Housekeeping

Pic Source: Hotelogix
WHO definition of Healthy Ageing: “the process of developing and maintaining functional ability that enables wellbeing in older age”

This includes a person’s ability to;
• meet their basic needs
• learn, grow and make decisions
• be mobile;
• build & maintain relationships
• contribute to society
Aim – ‘Accelerate digital innovation and adoption in health & care’

**Purpose**
- Collective of shared interest - expertise and skills
- Share information and support knowledge exchange
- Seek & solve demand led challenges
- Host challenge competitions
- Identify funding opportunities
- Build Collaborations that are greater than sum of individual parts

**Current Activities**
- IUK Grand Challenge Opportunities
- Identifying key challenges for collaboration

Pic Source: www.millerelect.com/collaboration-creates-construction-project-efficiencies/
HAI Cluster Membership – June 2019

Individual Members = 206
Role of DHI in HAIC

- Cluster management
- Useful links & introductions
- Challenge thinking
- Encourage focus
- Share Learning
- Embed co-design
- Stimulate and embolden strategic leadership
# HAIC Priority Activities 2019

## Collective Learning
- **Awareness of Policy & Guidance**
  - Scottish & UK Government – Policy Direction
  - Relevant Strategic Guidance & Best Practice
  - Build ‘Team Scotland’ Approach
- **Awareness of Technology**
  - Consumer Technology
  - Keeping pace with a fast moving market
  - Build Trust to Share

## Develop Joint Projects
- **Shared Focus on Specific Conditions/Challenges**
  - Falls
  - Diabetes
  - Physical Activity
- **Support Independent Living**
  - Transport
  - Housing
  - Supporting people to work longer
  - Hospital at home
  - Care in the Community
  - Reducing inequalities

## Research & Methods
- **Prevention**
  - When should interventions best be made?
  - Better adoption at earlier stage in life?
- **Evidence Impact**
  - Health Economics
  - Methodologies
  - Real World Impacts
- **Ensure Citizen at the Centre**
  - What does the citizen want?
  - How best engage with the end user?
  - Embed co-design
  - Build Trust

## Expand Skills & Capabilities
- **Skills & Training**
  - Joint Learning
- **Business Models for Scotland**
June Round-up of interesting stuff….


IUK HA Challenge Director Blog [https://innovateuk.blog.gov.uk/2019/05/24/discover-how-were-developing-ground-breaking-responses-to-an-ageing-society/](https://innovateuk.blog.gov.uk/2019/05/24/discover-how-were-developing-ground-breaking-responses-to-an-ageing-society/)


US Market Interests – summary of discussions with DHI

Pic Source: DairyReporter.com
IUK Healthy Ageing Challenge Director Blog – key points

• 140 responses to survey in March 2019
• Plan to launch funding competitions in 2019
• Reviewed lessons from large scale demonstrator activity – scale and level of adoption issues
• Not fund clinical research or research showing the value of related healthcare service changes
• Consider how allow a broader range of organisations to take a lead role
• Possible inclusion of an Investment Partnership component
• Mooted different timescales for shorter and larger projects e.g. 3 years +
Emerging Trends in Digital Health and Care
Digital Health and Care Market

- The global Digital Health market is predicted to grow to a value of $370 billion by 2024.

- The UK market size for Digital Health in 2015 was £2 billion and was expected to reach £2.9 billion in 2018.
Top 6 technology trends in Digital health and care

• Artificial Intelligence will support better decision-making at the point of care and will allow predictive analytics to be used in practice.

• Blockchain could greatly reduce the time, costs and risks associated with how health and care organisations operate.

• Cloud-based Platforms will play a vital role in making the healthcare industry more patient-centric and data-driven.

• Electronic Health Records will provide a greater and more seamless flow of information within a digital care infrastructure.

• Big Data can analyse and use massive health and care data sets to positively impact citizen care outcomes.

• Robotics can take on repetitive tasks such as blood sampling and heart rate monitoring while providing robotic assistance for those needing care.
Findings

• The latest generation of digital technologies promise to support entirely new ways of working and to radically change the relationship between citizens and Health and Care Services.

• The key to digital transformation is mindset not structure as transformation is a life-cycle not a one-off event.

• To achieve this, leaders needs to employ more agile ways of working, ensure their organisations have the right skills and are prepared to move out of their comfort zones to better engage with citizens.
US Market Insights for Business
• **Strategic Planning**: Clear 3-year strategic plan AND Business Model

• **Product/Market Fit**: Product/market fit means being in a good market with a product that can satisfy that market. Many people interpret product/market fit as creating a so-called minimum viable product (MVP) that addresses and solves a problem or need that exists.

• **Identify your first 10 Customers — UK and US**: These can be adjusted as your product(s) evolve.

• **Platform**: Create an infrastructure with as many UK/US commonalities (and dualities) as possible, including IT, IP, legal, employment, accounting, overall compliance, etc.

• **Talent**: Develop both a short-term and a long-term Talent Strategy, understanding the differences between UK and US talent in your business ecosystem, including cash compensation, equity and bonus expectations. Build the compensation into your model.

• **Culture**: Founders and first team members, discuss your company culture and what you want to build from a people-dynamics perspective.

• **Be Flexible and Make Adjustments**: If something doesn’t work, try another way. Don’t be afraid to ask for help.

• **On-going investor outreach**, allowing for constant pitch rehearsals and tough questioning.

• **Keep Swimming!**
Funding Opportunities Update – June 2019

• **EUREKA: Singapore Open Competition** – For projects which will result in a new product, process or service, are innovative and involve technological risk. Lead partner from UK and Singapore. Project costs between £100k and £1m – Closing Date: 26\(^{th}\) September 2019
  
  [https://apply-for-innovation-funding.service.gov.uk/competition/377/overview](https://apply-for-innovation-funding.service.gov.uk/competition/377/overview)

• **SBRI – Using data and digital technology to deliver better adult social care** – Phase 1 – R&D demonstrating technical feasibility (>£50k) for 3 months, to lead to potential for Phase 2. Aim: to make adult social care provision more effective and efficient, including preventing the need for social care interventions. Particularly interested in proposals for technology that can track data in realtime and join up how resources are prioritised and deployed. Closing Date: 17\(^{th}\) July 2019.
  
  [https://apply-for-innovation-funding.service.gov.uk/competition/375/overview#scope](https://apply-for-innovation-funding.service.gov.uk/competition/375/overview#scope)
• **Strength in Places – Wave 2 – EOI** – Projects must focus on one technology area, sector or discipline and should take a place-based approach to research and innovation funding. Successful EOI’s will receive £50k to develop the full stage proposal (£10m-£50m).
  Closing date: 9th October 2019.
  https://apply-for-innovation-funding.service.gov.uk/competition/370/overview#dates

• **MRC/EPSRC – Canada – UK Artificial Intelligence Initiative** – Call aimed at building competitive, resilient and healthy economies through responsible AI. Looking at collaborative research across at least 2 of:
  • Social sciences and humanities
  • Health and biomedical sciences
  • Natural sciences and engineering
  UK grant element of up to £625k (100 fEC 20% match funding)
  Closing date: 19th August 2019

• Tracey Ward, Enterprise Europe Network – Other Opportunity

Further details available via links or contact; Kara.mackenzie@dhi-scotland.com
Ageing 2.0 Challenges

High Level Review of Scottish Context
Athina Tatsi
MSc in Digital Health Systems
University of Strathclyde
AGING 2.0 https://www.aging2.com/grandchallenges/

Aging 2.0 Grand Challenges is a global initiative to drive collaboration around the biggest challenges and opportunities in Aging.

8 Grand Challenges

INNOVATION PRIORITIES FOR AGING 2.0 COMMUNITY

• Topics identified from 6 years of bottom-up and top-down dialogue with stakeholders from across Aging 2.0’s interdisciplinary, intergenerational, international community of older adults, senior care providers, thought-leaders and entrepreneurs.
Consideration of the Ageing 2.0 Key Challenges against the 7 IUK Themes
Despite the majority of older adults stating a preference to age in place, “one third of people over the age of 65 need assistance with at least one activity of daily living (e.g. eating, bathing, dressing)”.

Products and services are needed to not only support older adults basic daily activities, but also to foster and support their ability to thrive, pursue their passions and engage with their chosen lifestyle.
Between 2011 and 2016 the UK’s average annual life expectancy improvement was lower than the EU average.  

Causes

- Malnutrition
- Poverty
- Socio-economic status
- Multimorbidity
- Health and Care Systems Integration Challenges
- Living in disadvantaged areas
The healthcare journey can be particularly complex and fragmented for older adults, two-thirds of whom have at least two chronic conditions. With three-quarters of global healthcare spending going to chronic care management, families and payers are aligned in their desire to care for people in the least restrictive most cost-effective setting possible. Families and providers need new tools and care models to support care transitions, clinical collaboration, medication management, population health management and remote care delivery.
Policy & Strategic Context – Care Co-ordination

The Public Bodies (Joint Working) (Scotland) Act, 2014- Legislation for Health and Social Care to be a single, integrated system, in order to improve care co-ordination.¹² Difficulty to find specific research references to quantify/qualify this issue – any suggestions?

Exhibit 7
Features central to the success of integration
Six areas must be addressed if integration is to make a meaningful difference to the people of Scotland.

Features supporting integration

Collaborative leadership & building relationships
Integrated finances and financial planning
Effective strategic planning for improvement
Agreed governance & accountability arrangements
Ability & willingness to share information
Meaningful & sustained engagement

Source: Audit Scotland
Maximising cognitive ability and brain health is increasingly a priority for ageing societies as the number of people with cognitive limitations and mental health issues continue to rise. New approaches, tools and services are needed to increase awareness, reduce stigma, improve prediction, speed diagnosis, enhance treatment and support caregivers.
Context - Brain Health (is this the best term?)

Cognition refers to the mental processes that happen in the brain to support daily activities such as thinking, learning, understanding, remembering, planning, attention and behaviour.¹

Impairments of cognition can affect the ability to make informed decisions about life, activity, health and wellbeing and have a significant impact in one’s life.²

Prevalence of Dementia in Scotland ³ ⁴

- 8.116 people with dementia in Glasgow in 2017.⁶
• Dementia is more prevalent in females than males.\textsuperscript{5, 6}
• Most prevalent above the age of 65. \textsuperscript{5, 6}
• As of January 2019, around 68% of over 65s estimated to have dementia had been diagnosed. \textsuperscript{7}
Grand Challenges (5)

Care for older adults is provided by informal and formal caregivers, both of which increasingly care for people with high levels of acuity and complex conditions. Family caregivers - who are often juggling other family and work responsibilities while living remotely from the care recipient - need better support, training resources and tools to support their loved ones and themselves. On the professional side, staff shortages and quality concerns require new solutions to help attract, train, develop and leverage scarce human capital.
Context - Caregiving

- There are around 759,000 caregivers aged 16+ in Scotland - which represents 17% of the adult population.¹³
- 3 in 5 people are expected to be caregivers at some point in their life in the UK.¹³
- Women are more likely to be caregivers than men.
- It is estimated that there will be 40% more caregivers needed by 2037.¹⁴
- Although caring for someone can be hugely rewarding, there is a large body of research which highlights carer burden, unmet needs and negative consequences for the health and wellbeing of caregivers.¹⁵ ¹⁶
Exploration of 4 Key Challenges

Approx 1 hour for 4 discussion groups to run concurrently
Explore the challenge in more detail
Outline your interest in this topic and what contribution can you/your organisation make?
Open discussion to explore and scope areas of shared interest
Identify Gaps – knowledge/skills to inform a collaborative proposal
Anything the wider HAIC group can do to support/inform e.g. meeting space/skills gap?
Feedback on planned next steps – who doing what? Facilitator to draw discussion into a set of actions/conclusion
## Next steps...?

<table>
<thead>
<tr>
<th>Activities</th>
<th>Timescale</th>
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<tbody>
<tr>
<td>Establish the Cluster</td>
<td>Dec 2018</td>
</tr>
<tr>
<td>Identify Healthy Ageing Cluster Priorities for Collaboration</td>
<td>Feb 2019</td>
</tr>
<tr>
<td>Identify &amp; Consider Key challenges for Healthy Ageing</td>
<td>April 2019</td>
</tr>
<tr>
<td>Engage and explore Key Challenges in collaboration</td>
<td>June &amp; Sept 2019</td>
</tr>
<tr>
<td>Scope propositions</td>
<td></td>
</tr>
<tr>
<td>Identify funding opportunities &amp; timelines</td>
<td></td>
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<tr>
<td>Host challenge competitions/Bid submissions</td>
<td></td>
</tr>
<tr>
<td>Implementation</td>
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<tr>
<td>Learn &amp; Share</td>
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</tbody>
</table>

Progress some of these concurrently?
Digital Health and Care National Strategic Picture

Supporting Health and Social Care Transformation

• Dr Margaret Whoriskey
• Head of Technology Enabled Care & Digital Healthcare Innovation, Scottish Government
• Policy Context - Digital Health and Care Strategy
• TEC Programme
• 2019 – 2020 priorities
Person-centred vision

‘I have access to the information, tools and services I need to help maintain and improve my health and wellbeing.

I expect my health and social care information to be captured electronically, integrated, and shared securely to assist service staff and carers that need to see it …

... and that digital technology and data will be used appropriately and innovatively, to:

– help plan and improve health and care services
– enable research and economic development, and
– ultimately improve outcomes for everyone.’

‘Digital technology has the potential to change the face of health and social care delivery.’

– Scottish Parliament Health and Sport Committee report on technology and innovation in health and social care

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Improving Outcomes through better coordination and delivery of care

- We wish to empower citizens to better manage their health & wellbeing, support independent living and gain access to services through digital means. We know this is leading to a shift in the balance of care by using the tools and technologies that we are already increasingly using for all other aspects of our lives. In order to achieve this at scale;

- We need to put in place the underpinning architectural and information governance building blocks for the effective flow of data across the whole care system that will enable the transformational ambitions of the Health & Social Care Delivery Plan, including public health and social care reform priorities.

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6 Key Areas of Focus (Domains):

- **National direction and leadership**: A new national Board and supporting governance mechanisms to rationalise and clarify decision making processes for investment, prioritisation and policy setting.

- **Information governance, assurance and cyber security**: New national arrangements to support appropriate information sharing for delivery of care, research & innovation, give people choices in how they access and manage their information and maintain trust that information is used and managed safely and securely.

- **Service transformation**: New processes to support the spread and adoption at scale of proven digital technologies within services and the promotion of methodologies that support local service change and redesign as part of pathways of care.

- **Workforce capability**: A programme of work to promote leadership and workforce development in digital skills and capabilities in order to underpin the successful uptake and use of digital technologies.

- **Digital Platform**: The development at a national level of a digital platform that facilitates the availability and exchange of information and interoperability of existing and new health and care systems and applications.

- **Transition process**: Agreeing a roadmap over time to rationalise different local, regional and national systems to converge on to the digital platform, without impacting existing service provision and delivery of care.

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Our Information Assurance, Governance and Security Vision

People expect their health and care information to be available to them, and to those responsible for helping them, when and where they need it.

At the same time they want assurance that their personal information is being handled appropriately, safely, securely, and in an approved and controlled way.

What we have heard over and over...

We need a consistent and more efficient national approach!
How We Will Achieve Our Vision

A programme of activities for delivering by 2020

a simplified and consistent national approach for Information Assurance, Governance and Security (Domain B)

Taking into account the different needs of users and citizens, and provide clarity around information sharing across health and care.

Co-production
Strong partnerships and engagement with a vast spectrum of stakeholders

ID Assurance Programme

Data Delivery Programme

NDF O-365 NIS Dir. ......
Defining an Open Platform
Innovating for transformation

Developing approaches Once for Scotland

Improving Outcomes for Citizens

Redesigning services

Digital knowledge & skills

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2019/20 Delivery Plan Milestones
Mainstreaming and Adoption at Scale

Innovative service designs in remote consolations

Digital telecare

Remote health monitoring

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A streamlined process for identifying and nurturing innovative service designs and designs ready for adoption at scale
The Scottish Approach to Service Design supporting local service transformation and delivering better national and local outcomes

Double the number of people engaging with digital technology enabled care through events and using our materials.
• Additional inward investment will have been secured that extends opportunities and increases impact
Attend Anywhere / NHS Near Me
Attend Anywhere Scale-Up

- Launched October 2018: Once for Scotland
- Integrated with Access Collaborative to improve Access and reduce waiting times
- Aim is for at least 2000 consultations a month
- 11 Boards + GJNH
- Primary care and Care Homes - also social care
- Evaluation

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Near Me
Appointments by Near Me

https://youtu.be/R_0cDigr8_4

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Over 23,000 citizens using HMHM

More people are self-managing their health and care

Condition-control (Treatment Adherence) improves

Face to face contacts (appointments) are optimised

Access to services increased

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Remote Monitoring of Blood Pressure: A tipping point and is largest area of scale up – 40% of total activity

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Scale up BP

- **Citizens benefiting and accessing**: enabled over 12,000 citizens to use and access HMHM to support Blood Pressure (BP)

- **Uptake across Scotland**: Most health boards in Scotland now actively engaged in implementing scaling up.

- **Primary Care Practice Uptake**: Over 30% of Primary Care Practices actively engaged. With up to 50% Primary Care practices within localities are using HMHM as part of routine care.

- **Positive Response from Primary Care**: Positive and supportive response to date from Primary Care Colleagues involved in implementation
Preparing for the next phase of HMHM growth

Our partners tell us that we need a system that...

- Is Multi Channel
- Gives Visual Feedback to Patients
- Connects to existing systems

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## Procuring ‘once for Scotland’

<table>
<thead>
<tr>
<th>Pre Procurement</th>
<th>Procurement</th>
<th>Implementation</th>
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<tbody>
<tr>
<td>• Prepare Requirements</td>
<td>• Invitation to tender</td>
<td>• Design &amp; testing of national templates</td>
</tr>
<tr>
<td>• Outline business case</td>
<td>• Negotiated procedure (find the ‘best fit’)</td>
<td>• Transition early adopters</td>
</tr>
<tr>
<td>• Clinical Advisory Group</td>
<td>• Contract with preferred bidder</td>
<td>• Phased roll-out</td>
</tr>
<tr>
<td>• Procurement Board</td>
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</table>
Digital Telecare – Phase One, Discovery

Engagement
Landscape review undertaken and views to proceed sought from
- Local Authority Chief Executives
- Senior Local Government
- Housing
- Industry
Approval to proceed to full deployment of digital telecare
Roadmap developed
Programmes and projects established

2014/15

Feasibility
“Feasibility Study: Telecare in Scotland Analogue to Digital Transition” report published
Scope of benefits undertaken
Digital Telecare established.

2016

Partnerships established
Expressions of interest sought
Chief Officers sign off to proceed
Industry partner engagement
International landscape review undertaken
Vendor and partnership workshops undertaken
Partnership grants awarded
Governance established
PIN test and market engagement

2017

Transition planning
Ongoing partnership support to facilitate transition to digital
Baseline data capture activities
Innovation market engagement
Development of:
- Project plans
- Digital Privacy Impact Assessment (DPIA)
- Technical specification
- Penetration testing
- Overview of Standards

2018

Phase two

Next steps
Benefits analysis
Review Digital Telecare governance
Review governance Terms of Reference
Define vision
Define phase Two Blueprint
Define strategies
Update Roadmap

Shifting from analogue
Working with 17 partners
16,800 new users in 2017/18

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Digital Health & Care Scotland
Housing
Website with video clips and links to key resources about housing:
techhousing.co.uk

September 2017:
100 people join the Dots at housing event

September 2018:
120 people hear about Creating Housing Solutions through Technology

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Dementia Circle finds, tests and shares products.

- Everyday Living
- Staying Connected
- Safe & Secure
- Out and About
- A Meaningful Life
- Purple Alert

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Young People and TEC

Augmented Reality App
An app to allow users to download and apply different augmented reality maps over the street map on their mobile phone to encourage users to increase their level of physical activity.

Digital Doctors Surgery
A website which provides multiple functions to enable easier access to frontline health care. It would provide comprehensive information on every GP surgery.

Mental Health Chat Service
A multi-platform service providing a digital live chat service to young people where they could connect with a mental health professional to talk about their mental health and receive guidance and support.

Health & Wellbeing Online Resources
The Young Scot website would act as a one-stop-shop for young people, signposting them to useful apps and services. It would demystify services, explaining how to access them, how long you might have to wait, rights are around confidentiality and service standards, and what to expect.
“Scotland is already an international leader... in technology enabled care....”

EXTERNAL EXPERT PANEL

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Our four Focus Areas

• Preparing for Transformation
• Developing Approaches Once for Scotland
• Redesigning Services
• Supporting Digital Skills and Knowledge
Thank you!

E: Margaret.Whoriskey@gov.scot
TW: @TECScotland #TEC Scot
www.digihealthcare.scot
Collaborative R+D with Catalonia
KEY FACTS

- PRODUCTS, SERVICES, PROCESSES
- OPEN CALL (includes HEALTH, MOBILITY, INDUSTRY 4.0)
- COMPANIES OF ANY SIZE
- MINIMUM 1 SCOTTISH/1 CATALAN COMPANY (other organisations can participate)
- £150K-350K ELIGIBLE COSTS (SCOTLAND)
- VARIOUS INTERVENTION RATES – MAX. £200K (SCOTLAND)
- SUPPORT TO FIND PARTNERS

KEY DATES

CALL CLOSES 10th OCT 2019
APPLICANTS INFORMED 16th DEC 2019
PROJECTS START FROM 1st JAN 2020
“HEALTH” PROJECTS

R&D Activities linked to

- Early detection and diagnosis of disease
- Personalised treatment
- Patient-centric care
- Improved clinical decision making & efficiency
- Scalable and interoperable digital health solutions
- Management of chronic illness and long-term conditions
- Support independence in old-age and an increase to disability free life expectancy (DFLE).
WEBINAR

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