

Technology and Innovation in the NHS

Scottish Health Innovations Ltd

Introduction

Scottish Health Innovations Ltd (SHIL) has, since 2002, worked in partnership with NHS Scotland to identify, protect, develop and commercialise healthcare innovations designed to improve patient care.

As a key player in driving and supporting innovation across NHS Scotland, we welcome the opportunity to contribute to the Committee's inquiry into Technology and Innovation in the NHS.

Digital technology plays an increasingly important role in addressing the challenges faced by health services around the world and offers real benefits to clinicians, health and care workers and patients. Moreover the need to ensure our health service continually evolves to meet new patterns of care, increased demand and opportunities arising from new treatment and technology advances is critical in delivering safe, affordable and sustainable services in the future.

The vision set out in the draft *Digital Health and Social Care Strategy 2017-2022*¹ coupled with the stated intentions of *developing digital ecosystems, creating a permissive culture and fostering a fertile environment for innovation* are key to transforming the vision into a day to day reality.

The potential to exploit technology and innovative solutions within our health and social care services should not be underestimated nor should the challenges in implementing new approaches and ways of using technology within a large, complex organisation such as NHS Scotland.

However, the development of a new Digital Health and Social Care Strategy is an opportunity to simplify the landscape, refine roles, align activities to optimise available resources, and achieve closer sector collaboration, in turn capitalising on the advantages a single, unified health system can offer in accelerating change on a national level.

Whilst responding broadly to the overall questions set by the Committee, SHIL's focus is primarily on encouraging innovation, including digital health solutions, from within NHS Scotland; empowering the workforce to develop new ideas and technologies to improve patient care. This objective is set out in the Health and Social Care Delivery Plan:

We will continue to invest in NRS to support health-related R&D, building on its model to drive a renewed effort in health innovation, as well as in Scottish Health Innovations Ltd to encourage, develop

¹ <http://www.ehealth.nhs.scot/strategies/the-person-centred-ehealth-strategy-and-delivery-plan-stage-one/>

and appropriately commercialise innovative ideas and new technologies arising from within the health services.²

This also aligns with the overall aims of the recently published 'Digital Strategy for Scotland', which commits to *creating the conditions which encourage continuous innovation and improvement in our public services.*

Our intention in this submission is to provide what we hope is a useful contribution to the Committee's deliberations and illustrate our commitment to working collaboratively with partners to deliver transformational change across our health and social care services.

In response to the specific questions posed by the Committee we would comment as follows:

1. What do you consider have been the main successes of the existing Scottish Government's eHealth and telecare/telehealth strategies and why?

The success of the existing strategy is difficult to evaluate due to varying levels of implementation across various health boards. Protectionism of ideas and new approaches can prevent successes being promoted as widely as deserved. Nevertheless, a notable success, whether linked to the strategy, or other broader factors, is the willingness to approach new ways of working and the energy from stakeholders across Scotland to build on current successes to develop a new digital health and social care strategy that will support sustainability in our health and social care services. Commitment to a truly innovative NHS Scotland is strong.

2. What do you consider have been the main failures of the existing Scottish Government's eHealth and telecare/telehealth strategies and why?

- A set of six eHealth 'Aims' was developed as part of the 2011 eHealth Strategy. These aims were retained in the 2014-2017 refresh, with a seventh aim added relating specifically to innovation – *'To contribute to innovation occurring through the Health Innovation Partnerships, the research community and suppliers, including the small and medium enterprise (SME) sector.'* Whilst a positive addition, it did miss the opportunity to effectively promote innovation as a core activity within NHS Scotland and recognise the entrepreneurial talent within our health service and the drive of innovation from within.
- Variations in how ehealth, telehealth/telecare is implemented locally.
- Lack of sharing best practice with other healthcare providers in other nations and using their insight to improve practices within the NHS; there are some attempts to do this (e.g. the TITTAN project <https://www.interregeurope.eu/tittan/> which has several EU partners including DHI in Scotland) but it is hard to see how recommendations from this can be implemented into NHS given current barriers to adoption of new innovations.
- Difficulties in communicating success, best practice and latest initiatives more broadly across health and social care services. This is an area that impacts on the majority of the workforce but existing systems or routes of communication do not necessarily extend to all relevant stakeholders.

² Health and Social Care Delivery Plan, 2016 (Pg.22) - <http://www.gov.scot/Resource/0051/00511950.pdf>

3. How well does the Scottish Government's draft Digital Health and Social Care Vision 2017-2022 address the future requirements of the NHS and social care sector?

Whilst understanding that the vision is primarily targeted towards service users, it would be encouraging to see the vision extended to encompass digital systems as a foundation for which a modern, efficient and responsive health service is built. Poor use of technology, duplication and bureaucratic demands have been historical associations with our health service, therefore to promote a more innovative, dynamic future it would be beneficial for the vision to encompass this narrative, with the strategy then supporting how this is actioned both internally (i.e. staff perceptions), and externally (patients, charities, industry, other bodies).

4. Do you think there are any significant omissions in the Scottish Government's draft Digital Health and Social Care vision 2017-2022

As per previous comments. In addition, in order to be viewed as a dynamic, innovative health provider more needs to be done internally and externally to shake historical, and at times continuing, associations of bureaucracy.

5. What key opportunities exist for the use of technology in health and social care over the next 10 years?

Advancing innovation is a clinical and cost imperative and the future use of technology in health and social care offers exciting opportunities. Already, robotic surgery, 3D printing, implantable devices, and other digital and technology enabled innovations that target prevention, monitoring, and treatment, are showing potential to improve outcomes and reduce costs.

In addition, new R&D approaches, and big data and analytics use are creating opportunities for innovation.

The powerful impact of digital health is relevant not only in novel medical technologies, but also in 'traditional' bio/pharma. Health records provide the basis for real world evidence and outcomes based research. In terms of RxDx, therapeutics are increasingly coupled to diagnostics through digital technology and form the basis of precision medicine.

Scotland boasts one of the most highly developed health informatics systems in the world and there is huge recognition of the value of health data in Scotland and the ability to use technology and data analysis to better inform patient care.

6. What actions are needed to improve the accessibility and sharing of the electronic patient record?

Scotland has an invaluable resource for the data-driven approach to healthcare of the future. Other organisations are better placed to advise on patient records and data, however some general observations relate to laws governing "ownership" of patient data.

In the UK, the NHS is considered the 'owner' with patients able to access copies. However in many other (e.g. European) nations, there is more emphasis on patients

owning their own data, which allows the creation of Personal Health Records, something which information governance in the UK does not currently allow easily. PHRs would allow UK implementation of many new innovations that are currently being designed, such as the “Year Zero” project by Illumina Digital (<https://connect.innovateuk.org/web/dallas/smarthome>) and NHS Grampian’s “No Delays” project.

7. What are the barriers to innovation in health and social care?

At present, it is recognised by most participants that the healthcare innovation landscape in Scotland is cluttered, with a range of (sometimes competing) organisations and perspectives involved.

While the role and importance of innovation is increasingly well understood within the sector, what is less well understood is the ‘how’ of innovation.

In June 2012, “Health and Wealth in Scotland: A Statement of Intent for Innovation in Health”³ suggested that Scotland has potential to be: *‘a world leading centre for innovation in health through partnership working between Government, NHS Scotland, industry and the research community’*.

Unfortunately, the challenge remains to realise the potential highlighted in 2012 in a meaningful, consistent and nationwide way, even when our ‘innovation ready unified health system’ is highlighted as an advantageous element of Scotland’s innovation ecosystem within the refreshed Life Sciences Strategy for Scotland - *Accelerating Growth, Driving Innovation*⁴ – published in February 2017

Innovation is most often characterised by creativity, lack of scale and significant risk of failure. This means that *individuals* must be encouraged and empowered to be innovative and failure must be tolerated, and indeed welcomed, as integral to ultimate success.

By its nature, innovation is *not* something that can be managed from the centre. Nevertheless, the centre can play a vital enabling role in creating the right conditions for collaborative innovation to exist. Equally, the critically important asset that is NHS Scotland can become increasingly influential in providing the right environment for an innovation friendly culture to flourish.

The fragmented initiatives that exist currently, while admirable in themselves, are unlikely to leverage the full the advantages of a single, unified health system. In order to create a vibrant, connected, coherent healthcare innovation ecosystem in Scotland, we believe that what is now required is:

- a clear national strategic direction that recognises the perspectives of all participants in the healthcare innovation ecosystem
- a consistently supportive culture within and throughout the NHS
- adequate innovation lifecycle funding

³ <http://hub.careinspectorate.com/media/108513/sg-nhs-statement-of-innovation.pdf>

⁴

<http://www.lifesciencesscotland.com/pdf/Life%20Sciences%20Strategy%20for%20Scotland%202025%20Vision.pdf>

- the right infrastructure within the NHS nationally to support and facilitate innovation
- improved access to the expertise needed to turn ideas into successes
- adequate access to the NHS for all relevant external stakeholders.

Stimulating action in support of the above strategic direction also requires leadership, responsibility and accountability for delivery to be clarified. Historically, there has been uncertainty in this regard, leading to the cluttered healthcare innovation landscape described already.

The Health and Social Care Delivery Plan (December 2016) committed to '*creating governance structures to support a new, coherent and concerted effort on the promotion and exploitation of health-related innovation*' by 2018. Time is therefore of the essence in lowering or removing any barriers to innovation in health and social care.

In this regard, it may be better to utilise existing vehicles as agents of change rather than start afresh. SHIL and NHS Research Scotland ('NRS') Central Management Team (CMT), hosted within SHIL, are important and relevant parts of the existing landscape that could be built upon in order to deliver accountable leadership and clear governance.

While SHIL does not at present have the authority, remit or resources to lead, coordinate and network the innovation landscape around NHS Scotland, nor to systematise the NHS Scotland engagement in innovation, it does nevertheless have a track record of success, and a reputation *across the healthcare innovation ecosystem* that can be built upon quickly.

In any event, Scotland has a proven track record of pioneering invention and medical innovation and is well positioned to build on this proud history to ensure NHS Scotland remains at the forefront of medical advances, with a modern, innovative, and sustainable service for the future.