Scotland’s eHealth Strategy
Making IT Happen – The First Six Months

Eddie Turnbull
Head of eHealth
Scottish Government
Just a quick reminder!
Aims

• To deliver the highest quality healthcare services to the people of Scotland.
• For NHSScotland to be recognised as world-leading in the quality of healthcare it provides.

Ambitions

• Safe
• Person-Centred
• Effective

Our ‘2020 Vision’

EVERYONE IS ABLE TO LIVE LONGER HEALTHIER LIVES, AT HOME, OR IN A HOMELY SETTING

Detail

• We will have a healthcare system where we have integrated health and social care, a focus on prevention, anticipation and supported self management.
• When hospital treatment is required, and cannot be provided in a community setting, day case treatment will be the norm.
• Whatever the setting, care will be provided to the highest standards of quality and safety, with the person at the centre of all decisions.
• There will be a focus on ensuring that people get back into their home or community environment as soon as appropriate, with minimal risk of re-admission.
By 2020 eHealth in Scotland will:

- Enable information sharing and communications that facilitate integrated health and social care across all settings from the patient's home to the hospital.

- Provide information processing, analysis and intelligence that supports and complements the work of health and social care professionals and improves the safety and quality of care.

- Support people to manage their own health and wellbeing and live longer, healthier lives at home or in a community setting.

- Contribute to a partnership between the Scottish Government, NHSScotland, the research sector and industry to enable Scotland to be a long term leader in digitally enabled care.
eHealth Strategy Aims

- To enhance the availability of appropriate information for healthcare workers and the tools to use and communicate that information effectively to improve quality.

- To support people to communicate with NHS Scotland, manage their own health and wellbeing, and to become more active participants in the care and services they receive.

- To contribute to care integration and to support people with long term conditions.

- To improve the safety of people taking medicines and their effective use.

- To provide clinical and other managers across the health and social care spectrum with the timely management information they need to inform their decisions on service quality, performance and delivery.

- To maximise efficient working practices, minimise wasteful variation, bring about measurable savings and ensure value for money.

- (NEW) To contribute to innovation occurring through the Health Innovation Partnerships, the research community and suppliers, including the small and medium enterprise (SME) sector.
eHealth Strategy Impact

Citizens

- Structured, well organised online health information.
- Online transactional services.
- Views of their own records and the option to contribute to those records.
- Electronic communication with NHS Scotland and other carers.
- Portfolio of technology enabled care solutions for self-management and remote monitoring.

Clinicians, Social Care Staff and other third sector partners

- More comprehensive patient information, wider access, better presentation and navigation.
- Better workflow to initiate and track care across pathways and consult with colleagues.
- Enhanced system intelligence and clinical decision support.

Managers and Researchers:

- Patient information capture, access and analysis for personal and team clinical audit.
- Immediate (hourly and daily) operational management information.
- Longer term planning and evaluation information.
- New intelligence and knowledge for service improvement.
All on the new eHealth Scotland Website

www.ehealth.scot

Digital technology plays an increasingly important role in addressing the challenges faced by health services around the world.

The Scottish Government and NHS Scotland have had a national eHealth Strategy in place for many years to support key health policy aims such as improving the quality of care, enabling shared decision-making with patients and integrating health and social care.

eHealth plays a pivotal role in evolving the way in which care is delivered in Scotland, empowering both citizens and professionals through better digital services and information. This will directly improve the outcomes of professional care, and at the same time provide essential support for effective self-care and health improvement by people in Scotland.

Our vision for 2017 and beyond is ambitious and person-centred and builds on the significant progress we have made with the implementation of eHealth in Scotland so far. Our vision is set out in the eHealth Refeshed Strategy 2014-2017.

We envisage that, by 2020, eHealth will:

- Facilitate health and social care integration through digital information sharing and communications:
- Support the work of health and social care professionals to improve clinical digital
The road ahead is challenging
Balancing Competing Demands

Time

Resources

Scope

Quality
Two Overarching Competing Demands

Ensure what is already in place is fully resilient and meets current demands.

Focus on integrating existing systems and filling key functionality gaps to increase the efficiency of current processes.

Be more innovative and ambitious, and commit to projects that have the potential to be transformative.
<table>
<thead>
<tr>
<th>Maintain and add capacity.</th>
<th>Add functionality and transform.</th>
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<tbody>
<tr>
<td>• Supporting existing processes (“As is”).</td>
<td>• Support new ways of working - eg mobile.</td>
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<td>• Maintaining and refreshing existing estate and renewing critical contracts.</td>
<td>• Radically change the way services are delivered (eg OOH review and Primary Care transformation).</td>
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<tr>
<td>• Increasingly paper-light ways of working and 24/7 business (“As is” but greater capacity).</td>
<td>• Widen access to information (eg Health and Social Care Integration).</td>
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<td>• Support NHSScotland’s Clinical Strategy.</td>
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**How**

- **Rationalising** – removing unnecessary duplication “Once for Scotland”.
- **Extracting more value** – exploiting existing assets.
- **Building flexibility** – allowing for easier integration and sharing of information.
- **Choosing strategically** – getting the best long-term value from investment.
<table>
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<tr>
<th>Focus on Health and care professional access - Electronic Patient Records</th>
<th>Focus on Citizen access – Personal Health Records</th>
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| • Health and care workers can access the information they need relating to an individual from an Electronic Patient Record in order to provide the best healthcare possible for that individual.  
• The health and care worker needs to be supported by personalised workflow solutions. | • By 2020 there will be a Personalised Electronic Patient Record so that individuals are enabled and confident to digitally access and jointly manage the health and care information that is important to them and their wellbeing.  
• Individuals can access, add and share relevant information in the EHR. |

### How

• Build on a common foundation.

• Build incrementally.

• Use portal technology to deliver the capability through information services (APIs) and standards.
Shared Information

- Personal Health (and wellbeing) Records
- Shared health, care and wellbeing co-creation space.
- Electronic Patient (and care) Records

Information Exchange Gateway/Platform/Standards
EPRs and PHRs

Electronic Patient Record – EPR

*for medical treatment and other closely related purposes*

- Consists of data mostly created by health and care workers.
- Would include data recorded directly from telehealth.
- Access for health and care workers via NHS systems and clinical portals.
- Access for patients and carers via patient platforms and patient portal.
- Agreed information transferred from the PHR.

Personal Health Record – PHR

*for an individual’s personal use and self-management*

- Consists of data mostly collected by the individual citizen.
- Access for patients and carers via mostly commercial products.
- May include NHSS produced or endorsed services (Website/App).
- Access for health and care workers with permission from patient.
- Agreed information extracted from the EHR.
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<th>Implement Greater Protection</th>
<th>Share Wider</th>
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<td>• Having much more information held in digital form means that the risks associated with information sharing increase. Maintaining the security, confidentiality and availability of information for an individual is paramount.</td>
<td>• In 2013 Dame Caldicott introduced a 7th principle which states - “The duty to share information can be as important as the duty to protect patient confidentiality. Health and social care professionals should have the confidence to share information in the best interests of their patients”.</td>
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**How**

- Governance – National Public Benefit and Privacy Panel.
- Information Security Policy Framework.
- Information Sharing Toolkit.
- Patient data life-cycle.
Patient access and interaction: security challenges

• To date all services operate on private network and the few online services have had relatively low risk data (e.g., booking an appointment with GP).
• With proposed services the EPR and supporting applications and infrastructure have to be shielded from cyber-attack.
• The data in transit also has to be protected.
• Need to put in place consistent identity assurance for multiple public services (MyAccount).
• No control over the devices and browsers patient uses to access the service or copy data. Need to make clear where responsibility for security risk begins and ends for ‘patient held’ (PHR) and ‘NHSS-managed’ information.
Efficacy and Provenance

The VW scandal - the unanswered questions

© 30 September 2013  Business

The scandal at VW shows no signs of going away
Patient access and interaction: can it improve security and safety overall?

• Like an online bank account, regular use will give patients more opportunity to spot errors (eg medications wrong) to append a note to update circumstances (eg new contact details).

• Quality of information will be improved.

• Innovative use of audit trails can enable both parties to spot security issues and provide greater transparency.

• Cuts down on far riskier and less dependable methods for accessing data such as sending ad-hoc emails, sending letters in post.

• With better guidance to make patients more responsible for many security aspects relating to own data and not be prone to cyber attacks.
Information to help individuals to stay healthy

Bringing together different sources of information for more effective decision making and predictive care.

Information to improve diagnosis and treatment

Source: International Society for Pharmacoeconomics and Outcomes Research
New ways of thinking about patient data life-cycle

• We used to use term ‘secondary purposes’ in the past describe all activities other than direct care
• But this is no longer very useful. It is better to think in terms of direct care and the vast range of activities that support the care ranging from benchmarking, statistics, ward-view dash-boards and planning.
• If we can build up more public trust, then medical research should also too be a key part of this life-cycle. With more of the rich NHSS data being used by researchers and the result enabling better clinical decision making in NHSS.
• Predictive analytics can transform the way services are delivered to individuals, cohorts of people with the same condition and the population as a whole.
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<th>Support local needs and ways of working</th>
<th>Develop “Once for Scotland”</th>
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<tr>
<td>• Outcomes focused delivery.</td>
<td>• Minimise unnecessary variation.</td>
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<td>• Recognise local needs and priorities.</td>
<td>• Remove duplication of effort.</td>
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<td>• Design and accountability at the front-line of service delivery.</td>
<td>• Gain economies of scale.</td>
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**How**

• Identify common pathways of care.

• Promote regional collaboration as a means towards meeting key national goals.

• Shared Services - Focus on those areas where benefits in efficiency, effectiveness and sustainability are clear.

• Strategic procurement.
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<th>On the one hand.</th>
<th>On the other hand.</th>
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<td><strong>Stick with “tried and tested” and develop traditionally (“e” services).</strong></td>
<td><strong>Be innovative and take informed risks (“d” services).</strong></td>
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</table>
| • “E” Services  
• Service centric  
• Give staff more tools  
• Optimize internal processes  
• All services included equally  
• Technical integration challenges | • “D” Services  
• Data centric  
• Give citizens the tools  
• Redesign for customer centric processes - High-value services first  
• Change management and governance challenges |

**How**

• Give each aspect balanced attention in planning.  
• Establish strategic and tactical governance that has expertise in both areas.  
• Establish professional expertise as a central part of the delivery organisation (eg Clinical eHealth Leads)  
• Develop ICT professionals to work across the domain.  
• Co-opt “designers” from non-ICT disciplines.
Challenge is to be agile while also being structured.

Bimodal IT Offers a Way to Get Unstuck

When speed or innovation is needed, or there is a high degree of uncertainty

Traditional Mode
- Waterfall development
- Known vendors
- Strong governance
- Minimized risk
- Technology teams

Nonlinear Mode
- Agile dev.
- Small/Innovative partners
- Lightweight
- "Just good enough" governance
- Managed risk
- Multidisciplinary teams

"The reality is that you do have to operate at two speeds, and some of that you do by creating dedicated teams for each. Focusing on the big systems, making them run smooth, while at the same time having disrupters to innovate, together with marketing and the customer, exploiting digital."
— Willem Eelman, Global CIO, Unilever

Mythbuster: Nonlinear need not be limited to where speed is needed, for experiments, or for non-mission-critical initiatives.

Source – Garter
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<th>Bespoke solutions</th>
<th>Open systems and open source solutions</th>
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<td>• Develop and procure applications that meet requirements specified in detail.</td>
<td>• Enable components to be introduced and removed with greater flexibility.</td>
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<td>• Ability to procure and implement “best of breed”.</td>
<td>• Adopt international standards over local versions.</td>
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<td>• Integration “made to measure” and applied when required.</td>
<td>• Take an “open platform” approach.</td>
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<td>• Interoperability “built in”.</td>
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**How**

- Establish a balanced sourcing strategy.
- Consider open source as an option in procurements and business cases.
- Specify adherence to relevant open standards in procurements.
- Publish NHSSCotland interoperability guides for suppliers.
Anything is possible....

...just not all at the same time
Achieving the right balance

• Agree priorities at a local, regional and national levels.
• Maintain focus.
• Visionary and collaborative leadership.
• Strong collective governance.
• Invest in people.
• Involve service users in design.
And finally – a very quick quiz.
In my first week as a Computer Programmer I wrote my first “business” program.

The program was roughly 1 foot long and “looped” deliberately.

For what purpose?
Time for Questions