

Introduction to the Demonstration & Simulation Environment (DSE)

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Policy Background

In 2008 - 2009 the Scottish Government developed a policy to 'Shift the Balance of Care' into the community. The basic proposition is that hospitalisation may be able to effectively treat acute needs, but that softer services in the community deliver more sustainable and holistic outcomes over time. The Scottish Government Health & Social Care Delivery Plan (2016) has mandated the integration of health and social care around the citizen – focusing effort on developing a multi-disciplinary community care model that blends services together to provide a more seamless experience. The Chief Medical Officers' Annual Report: Realising Realistic Medicine (2017) takes this further, prompting the care community to create more predictive and proportionate care models co-managed with citizens based on their preferences and joint decision making – shifting away from a paternalistic medical model.

Throughout this period true citizen empowerment and co-management have been difficult to realise. Those delivering services have access to training, information and systems that the citizen does not. The citizen is often in a vulnerable state and often struggles to retain information given to them in unfamiliar language. The citizen still engages with the health and care system on the system's terms.

Digital technologies have been promoted as an emerging tool to redress this imbalance, giving the citizen access to information and other assets that could support a more meaningful dialogue and the co-management of care. Globally, public policy is increasingly dependent on the promise that these new technologies will empower citizens whilst also supporting more sustainable delivery of health and care services. In Scotland, the upcoming Digital Health & Care Strategy will build on previous eHealth strategies to make the digital agenda a key foundation for the delivery of community based, integrated and citizen centric health and care services.

Significant Barriers

However, digital capabilities are not being used effectively to support this agenda. European benchmarking shows that the UK punches well below its weight. It has the 6th highest digital readiness but translates this poorly, with the nineteenth highest digital public service usability and accessibility.

This is largely because the existing UK health and care data sharing infrastructure is based on centralised, closed and proprietary technology that struggles to evolve, where modern user expectations are for flexible, adaptable and portable approaches seen in other sectors.

The key things differentiating the benchmarking leaders and the UK is the ease with which citizens can use and contribute to their own health and care records, and how easily care providers can share this information to support coordinated care delivery.

Countries that are doing well on these measures have benefited from enlarging the public sector 'walled garden' to encompass and interoperate with a larger number of assets and services. This has led to marked, though limited, improvements in how data moves around centralised systems, which in turn creates a better user experience as the different systems coordinate around the shared data.

In all cases formal healthcare systems are struggling to move from a predominantly centralised approach to the kind of decentralised or fully distributed system required to handle a diverse and growing need for shared control with social care, independent, third sector and citizen partners.

Within this, and locally in Scotland, two factors contribute most to these low levels of usability and accessibility when it comes to health and care systems. Firstly, digital innovation has not been interwoven into service redesign initiatives. Secondly, existing services suffer from a heavy legacy system burden with most data sharing infrastructure being closed and proprietary in nature.

This in turn means that industry partners cannot demonstrate the benefits of digital, nor integrate their products into existing systems when they are successful on a small scale. This means that the marketplace is relatively immature, which in turn stops public services accessing scalable digital tools.

Emerging Capability

While the challenges are substantial, there are significant, emerging technologies that will change the way data moves around health and care ecosystems:

- Best practice is emerging around data sharing as a driver of better digital public services – e.g. benchmarking leaders Estonia and Finland and innovative schemes in Galicia, Sweden, etc.

- The market is beginning to pivot towards more open, interoperable and consumer focused approaches seen in other sectors e.g. Open Banking.
- Fundamental changes to infrastructure are underway, with new connectivity options driving a fourth industrial revolution based on the Internet of Things (IoT). Connected sensors will be available more cheaply with greater reliability, allowing passive monitoring at scale.
- New information architectures give us new ways of securing, governing and trusting in distributed networks of data actors. For example, a new ‘trust architecture is being implemented across London NHS trusts that will bring data flows under one, common set of definitions and access management rights – with the governance largely automated.
- New advanced analytics techniques offer an increasingly automated method for making sense of large volumes of data. Where previously concerns around ‘information overload’ on a stretched clinical workforce may have stopped citizens directly contributing data to decisions, now this can actually improve the power of predictive analytics approaches.
- There is an increasing market capability focused on the citizen having ownership and control of their personal data, adjusting for the New General Data Protection Regulations (GDPR). For example, Mydex and Patients Know Best are personal data approaches built on an active consent model.

If these capabilities can be understood and applied as a core part of service redesign activities this will help to overcome the existing barriers. This in turn will support the policy objectives of a sustainable, citizen centred, integrated and co-managed health and care service model.

My next blog post will begin to look at how these emerging capabilities can support different approaches to service redesign.