DHI's Key Areas of Exploration

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Key areas of exploration: DHI challenge model

Through all of its Scottish Government sponsored challenges, DHI is exploring the following questions.

How can services be redesigned from the outset to be citizen centred, accessible and usable?

DHI is in the scoping stage of a challenge titled the 'Future of Care', which looks at how new types of digital data sharing, communication and coordination can support the delivery of 'citizen centred' and 'integrated' health and care objectives. It will draw use cases from DHI's other challenges to ensure solutions can be deployed across many different types of services.

How can this be balanced with system requirements such as population health risk management, information governance and commercial sustainability?

All DHI challenges will explore this balance. In particular, we are initiating our **Next Generation Asthma** challenge in partnership with **Asthma UK**. This will further develop DHI's delivery model, by blending a co-design approach with some of the new types of market capability explored in our Demonstration and Simulation Environment. It will look at how Asthma care can use citizen-generated inhaler and lifestyle data to develop personalised and predictive approaches, while also powering data driven population health management capabilities.

How can a broad range of stakeholders across Scotland be engaged to approach the challenge and deliver a response 'Once for Scotland'?

Our **SCOTCAP** and **AF** challenges have both been accepted into the Scottish Government **Modern Outpatient Programme**. DHI is working at a National level and bringing together multiple health boards for these challenges to support adoption at scale.

How can developmental procurement be used to smooth the path from R&D to deployment for the digital products and services supporting the new digital health and care service?

DHI is working with procurement teams in the Scottish Government, NHS National Services Scotland and the Enterprise Agencies to allow Scotland to 'procure innovation'. The DHI SCOTCAP will pioneer this 'Innovation Partnership' approach, allowing a competitive R&D process to result in the setting up of a procurement framework. This is distinct from other innovation work that uses pre-commercial procurement – meaning those businesses contributing to innovation have no resulting route to deployment at scale.

Key areas of exploration: DHI demonstration & simulation environment

DHI is undertaking proof of concept development to support the interoperability of digital health and care systems. Key questions to be explored include:

How can the citizen actively manage their own data to activate services on their own terms?

DHI is providing several digital platforms to support its health and care partners to innovate. These platforms are provided to act as 'proxies' for what the market will be able to offer. Specifically, to support co-management of care, there are two platforms of note.

- The first is a **Data Exchange Layer** – powered by Storm ID's Lenus platform. This is a product / business agnostic open platform that lets a citizen aggregate and consent to sharing of their own data from connected apps. It offers the ability to discover or build services on top of the platform to take advantage of these new data flows.

- The second s a **Personal Data Store –** powered by Mydex CIC. This is also an open platform that lets the citizen hold and port their own data from a variety of sources (including non-healthcare). It gives a structured, consent driven 'third option' for how to handle data – outside of the control of either government or corporate providers.

How can we connect, trust and scale a more passive, seamless and cheap set of technologies to gather data?

DHI is scoping work to answer these questions
with **Censis**, **Napier**, **Capita**, **Sigfox** / **LoRa** companies, SMEs looking to deliver home monitoring and several sheltered housing providers. The objective is to give the citizen the ability to activate these types of self-monitoring services early. Solutions must be easy to distribute, low-cost, low-stigma, frictionless, low maintenance and as passive as possible. The confluence of consumer smart home technology, low power networking and consent-based data sharing architecture makes this possible.

How can citizen and system curated data be used together to support new predictive and co-management-based health and care services?

DHI has begun a collaboration with the Scottish Health & Social Care Portal team to explore this. **Atos** will provide an API-based integration platform capable of integrating various clinical systems, so the citizen can interact with their clinical record. DHI is then bridging into this point of integration using the consumer platforms provided by Storm ID, Sitekit and Mydex CIC. Using hypertension and frailty use cases (**highlighted in the previous blog post**), we will explore how to blend the data sets to allow the citizen to better co-manage their own care.

How can emerging capabilities fundamentally change the basic business model to support commercially sustainable services?

DHI is currently developing new business models based on emerging technologies with SMEs from its Phase 1 projects. After an initial learning phase, this will be opened up as a new service offered to Scottish SMEs. For now, anyone interested can **register in our capability pool**.

How can the approach be scaled beyond Scotland?

No government should be focused on creating citizen experiences that compete with what people do as consumers on the broader digital market. DHI is investing in and developing proxy infrastructure that is representative of what the broader market place will offer. This includes work to understand how to deal with consumer platforms that are already scaling.

DHI is focusing on what the citizen can do to contribute to their own care, rather than trying to disentangle any one locality's legacy statutory systems. All activities mandate the use of citizen consent driven, open, API-based and vendor agnostic platforms that apply recognised global standards. Any commercial model will deploy on this type of open infrastructure, allowing it to port across regions more easily.