spent on performance improvements.</li> </ul>

**Note:** For those organisations that adopt KPIs, measures are typically tailored to a core of six to eight.

**Source:** PricewaterhouseCoopers

deliver against *Delivering for Health*. In doing this it needs to ensure that there is:

- Clarity about the information needed by the NHS in Scotland 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.
- A basis for local board strategies and implementation plans which complement the national strategy.

- Compatibility with the Open Scotland Information Age Framework to promote interoperability between IT systems, both within the NHS and between the NHS and its partners, so that data can be shared when it is appropriate to do so.<sup>28</sup>

**41.** The SEHD has no key performance indicators (KPIs) to monitor the implementation of the *National e-Health/IM&T Strategy* and the performance of IT systems. [Exhibit 11](#) provides examples of possible KPIs. These are important in identifying and addressing problems as early as possible. Failure to do this can mean that stakeholders' commitment is undermined. For example, users have experienced problems with response times for the e-procurement system, and this reduces their willingness to use the system. Instead the SEHD has set a number of target dates that the NHS in Scotland is expected to achieve. (See [Appendix 2](#)).

**42.** During our audit we did not find evidence of an overarching prioritisation process to ensure that investment in individual programmes and projects is driven by corporate strategic priorities. Neither did we find evidence of ongoing evaluation or review of the progress made by current projects against an action plan to deliver the overall *National e-Health/IM&T Strategy*.

**43.** The national PACS and A&E systems originated as local projects and have now been adopted nationally. Local procurement would have been expensive and the SEHD decided to procure national solutions in order to gain economies of scale and ensure a standardised system. These have become part of the broader e-Health strategy. They are important developments but there is a risk that without a robust national assessment and decision-making process priorities can get distorted, suboptimal IT solutions may be adopted and future costs may be increased.



**44.** In March 2006, the SEHD made a commitment to review all systems in light of their contribution to *Delivering for Health* to determine what to accelerate, continue, pause or stop.<sup>29</sup>

### The SEHD needs to review funding for IM&T

**45.** 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. There should be a financial plan that identifies:

- how funding will be put in place
- how expenditure will be phased
- the points at which expenditure will be authorised
- the breakdown of costs
- the authorisation process for expenditure.

**46.** Within leading practice organisations, funding for large programmes is typically based on a gateway approach where both capital and revenue funds (including staff time) are released on a phased basis, depending on the achievement of certain outcomes ([Appendix 5 outlines the OGC's gateway model](#)). This approach is beginning to be used for external suppliers but is not routinely in place for all programmes.

**47.** The SEHD does not have robust processes for defining whole-life budgets.<sup>30</sup> It does identify the full lifetime costs for projects which require a Full Business

Case – that is those with capital expenditure of over £2 million – or on smaller projects which involve a procurement. However, this does not happen for projects which are delivered as part of the work of an existing NHS team. This can make it difficult to undertake ongoing cost benefit reviews of the systems and services provided.

**48.** For new programmes and initiatives in the NHS in Scotland, there is usually a component of national funding. This money is most often used to fund national software purchases and systems development, for example the SCI products (SCI Store, SCI Gateway, SCI Discharge and SCI Outpatients) and the BPI Programme. We found no examples of funding based on a gateway process or staged draw-down of funds; instead national funds are typically released as an annual budget or one-off activity.

**49.** Historically, boards have allocated money from their existing budgets to fund local implementation of national projects and the ongoing running of the system. This creates financial challenges for boards, especially those trying to address budget deficits, as the costs of IM&T developments are competing for funding with clinical priorities. More recently there have been examples, such as the A&E project, where the SEHD has provided some central funding for local implementation and for software support.

**50.** For the four case studies we reviewed, only one (BPI) had programme reports that provided information on spend against budget ([See Appendix 4 for findings from our four case studies](#)).

**51.** The NHS in Scotland cannot identify exactly how much it spends in total – capital and revenue – on IT. The SEHD carried out a one-off survey of local spend in 2002/03 but it reports that this was resource-consuming and difficult mainly because of differences in definition of what constituted IM&T spend. Its best estimate of spend by NHS boards is £50 million in 2006/07. It now intends to review the recording of financial data as part of its new governance arrangements.

**52.** [Exhibit 12 \(overleaf\)](#) provides information from the draft revenue budget for national IT and actual spend for the period from 2002 to 2008. In addition, capital budgets for 2005/06, 2006/07 and 2007/08 are £27 million, £35 million and £40 million respectively. [Appendix 2](#) provides the data available from the SEHD on revenue and capital expenditure for selected IT projects.

**53.** Although budgeted and actual expenditure have increased significantly, this still falls short of the 3-4 per cent of the NHS budget recommended by Wanless, which would amount to approximately £373 million in 2006/07. Nevertheless, the growth in investment is substantial and there is a need to do more to ensure that it represents value for money and delivers the information that staff need to provide services to patients.

<sup>29</sup> *National eHealth Strategy: Review of national project portfolio*, SEHD, March 2006.

<sup>30</sup> Whole-life budgets mean the revenue and capital expenditure for implementation and running costs throughout the life of the system.

## Exhibit 12

### Planned and actual spending on IT in the NHS in Scotland

2002/03 £000	2003/04 £000	2004/05 £000	2005/06 £000	2006/07 £000	2007/08 £000
<b>Draft budget<sup>1</sup></b>					
16,512	19,679	36,821	35,301	65,301	100,301
<b>Revised budget</b>					
31,062	25,221	29,316	36,367	45,301 <sup>2</sup>	100,301
<b>Actual spend</b>					
31,017	26,060	30,015	37,205	-	-

**Notes:**

1. <http://www.scotland.gov.uk/Publications/2005/09/06112356/24114>

2. Figure amended in <http://www.scotland.gov.uk/Publications/2006/09/05131713/10>

Source: SE draft budgets 2006/07 and 2007/08, SEHD, July 2006

## Recommendations

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

### 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.

## Part 3: Involving information users



### Key findings

The SEHD and NHS boards recognise the importance of stakeholder engagement, but they need to do more to involve clinicians, managers and policy makers to ensure their information needs are met through IT.

### Why stakeholder engagement matters

**54.** The main stakeholders are information users such as clinicians, managers and policy makers. Stakeholders are those people who are affected by, or can influence, an IM&T project but who are not part of the project team – they are critical to its success. For example, if clinicians are to use new systems to support their work with patients they need to have confidence in the accuracy and timeliness of the information generated.

**55.** 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 ([Exhibit 13, overleaf](#)). As the NHS in Scotland moves to a more corporate model for IM&T, led nationally, and as the size and complexity of programmes undertaken increases, this task becomes more difficult.

### There have been problems involving stakeholders

**56.** The SEHD and NHS boards recognise the need for stakeholders to be identified, consulted and involved in the development of strategy and in the design and delivery of information systems. But the processes for identifying and involving stakeholders lack formality, rigour and impact.

**57.** We reviewed the process for engaging stakeholders with the *National e-Health/IM&T Strategy 2004-2008*. Formal consultation was in the form of an HDL to

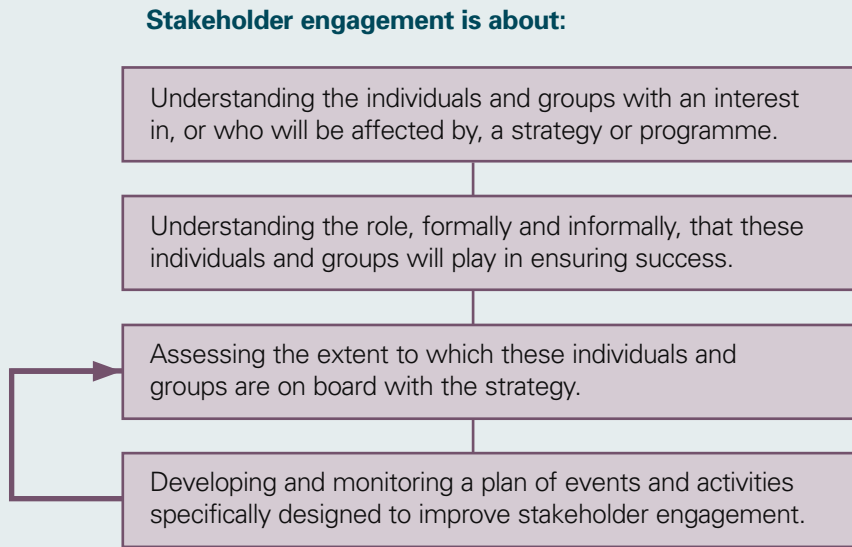
chief executives but this did not guarantee that all stakeholders had an opportunity to comment. It was also unclear how views were fed into and recognised within the strategy. Neither did we find evidence of an action plan to ensure that stakeholders were signed up to the strategy.

**58.** For individual programmes and projects, we found little evidence of formal processes or methods in place ([See Appendix 4 for findings from our four case studies](#)). Instead, engagement depends on project managers' knowledge of the health service and the existence of professional bodies or organisations that could potentially represent one or more stakeholder groups. Stakeholder mapping is important to ensure balanced representation of all groups. Without it there is a risk that IM&T developments do not represent or reflect all relevant information needs within the NHS in Scotland.

**59.** The main formal route for involving stakeholders has been

## Exhibit 13

### Principles of stakeholder engagement



Source: PricewaterhouseCoopers

through membership of a programme board or through the user group for existing systems. We did not find evidence of effective communication plans for different groups.

**60.** There was no evidence of project board members having clear terms of reference for their involvement, so there is a significant risk that individuals sit on the board in an individual rather than a representative capacity.

#### The SEHD is taking action to improve stakeholder engagement

**61.** The SEHD is beginning to do more to engage with stakeholders, for example:

- Each NHS board is required to have an IM&T lead and a separate clinical IM&T lead.
- The Clinical Lead for IM&T at the SEHD is investing significant effort to get key

stakeholders (clinical and non-clinical) on board with the A&E programme. The need to do this is becoming pressing as the target dates for systems implementations approach.

- The SEHD has commissioned an assessment of the strategic options to take forward the wider primary and community care agenda arising from *Delivering for Health*. This is essential because of the serious concerns expressed about the General Practice Administration System for Scotland (GPASS) (Exhibit 14). The British Medical Association and the Royal College of GPs raised some of these concerns with the Health Minister in April 2006, and concerns have also been discussed at the Parliament's Health Committee.<sup>31</sup>
- 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.

**62.** It is too early to assess whether these actions will address stakeholder concerns; for example, IM&T leads in NHS boards alone will not guarantee effective stakeholder involvement without an action plan for active engagement.

#### Recommendation

##### The NHS in Scotland should:

Take a more formal, structured approach to stakeholder identification, engagement and communication to ensure the successful delivery of IM&T programmes and projects which meet stakeholder information requirements and deliver expected benefits.

31 Evidence to the Health Committee, Scottish Parliament, 30 May 2006.

## Exhibit 14

### Some of the concerns with GPASS raised by GPs

Concern	Action taken to address the concern
Lack of clinical functionality.	Ongoing development of GPASS-clinical.
Risks to patient safety. For example: <ul style="list-style-type: none"> <li>• If a GP used more than 256 characters in a patient record, the system randomly transferred information into other patient records.</li> <li>• In early 2006, an incorrect prescription was issued to a patient.</li> </ul>	Resolved as a matter of priority in November 2005.  Resolved as a matter of priority in April 2006.
Problems supporting the new Quality and Outcomes Framework which is part of the new GMS contract. For example: <ul style="list-style-type: none"> <li>• In January 2006, a software fault led to problems with reminder letters for patients with chronic conditions, such as high blood pressure, that need to be reviewed.</li> <li>• Two months into the contractual year, some GPASS data entry screens to support preventive care were still not available.</li> </ul>	

Source: BMA press release, 4 April 2006, GPASS website, Scottish Parliamentary Health Committee evidence session, 30 May 2006



# Part 4. Programme and project management



## Key findings

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 alert leaders and senior managers to emerging problems, and inform their IM&T investment decisions about what to start, stop or accelerate to achieve their overall objectives. There is limited evidence that expected benefits are identified, monitored and delivered.

### Programme and project management methods are used but not always to best effect

**63.** Effective programme and project management are essential if the NHS in Scotland is to deliver the ambitions of the e-Health and wider IM&T strategies. Leading practice organisations invest significantly in this area to improve the likelihood of success within large scale,

complex technology change work programmes. Effective programme and project management alerts leaders and senior managers to emerging problems; this enables them to intervene early to prevent projects and programmes running over time and budget (Exhibit 15 and Appendix 3).

**64.** The OGC findings, and experience within the NHS across the UK, highlight the common pitfalls encountered in managing change, with poor risk controls, weak business case rationale and inadequate skills being some of the key findings within programme failures.<sup>32</sup> Further details are available in Appendix 5.

**65.** We found examples of good practice in some elements of project management in our case studies (See Appendix 4 for our findings). But more needs to be done to ensure that all national and local projects are managed well so that they deliver to time and within budget, and meet user needs.

**66.** There is reasonable compliance with generally recognised programme and project management standards according to the evidence from our case studies. PRINCE2, a formal project management method, is often applied but the rigour with which standards are applied varies.<sup>33</sup> For example, the quality of content on project status reports varies, and there are variations in the degree to which risks are actively managed.

**67.** Our case studies showed that the level of programme and project management skills varies across Scotland. For example, within NHS NSS and NHS 24, the majority of project managers are PRINCE2 trained but this is not generally the case across the NHS in Scotland. Project managers and others indicated that the level of skill in local boards is often low, with very limited understanding of the basics such as the need for, and how to produce, a project initiation document. In addition, programme management reporting – progress against plan, spend against budget, deliverables

32 <http://www.ogc.gov.uk/sdtoolkit/seniormanagement/gatewaylessons/index.html>

33 PRINCE2 is the designated programme and project management methodology for all large scale projects within the NHS in Scotland.

## Exhibit 15

### Elements of good programme and project management

- Staff tasked with implementing solutions have access to common, consistent and well developed methods, tools and techniques.
- Proven methods are used to manage the project scope, track progress, contain risks and assign clear responsibilities for programme delivery.
- Implementing processes to help effectively engage with stakeholders, understanding their requirements and influence on the programme.
- Ensuring that work programmes have a well defined, measurable and detailed plan.
- Managing the lessons learned and information captured within a programme as part of a structured knowledge management process supporting more efficient management of resources by structured decision making and project prioritisation.
- Managing the delivery of programmes consistently, with a full audit trail of materials able to articulate an idea through to full-blown system implementation.

Source: PricewaterhouseCoopers

and outcomes documented with clear accountabilities, assurance and timelines – is not universally practised or well-structured. This means that strategic decision making is likely to be flawed through a lack of accurate information on IM&T performance.

**68.** The SEHD requires a business case for all projects requiring a capital investment of £2 million or more to demonstrate the rationale for the investment. A number of the national projects which play a key part in the SEHD's e-Health strategy do not have a national business case as the capital investment required for these was less than £2 million.<sup>34</sup> The lack of a business case for these strategically important projects, each of which has a significant revenue investment, makes it difficult to monitor the extent to which they are delivering the intended benefits and, as they move into ongoing operation, the extent to which they continue to provide their services to NHS Scotland in an efficient and effective

manner. A formal project plan is not always established for each project undertaken. As a result projects are not split into key activities and this leads to a lack of accountability for delivery or milestones for progress reporting against objectives. Also, dependencies between projects are not always identified, with limited recognition of local systems which have already been implemented – this increases project risk.

**69.** Where business cases are produced, stakeholders indicated that they are not always shared outside of the SEHD or NHS NSS and this means that others are not clear about the rationale for the investment.

**70.** We did not find a standardised framework for risk management. Accountabilities rest by default with programme managers and in some instances there are no documented controls and procedures for monitoring. A risk assessment is not always undertaken before the start

of a project. The four case studies that we reviewed have issues and risk logs, but only two could demonstrate that they were updated on a regular basis and that the necessary action was taken.<sup>35</sup>

**71.** The templates for project reporting were generally good, but we found significant variation in the quality and completeness of the information provided in our case studies (See Appendix 4 for our findings). The NHS NSS' project office provides the SEHD with a monthly update of their current IM&T projects and status, together with key issues, but little is actually done with this monitoring information.

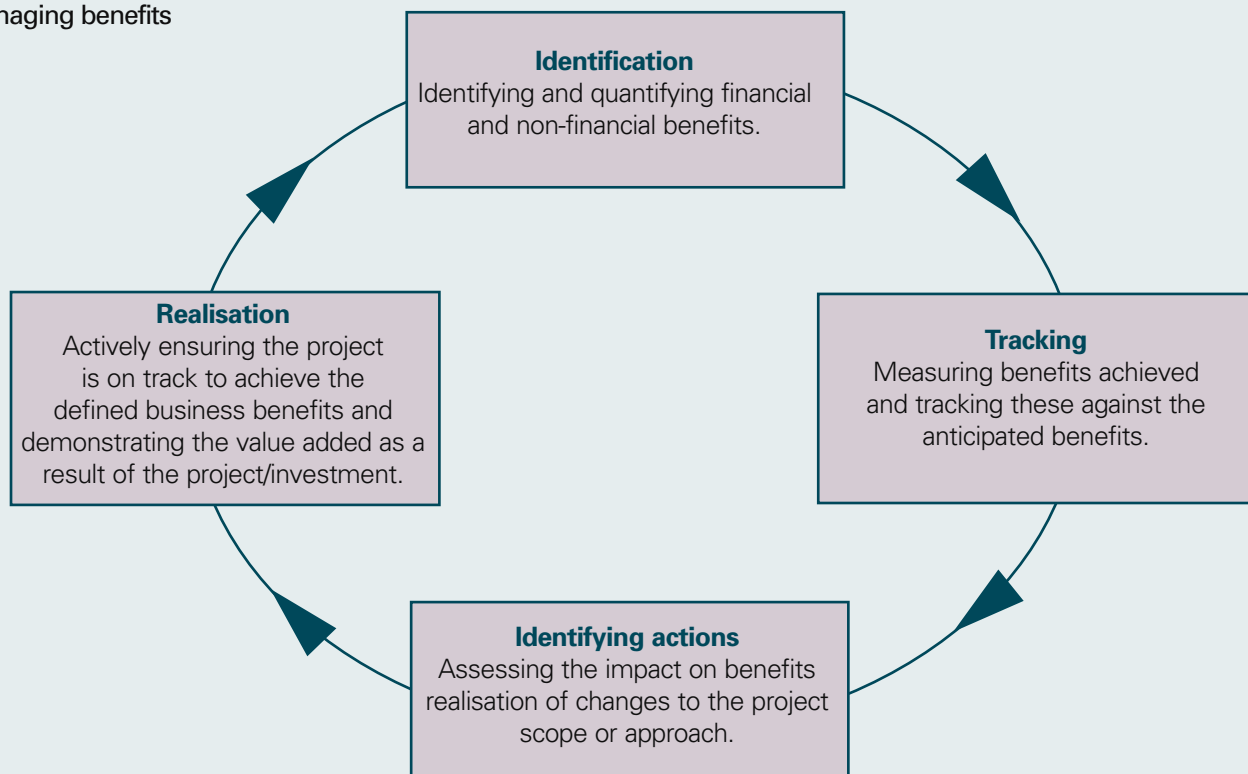
**72.** There is no standard process for undertaking post implementation reviews or for sharing lessons learned across the NHS in Scotland. NHS NSS carries out reviews for projects that it is involved in, but the lessons are not shared. These reviews need to be more rigorous to ensure that programmes deliver the expected benefits to stakeholders.

<sup>34</sup> For example, SCI Store, the Emergency Care Summary and the A&E project.

<sup>35</sup> The Emergency Care Summary and BPI.

## Exhibit 16

### Managing benefits



Source: PricewaterhouseCoopers, 2006

### The SEHD needs to adopt a more rigorous approach to benefits realisation

**73.** Major IM&T programmes are expensive so it is vital that decision makers are clear about what benefits the investment can be expected to deliver. They also need to be assured that both at a corporate NHSScotland level and at an NHS board level these expected benefits are actually achieved and have been worth it. For example, many GP users are not convinced that the national investment in GPASS continues to represent value for money. However, current funding arrangements, whereby money is top-sliced by the SEHD, mean that NHS boards are contributing to GPASS even if their GPs exercise their right under the GMS contract to apply for funding

to use other systems. A current example of GPs exercising this right is NHS Grampian which has submitted a business case to the SEHD, on behalf of its GP practices, to move away from GPASS.

**74.** The OGC stresses the importance of benefits management from the creation of a business case through to benefits realisation.<sup>36</sup> Exhibit 16 highlights the key steps in this process.

**75.** Benefits identification, tracking and realisation are not standard components of the NHS in Scotland's approach to IM&T programmes. For example, programme plans do not specify the contribution that their delivery will make to the achievement of the overall strategy for the NHS in Scotland.

**76.** There is a lack of accountability for the realisation of benefits, many of which will be achieved over a period of time once the project or programme has been fully implemented. It is not clear who is responsible for tracking and managing the achievement of benefits during and after implementation, although the financial benefits of some projects should be tracked through the Efficient Government Programme. This is acknowledged by the SEHD and they intend to address this through the introduction of new governance and management arrangements.

## Recommendations

### 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.

### The SEHD should:

- Introduce benefits-led business cases as a mandatory component of programme/project commissioning.

### Programme and project boards should:

- 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.

# Appendix 1. Advisory Panel

<b>Mr Robert Calderwood</b>	Chief Operating Officer Southern General Hospital NHS Greater Glasgow & Clyde
<b>Dr Peter Collings (until December 2005)</b>	Director of Performance Management and Finance, Scottish Executive Health Department
<b>Mr Richard Copland</b>	Project Director (National Programme for IT) Avon, Gloucestershire and Wiltshire Strategic Health Authority
<b>Mr Paul Gray (from January 2006)</b>	Director of Primary Care Scottish Executive Health Department
<b>Ms Ann Mollison</b>	Principal Planning Officer Social Work Angus Council
<b>Dr Gordon Paterson</b>	Chairman, Scottish Bowel Cancer Framework Group Chairman, The St John and Red Cross Defence Medical Welfare Service
<b>Dr Kenneth Robertson</b>	Clinical Lead IM&T, Scottish Executive Health Department
<b>Ms Hazel Soutar</b>	Director of Finance and Performance Management, The State Hospital
<b>Dr David Steel</b>	Chief Executive NHS Quality Improvement Scotland
<b>Mr John Wright</b>	Director of Knowledge Management & E-Health NHS Ayrshire & Arran



# Appendix 2. Programmes and projects status report

Project	Description	Budget (£) 2005/06		Budget (£) 2006/07		Milestones/targets
		revenue	capital	revenue	capital	
Accident & Emergency	Implementation of national A&E system in all hospitals that do not already have a compliant system. Target of all sites producing monthly national A&E waiting time statistics.	221,250	301,207	273,805	597,314	Completion scheduled for end 2006. Now expected end 2006.
Emergency Care Summary	A single national patient record IT system which contains key information from GP records such as current medication and allergies. Access with the patient's consent will be available to out-of-hours services and NHS 24.	297,104	-	361,579	-	Originally scheduled for pan-Scotland patient records by June 2006. Some slippage. Completed. For GPASS users to target. Four million patients now covered. Other system users coming on stream as their systems are accredited.
ePharmacy	Programme to deliver electronic infrastructure and support for the NHSScotland Community Pharmacy (CP) Strategy (as described in <i>The Right Medicine</i> ), primarily providing support for the planned new CP contract. Oversee delivery of necessary third party systems and services eg, GP and CP System changes and interfaces. Support NHS boards in implementation of new systems and services.	3,828,161	1,167,180	5,286,000 (provisional)	1,549,000 (provisional)	Completion scheduled for end 2007. On track. N3 broadband connections rolled out to pharmacies. Development of e-systems for Minor Ailment Service complete. Service live from July 2006. Chronic Medication Service and Acute Medication Service planning underway. Services to go live from April 2007.

Project	Description	Budget (£) 2005/06		Budget (£) 2006/07		Milestones/targets
		revenue	capital	revenue	capital	
Generic Clinical System	Project to establish a national tool-set as the universal first port of call for the development of new national and local clinical patient record systems. Associated projects to facilitate the use of national standards and meaningful sharing of patient information across traditional service boundaries.	22,565	2,030,000	1,583,769	-	Procurement complete, implementation underway, now linked to SCI. Go live in first sites by November 2006.
GP systems	Programme to ensure standards for GP IT, operation and development of GPASS and transition to central hosting services.	3,261,319	1,322,796	4,539,700	707,955	Standards: all suppliers currently undergoing compliance testing. GPASS: study underway to evaluate options. Central hosting: piloting underway with first practices.
Hospital Electronic Prescribing and Medicines Administration (HEPMA)	Project to establish HEPMA in acute sector, ie on same basis as GPs currently.	37,333	-	70,850	-	As stated in <i>Delivering for Health</i> , suitable IT product to be procured by end 2007. Current activity focused on requirements definitions and getting business case process underway. Important dependencies on security, resilience and access, eg, identification and authentication of prescribers.
Hospital Patient Administration Systems	Key administrative IT systems within NHS boards, supporting clinic, patient location tracking and statistics.	-	-	-	To be set	Majority of NHS board contracts for these key systems are due to expire over period 2008-11. Business case process will be used to examine options to address through national procurement. No timescales as yet.

Project	Description	Budget (£) 2005/06		Budget (£) 2006/07		Milestones/targets
		revenue	capital	revenue	capital	
National Clinical Dataset Development	Project to define standards for information relevant to clinical specialities.	-	212,000	743,000	-	Ongoing programme.
National staff directory and NHSmail	Secure email service and staff directory.	1,436,859	-	701,733	-	In place. Target of 100K users in directory and 12K active users by end July 2006. Target achieved. Now 130,000 on directory and 21,000 active users.
National Screening and Surveillance (eg. immunisation)		-	-	-	To be set	Strategy set for Community Child Health, requirements exercise getting underway, business case in due course.
National Cervical Cytology Roll out system	New national call recall system for cervical cytology cancer screening.	-	1,181,370	1,122,237	-	Currently under pilot – to be rolled out December 2006 to March 2007.
New Ways Waiting Times Definitions	Project to bring about the necessary changes to local patient admin systems to make them compliant with the new definitions for reporting waiting times.	-	23,284	70,500	-	Completion scheduled for end 2006. Delivery on track but risk of slippage into 2007.
Picture and Archiving Computer System (PACS)	Project to establish PACS (digital images including x-rays) in all NHS boards.	193,552	1,350,811	1,808,463	1,955,265	Original target for roll-out was June 2007. Procurement delays resulted in revised target of April 2008. First hospital (Southern General) to go live September 2006, which was achieved. Also live in Victoria Hospital.

Project	Description	Budget (£) 2005/06		Budget (£) 2006/07		Milestones/targets
		revenue	capital	revenue	capital	
Radiology Information System (RIS)	Project to nationally procure an IT system to support management of patient x-rays and link with PACS.	-	-	-	800,000	Scheduled to complete procurement by end August. Live in Dumfries and Galloway. Detailed contract negotiations to be completed
SCI Store	A single patient record IT system in each NHS board area which gives staff caring for patients online access to test results and clinical letters.	1,654,111	384,000	1,865,645	363,150	Target to be live in all NHS boards by June 2006. This has been achieved for test results, with all GPs now with access. Ongoing programme of further developments, including clinical letters implementation.
SCI Gateway	A pan-Scotland patient IT communication system used for transmitting electronic clinical referrals and so on.	780,293	357,840	1,684,924	141,668	Target of 90% referrals from GPs to hospitals by end 2006. On track – currently 70%.
SCI Diabetes	Programme to develop and roll-out patient IT record system within hospital clinics and between hospital clinics and GPs.	-	738,268	608,396	394,767	Currently being rolled out in all NHS boards.
SCI Index	Proposed project to redevelop the patient index element of the national CHI system.	100,250	-	-	-	Requirements specification complete; approvals and business case process underway.
Scottish Workforce Information Strategic System	Workforce Information Repository. SWISS is the data collection and analysis system that is now being used by the whole of NHS Scotland, for local, regional and national reporting.	253,000	-	-	-	In parallel, requirements for an operational HR system are being gathered. Consideration being given to national procurement of HR system and England's Electronic Staff Record implementation being monitored.

Project	Description	Budget (£) 2005/06		Budget (£) 2006/07		Milestones/targets
		revenue	capital	revenue	capital	
Sexual Health system	Project to nationally procure an IT system to support clinical and management of sexual health services.	-	-	-	To be set	Procurement just initiated. Scheduled to complete by end March 2007. Further implementation planning in due course.
Telecommunications	Secure broadband telecommunications network (known as N3) to link all NHS/Scotland organisations and settings.	10,486,899	-	13,178,042	-	In place and being extended. Target achieved of all 644 Community Pharmacists connected by end June 2006.
Theatre Management System	Project to nationally procure an IT system to support clinical information and management of hospital theatres.	-	-	-	To be set	Procurement just initiated. Scheduled to complete by end March 2007. Further implementation planning in due course.
<b>Totals</b>		<b>22,572,696</b>	<b>9,068,756</b>	<b>33,898,643</b>	<b>6,509,119</b>	

Source: SEHD, July 2006



# Appendix 3. Good practice checklist

This leading practice comes from a number of sources including the Office of Government Commerce, the National Audit Office and PwC's global network.

Through a combination of stakeholder interviews, document reviews and the case studies, PwC assessed current NHS in Scotland IM&T practice against this internationally accepted leading practice in planning, managing and delivering IM&T solutions within complex environments. At the time of the review, NHS Scotland did not have in place fully developed arrangements to meet the good practice standards outlined in this appendix.

The NHS in Scotland should use this checklist as a mechanism for identifying areas of greatest risk and monitoring progress towards full achievement of the good practice standards in terms of leadership, stakeholder involvement and programme and project management. We will assess their progress in our follow-up report.

## 1. Leadership

### Strategic planning

Leading practices
IM&T strategies are developed in line with corporate strategies and business unit operational plans, with clear linkage and alignment between policy and objectives.
Strategies are constructed over a rolling three to five-year window detailing the achievement of required service capabilities and outcomes stated in clear and unambiguous success statements.
Key performance indicators are defined at department level to drive performance, with clear linkage to the strategies and policies that they underpin.
IM&T is recognised as a key enabler to the future performance of the service as a whole and an enabler for service differentiation.
An enterprise technology architecture exists with clearly defined design principles, standards, platforms and business services to allow clear alignment and guidance for IM&T across the organisation.
Investment in IM&T is prioritised using a consistent set of decision criteria that is driven by corporate level strategic priorities.
A portfolio of IM&T projects exists that is continuously reviewed and monitored for fit with service priorities, with well documented business case and benefits realisation plans.
Strategic planning for IM&T exists within a well defined governance lifecycle, with ongoing intervention reviews of policy planning to programme delivery and evidence of realignment through the stop, start, continue, accelerate or redesign challenge points.

## Governance and risk

### Leading practices

A governance structure exists with clearly defined terms of reference, accountabilities and decision-making criteria for ongoing control and strategic planning of the IM&T agenda.

Approval of IM&T initiatives is well controlled, with formal approval within a centralised governance body able to review and/or reject investments and control spend through stage gated funding.

Programme and projects are managed by qualified project and programme managers certified to industry standards.

Programmes have evidence of project costs and benefits baselining at initiation and are able to provide an accurate estimate to the real project cost.

Programmes are subject to stage gate funding, ensuring effective pacing of projects through their full lifecycle and are able to demonstrate adequate risk and assurance provision.

A single view of the strategic work programme exists with major event/milestones mapped and measured against progress achieved.

Programmes are subject to Independent Quality Assurance reviews, the review being structured around a standardised framework, with findings published to a relevant corporate assurance group.

Risk management is conducted within a risk assessment framework, with evidence of risk appetite, active risk planning and controls and the application of sensitivity models within business case profiles.

Benefits realisation plans exist and are actively monitored, both departmentally and corporately, for their contribution to strategic objectives and any linkages to operational budgets for business units.

A corporate level scorecard is used to assess the health of the complete IM&T change programme.

## Organisation design

### Leading practices

Responsibilities and accountabilities are clearly defined and mapped to the organisational structure for IM&T services, covering strategic planning, financial management, support and operational services.

Key performance indicators are defined and measured against stretch targets with ongoing trend analysis and management reporting for service optimisation.

Learning and development programmes have clear competencies and target behaviours for IM&T roles defined, including certification of staff and ownership within the IT function for competency development.

IM&T design is the responsibility of a central technical design authority body, with clear accountability for management of an enterprise architecture and the definition of design principles, standards and policies.<sup>37</sup>

<sup>37</sup> Architecture means the application of IM&T systems design principles to ensure consistent standards.

Programme delivery is a core component of the IM&T organisational structure, with responsibility for consolidated reporting and the development of programme delivery standards, methodologies and tools.

Customer management of the IM&T services is formalised within the organisational structure, with ongoing service reviews conducted to monitor performance against targets and ongoing dialogue for effective monitoring of stakeholder needs.

Performance management is standardised across the department's functional areas linking back to the department's performance measures and development objectives ie, balanced scorecard.

The IM&T organisational model is sufficiently flexible and dynamic in its structure and reporting model to enable cross service working arrangements/multidisciplinary teams and matrix management reporting.

## Funding

### Leading practices

Funding is allocated to projects on the basis of alignment with the strategy and anticipated realisable benefits.

Funding process and allocations are transparent.

Funding process takes account of the full costs including procurement, implementation (systems and business change) and ongoing support and development.

Sources of funding are coordinated to ensure that money is being spent on the right priorities.

Where funds are allocated centrally eg, top slicing, local organisations understand the scope of services that funding covers.

## 2. Stakeholder alignment

### Leading practices

Use of a structured methodology to identify and segment stakeholder groups, such as stakeholder mapping and requirements analysis.

Development of a coherent contact plan showing key activities and dates.

Use of a variety of techniques for engaging with stakeholders such as interviews, briefings, solution demonstrations, etc.

Formal recording of stakeholder events and tracking of how the output of these events has been used to inform decision-making.

Clear responsibility for regular monitoring of stakeholder contact plans.

Feedback from stakeholders about communication and involvement used to make demonstrable improvements.

Stakeholder buy-in and commitment is sought prior to commencement of a project, including sign-off of the scope and objectives.

Changes likely to be brought about by a project are communicated to all affected parties at commencement of the project.

Project management ensures that end-users/stakeholders are sufficiently involved throughout the project.

A formal impact assessment is performed to determine the planned impact of a project on existing systems, business processes, organisational structure, people, relationships and culture.

### 3. Programme and project management

#### PPM methods

##### Leading practices

A project plan exists, containing a breakdown of activities, dependencies and defined accountabilities for delivery with key milestones for progress tracking.

Programme scope is well defined, with requirements and objectives clearly identified and a project initiation document available for the work programme, covering the scope, governance arrangements and deliverables of the work programme.

A stakeholder identification process has been completed, to identify the stakeholders likely to be affected/able to influence the project, along with a communications plan towards their ongoing management.

A programme board exists; members have clear accountabilities and decision-making authority; a structured agenda and information are in place.

A project quality plan or quality assurance process is defined, covering the approach towards QA within the project, management of the plan, associated tools and methods and the control of key project documentation.

A standard project methodology exists, providing a framework for the project lifecycle phases with supporting tools and template products to be created during the course of the programme.

A formal process is in place for managing changes to project scope, with impact assessment, prioritisation and formal recording of changes conducted communicated to the project stakeholders.

Progress reporting is in place, tracking all components of the programme including completion of activities, issue and risk management, completion of programme board actions and the overall financial health of the programme compared to budget.

Project team members have performance objectives defined for their role within the project, with a formal assignment appraisal and 360 degree feedback captured and reviewed for ongoing performance improvement.

A delivery excellence or project management office exists to support the adoption and monitoring of best practice in project delivery.

## Business cases and benefits realisation




Leading practices
Clear benefits are established up front and must be unambiguously defined and SMART (Specific, Measurable, Achievable, Relevant and Timebound).
Clear performance measures are in place which allow the assessment of success and failure in benefit realisation. This should be measured against an agreed baseline position.
Benefits must be realistic and deliverable but at the same time sufficiently challenging in order to drive meaningful improvement.
Benefits must be clearly aligned to the delivery of overall organisational strategy.
There is clear accountability for the delivery of each benefit or category of benefits.
There is regular reporting to monitor progress towards delivery. Ideally, this should be in the form of a coherent benefits tracker.
Post implementation reviews are used to assess whether benefits were delivered at all, whether they were delivered on time, the reason for any non-delivery and lessons learned.
A standard benefits realisation framework is incorporated within project approval documentation and aligned to an investment prioritisation model.
Benefits targeted are balanced with financial and non-financial improvements, incorporating 'soft issues' such as customer service and competency development, in addition to efficiency, regulatory and future cost avoidance modernisation projects.
Benefit targets include a mixture of short/medium-term improvement outcomes in addition to strategic initiatives; there should be a clear balance between tactical and strategic planning, including the targeting of 'quick wins' within projects.











































# Appendix 4. Case studies

1. Accident & Emergency (A&E)
2. Best Procurement Implementation of eProcurement Scotland (BPI)
3. Emergency Care Summary (ECS)
4. Scottish Care Information (SCI) Store

## Summary of findings for the four case studies

- Red  Major gaps against criteria, disciplines or behaviours which are likely to significantly affect performance.
- Amber  Significant gaps or concerns noted but corrective action being taken.
- Green  No major gaps or concerns noted.

	A&E	BPI	ECS	SCI
Overall				
Stakeholder management				
Strategic planning				
IM&T leadership				
Governance and risk management				
Organisation structure				
Funding				
Benefits management				
Project and programme methods				
Project documentation				

Project	A&E	BPI	ECS	SCI
<p><b>Overview</b></p>	<p>The A&amp;E System Programme was established to take forward the implementation of the nationally procured Accident and Emergency information system. The aims of this programme are to enable A&amp;E departments to track performance accurately, support the management of the patient journey using real time information and to work towards delivering the new A&amp;E waiting time targets.</p> <p>The primary objectives of the national programme are to:</p> <ul style="list-style-type: none"> <li>• ensure optimal uptake of the system by NHS boards</li> <li>• standardise key aspects of the system across boards</li> <li>• implement systems in the majority of boards and hospitals by June 2006</li> <li>• develop a system that is available to all sites and compatible with their requirements</li> <li>• ensure systems are capable of reporting on waiting times by December 2006</li> <li>• ensure national datasets are used</li> <li>• ensure that data are available to support national statistics</li> <li>• create interfaces, at the appropriate time, with a wide variety of existing projects and clinical applications</li> <li>• establish relevant user and governance procedures.</li> </ul>	<p>The objective of the Best Procurement Implementation (BPI) Programme is to achieve cost savings and service improvements through improved collaborative working in procurement across NHSScotland.</p> <p>The programme is taking a best practice approach to the implementation of the Scottish Executive's eProcurement Scot@nd Service. The programme is delivering new and revised national contracts for goods and services which are available to all public sector organisations across Scotland combined with the national roll-out of the eProcurement Scot@nd Service. Roll-out includes the implementation of a common purchase to pay process model and standard integration with finance and stock management systems. The principle underlying the programme is that the eProcurement Scot@nd Service provides an easy mechanism for public sector bodies to make purchases, increasing the level of adherence with national contracts and maximising the benefits of the new contracts. Twelve boards are currently using the eProcurement Scot@nd Service.</p> <p>The programme has been running since 2003 and aims to make savings of £50m per annum.</p>	<p>The objective of the Emergency Care Summary (ECS) Programme is to provide essential patient information to out-of-hours services including NHS 24. The project is sponsored by the GMS IM&amp;T programme (part of the programme to implement the new General Medical Services (GMS) contract) and is a recognised component of NHSScotland's e-Health strategy.</p> <p>The project started in October 2003. The objectives of phase one of the project were to:</p> <ul style="list-style-type: none"> <li>• provide a technically robust method of demonstrating the extraction of GP summary information from GP clinical systems into a 'store'</li> <li>• establish a GP summary record and determine the frequency of updates for each element of the record</li> <li>• share information and findings with the other UK nations.</li> </ul>	<p>Scottish Care Information (SCI) is an integrated programme of IM&amp;T developments aimed at delivering NHS in Scotland-owned products, and standards to support clinical communication and the development of Electronic Patient Records (EPR) and Electronic Health Records (EHR). There are a number of products within the SCI product set – SCI Store, SCI Gateway, SCI Discharge and SCI Outpatients. Our project review focused on the SCI Store project.</p> <p>SCI Stores are based within each board and contain information about current patients – either inpatients or those awaiting test results requested by GPs. The integration products extract data from departmental systems, such as labs and x-ray, and deposit the data in the SCI store. Hospital staff and GPs can access these data (as a read-only enquiry).</p> <p>The project was launched in Spring 2000 and is ongoing. The programme primarily composes two core streams of work. The first stream is the ongoing development of software (provided by ATOS). The second is rolling out the programme to those boards that have not yet implemented SCI Store. There are no firm plans for completing the roll-out and as the take-up of the programmes is elective the completion date for implementation is an unknown.</p>

Leadership	A&E	BPI	ECS	SCI
<p><b>Governance and risk management</b></p>	<p>Governance arrangements are in place. The programme manager attends local and national programme boards. Outline terms of reference for board responsibilities are included within a programme initiation document (PID). But these are mainly focused on programme manager accountabilities and contain limited detail on information requirements and board decision-making.</p>	<p>A programme board, steering group and strategy group have been established to oversee the programme with clear lines of accountability and ownership.</p> <p>Throughout the BPI programme the initial risk register was updated, including identifying new risks.</p>	<p>The programme is well structured with clear governance arrangements for the overall programme. There is a national programme board and local project boards for each local implementation project. Local project boards have a local clinical lead and local IM&amp;T lead and are attended by the national programme manager. Governance arrangements would be strengthened by defined terms of reference for each of the boards. These arrangements should include accountability for delivery; the types of decisions boards will be required to make; and the information they will receive.</p> <p>Leadership at the executive level is evidenced by communications from the Chief Medical Officer to all health board chief executives.</p>	<p>Governance arrangements are in place and provide a framework for decision-making and monitoring. But accountability for delivery is not clear as there appears to be 'collective responsibility' for delivery. The absence of clear accountability for delivering the programme highlights potential weaknesses in monitoring and measuring performance against a clear set of targets, outcomes and timescales.</p>

Leadership continued		A&E	BPI	ECS	SCI
<b>Organisational structure</b>	-	Central support groups have been established to resolve systems/technical issues such as interface problems. The programme has experienced difficulties in recruiting NHS staff with the appropriate skills and experience. This has resulted in an increased reliance on consultants and other third party resources. The programme piloted the implementation of new processes and the technical components eg, new interfaces.	-	The skills and competencies of staff delivering the programme are varied. PRINCE is cited as a delivery model but there is no reference to leadership skills, ongoing skills development or project performance appraisals for staff to provide 360 degree feedback and performance measurement. Software development is managed in a controlled, well-structured and disciplined way. Control for programme enhancements and software configurations are coordinated centrally and prioritised by a central user group board.	
<b>Strategic planning</b>	NHS Grampian originally developed and piloted the programme and following successful roll-out to its Sick Children's and the main A&E departments at Aberdeen Royal Infirmary, it is now being implemented across the NHS in Scotland.	-	The programme is a recognised component of the e-Health strategy. The programme developed has been piloted by NHS Grampian and NHS Ayrshire & Arran. Both pilots have been reviewed by the SEHD. Lessons learned from the pilots were used to inform the wider implementation of the programme across the NHS in Scotland. The full roll-out of the programme was scheduled to complete in June 2006, subsequently revised to the end of 2006.	Strategic planning is fragmented with a lack of documented outcomes or milestones for SCI Store. The overarching SEHD IM&T route map refers to the SCI programme but recognition of the programme's interdependencies with other IM&T projects is not transparent.	

	A&E	BPI	ECS	SCI
<b>Funding</b>	<p>The programme does not have a business case nor have the anticipated benefits been defined. The programme was originally developed locally and then rolled out nationally, with central funding for software licensing and system configuration provided by the SEHD. Funding for software licensing and development costs is provided centrally but boards locally fund the implementation costs and infrastructure. Planning for implementation does not include backfill. There is no stage gate funding or release of funds subject to completion of implementation milestones.</p>	<p>A detailed business case was produced which includes a comprehensive risk assessment, a clear statement of what benefits were to be realised, timescales and how the BPI programme links into NHS NSS's overall IT strategy. The programme is centrally funded. This funding covers the costs of the central programme team and a defined level of support for the implementation of the eProcurement Service to individual health boards. During the course of the programme, financial information was monitored; in particular progress against the actual and revised budgets and a business plan analysis.</p>	<p>There is no business case for the programme or defined set of anticipated benefits. An option appraisal was produced for the programme which includes third party development, implementation and hardware costs for the four options considered. Programme budgets include third party expenditure (with ATOS Origin) but do not include NHS Scotland staff costs (central programme team or local project teams) either in terms of financial cost or effort. Funding for the initial programme came from funds allocated by the Primary Care Division to the GIMS programme. The funding of the ongoing ECS development will come from the SEHD.</p>	<p>There is not a business case for the programme. As a result the benefits and end date of the programme have not been specified. It is difficult to determine whether the programme is being successful and if the SEHD should continue to invest in it. Funding for the programme is provided centrally as part of ongoing software development and support costs. There is no stage gate funding or budget management within reporting, allowing the management of the programme to flex and adapt to changing needs.</p>
<b>Stakeholder involvement</b>	<p>There are no formal processes for stakeholder management and change management principles. Communication takes place nationally and within local boards but there is no communications plan and key stakeholders have not been identified. A programme user group of local project managers is in place to exchange knowledge, ideas and prioritise change requests for continued application development. There is no central knowledge bank for knowledge collection or sharing of materials and individuals rely upon their own personal networks.</p>	<p>A number of key stakeholders (procurement, finance and stores and clinical staff) were involved throughout the programme. However, this was not formally documented in a stakeholder map and there is no stakeholder engagement plan. Over the lifetime of the programme, stakeholder communications have improved – the eProcurement Scotl@nd website has been used as a tool to promote success stories within the NHS (and other public sector bodies). A NHS Scotland National Procurement website has also been established.</p>	<p>There is no formal stakeholder map or stakeholder engagement plan however, a broad range of stakeholders have been engaged from the start of the programme. A standard communications pack has been developed and issued to each local project team to support the delivery of consistent messages across Scotland.</p>	

Programme and project management	A&E	BPI	ECS	SCI
	<p>Reporting systems are in place including progress reports, risk/issues registers, minutes of programme board meetings and a structured process for capturing change requests for ongoing enhancements. Programme planning is done on a high-level basis, with progress reporting on an exception basis. There is no detailed programme reporting of progress against plan and milestones or cost against budget.</p> <p>Projects are coordinated and implemented by board staff. There is no formal readiness or impact assessment prior to implementation to identify the likelihood of success or potential barriers to roll-out. There is no formal quality assurance (QA) or independent programme reviews. No formal quality plan or framework exists. QA is conducted, informally, by the national programme manager, but there is no QA assessment to a set of national programme delivery standards. To support the national adoption of the system the SEHD has developed compliance criteria.</p> <p>Local boards and hospitals existing A&amp;E systems are being assessed, independently by Newell &amp; Budge, against their ability to meet core functional criteria. This will involve identifying areas of non-compliance and accelerating implementation of the national system.</p>	<p>Regular monitoring reports have been produced by Capgemini throughout the programme for the programme board. Updates were also provided to the review team in the form of ministerial reports.</p>	<p>Good use is being made of standard programme and project management methods and tools. There is a central programme office. Programme and project skills and competencies are strong within the national programme team however, the skills and competencies of local project teams are variable with many people inexperienced in project management.</p>	<p>Reporting methods and tools for the programme are in place which demonstrate board decision making and tracking of actions. But there are weaknesses at a detailed level in tracking progress, benefits realisation, risk management and budget planning. For example, knowing what has been completed, what has been exhausted within budget, and what benefits have been realised are subjective.</p> <p>Local implementation of the programme is managed by each board. Some project management templates exist to support project managers but implementation is variable. The onus for implementation lies with local board management groups rather than there being a disciplined, consistent and standard implementation framework. As a result slippage of implementation timescales is a common experience.</p>



# Appendix 5. Lessons learned from Office of Government Commerce Gateway project reviews

## Overview

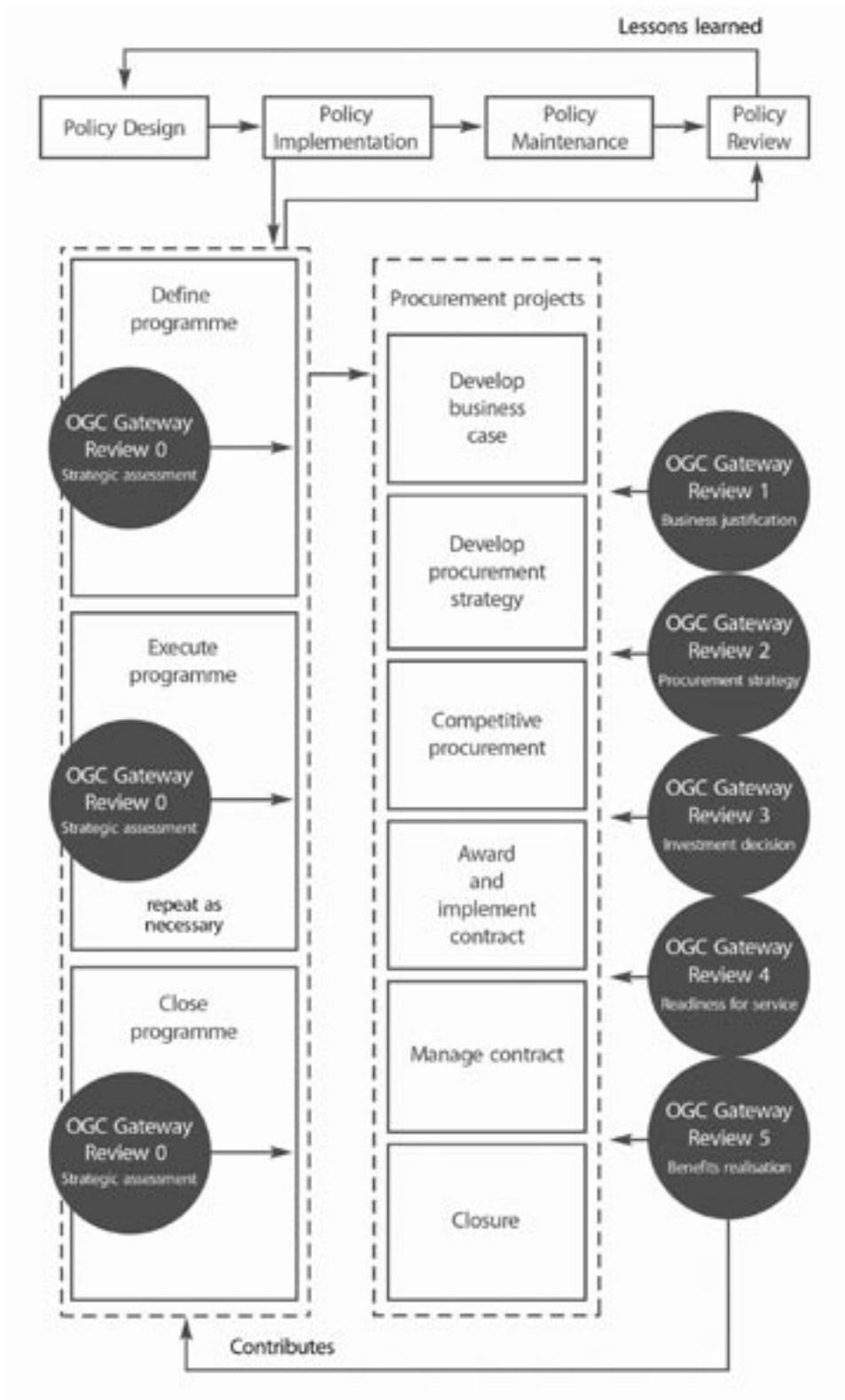
The approach of independent assessment of programmes and major projects using the OGC Gateway™ Process began in January 2001. The results of these reviews are evaluated in order to identify any trends in the types of issue emerging that would provide valuable information as 'lessons learned' for other programmes and projects to consider.

Set out below is a summary of the lessons learned and their constituent topics from reviews to date. On the next page is a summary overview of the Gateway process, from entry level Gate 0 Strategic Assessment through to closure at Gate 5 Benefits Evaluation.

Within the OGC website each of the summary statements are linked to relevant good practice in order to provide information and help to organisations in improving delivery performance.<sup>38</sup>

Topic	Description of weakness
Roles and responsibilities	Inadequately defined or ineffective project organisation/governance arrangements/agreed roles and responsibilities.
Risk management	There is an inadequate framework for managing risk, ownership of risk and/or identification of risk.
Stakeholder/communication	Inadequate clarity of who the stakeholders are, whether their needs have been understood and their expectations managed.
Business case	Business case incomplete or not used as a management tool.
Adequate skills and business resources	Inexperienced team; insufficient resources for future needs; or insufficient planning.
Improved financial control	Inadequate financial control of project/business expenditure; lack of an agreed budget; poor financial reporting.
Benefits realisation	Inadequate identification of benefits; insufficient plans to realise, manage and measure the benefits.
Portfolio management	Inadequate understanding of the interdependencies with other programmes and projects; inadequate prioritisation of projects.
Market knowledge and procurement advice	Inadequate or inappropriate procurement advice eg, wrong procurement approach, inadequate knowledge of potential suppliers.
Contract management	Inadequate forward planning for contract management; inadequate or inappropriate contract management approach.
Change management	Insufficient recognition of opportunities and preparation for change.

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