



Digital Health & Care
Innovation Centre



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Phase 2 - Year 5 Annual Report

(August 2023 to July 2024)

Authors

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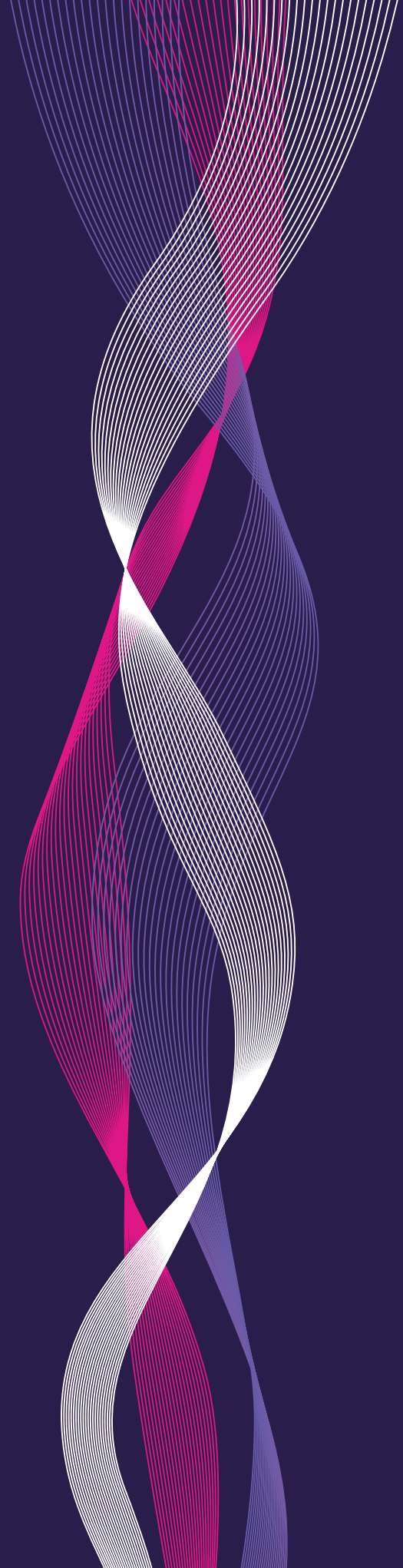
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The DHI is a collaboration between the University of Strathclyde and the Glasgow School of Art and is part of the Scottish Funding Council's Innovation Centre Programme. The DHI is also part-funded by Scottish Government.

DHI supports innovation between academia, the public and third sectors, and businesses in the area of health and care.

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Foreword

2023/24 was a significant year for DHI, marking its 10th anniversary and the start of its third phase. After a strategic evaluation and Innovation Centre review, the Board was pleased to secure a 10-year infrastructure commitment from the Scottish Funding Council, providing a strong financial foundation.

During the prestigious SFC launch in the spring, the importance of innovation and collaboration in driving economic growth was shared by all key stakeholders, this aligns firmly with DHI's mission. As global demand for digital health and social care grows, DHI continues to establish itself as an international thought leader.

The year's achievements include notable successes in innovation, skill development, and talent pipeline creation. The Board welcomed new members, especially in social care and industry, aligning with DHI's strategic goals. Academic partnerships, particularly with Strathclyde University and Glasgow School of Art, remain vital. The Board commends the DHI team for their dedication and creativity, leading to another strong year and a future filled with commitment and ambition.

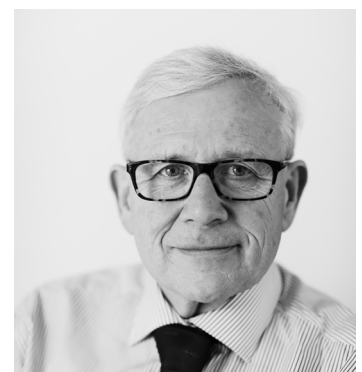


John Jeans CBE - Chair of the DHI Board



Introduction

Looking back over the past year has allowed me to reflect, not only on the achievements and impact that DHI has delivered, but some of the reasons for our success. Reflecting allows you to gain insights and learn. When you then plan for the future, you are better equipped to meet the opportunities and the inevitable challenges head on. DHI's success has been down to the commitment, belief and tenacity of its team members at all levels across our organisation. It has been through their efforts, their hard-won knowledge, expertise and application that we have created an organisation that is recognised internationally as a leader in the field of digital health and care innovation.



As we look ahead to DHI's next 10 years, we've built strong foundations for the journey. Our "learning by doing" approach, focused on putting people at the centre, has enabled the design and development of relevant and scalable digital solutions. Health and care systems face unprecedented challenges, but with those challenges come opportunities. Innovation and next-generation digital tools can help deliver resilient, high-quality, and affordable health and care. We envision a future where people in Scotland are empowered to make informed health and wellbeing choices, access services on their own terms, and actively participate in their care. By shifting the focus to prevention, early diagnosis, and personalised interventions, we can secure individual and community resilience enabled by digital. However, realising this potential requires building trust, understanding value, and integrating technical, service, and business innovations. DHI continues to play a crucial role in turning Scotland's aspirations into reality.

Professor George Crooks OBE - Chief Executive Officer

Strategic Summary Statement

This Year 5 annual report serves as the concluding report for the DHI Phase 2 period. It highlights the outputs and impacts achieved by the team and partners in the past 12 months. The report also emphasises the smooth transition efforts made to facilitate DHI's progression to its next phase (phase 3), which is successfully now part of Scottish Funding Council (SFC) infrastructure investment and aligned with the Scottish Government (SG) Digital Health and Care Directorate. DHI celebrated our 10-year anniversary this year (Oct 2023), marked by reflecting on the past whilst focussing on the future anchored in our 10-year strategy, receiving full endorsement from the DHI Board and key strategic partners.

DHI continues to build a comprehensive membership, this year with more than 1900 individuals registered. The two active thematic clusters, Healthy Ageing and Digital Mental Health have created rich collaboration activity and the potential for cooperation opportunities this year, and are regarded as a nexus which is attracting UK and International recognition. From these clusters joint working has matured with UKRI, Innovate UK, Digital Health London and a range of EU project partners, resulting in multi-million project propositions submitted (Peace plus, NIHR, Innovate UK etc.). This year from all DHI engagement activity the DHI has successfully raised over £1.2 m in direct funding (See fig.1 below). Three substantial proposals that were supported by DHI received positive outcomes, these included the College Learning Innovation Collaboration (CLIC), Social determinants of Health (CSO - Crime and criminal justice) and the AI Hub for real data (CHAI -UKRI) all amounting to a value of approx. £11m counting towards the indirect funding leveraged in year 5 (see fig.1).



Fig.1-Direct and Indirect additional funding

An essential component of engagement is delivered by our co-founding partner, GSA, who design effective engagement methods and facilitate scoping activity through the application of design led innovation. This builds a space for our partners' primary challenges to be fully explored, identified and expressed whilst consensus building takes place. This method yields design research capabilities, currently acknowledged as vital by forward-thinking businesses and organisations worldwide. This year DHI appointed a Professor of Practice, acting as head of care and wellbeing, intensive scoping and design research has taken place to enhance future opportunities for social care innovation as we plan our Phase 3 portfolio. Furthermore, DHI has expanded our offer of design and research assistance to others in the ecosystem, including the Chief Scientist Office (CSO), Centre for Sustainable Delivery (CfSD) and NHS National Education Scotland (NES) in response to strategic partner demands. These collaborations aim to enhance joint ideas and promote adoption and scale.

This year, DHI strengthened industry support with Scottish Enterprise's backing, highlighted with successful scoping activities on Womens Cardiovascular Health Data (WCVHD) challenges, endorsed by the Scottish Life Sciences Industry Leadership sub-group on Digital and Data (ILG DD). The workshop, the first in a series, was attended by over 30 delegates and generated valuable insights and excitement for digital solutions, paving the way for Phase 3 projects and collaborations.

DHI Exchange R&D infrastructure has successfully de-risked innovation and advances pathfinder projects across Scotland, participating in Digital Front Door and Digital Identity initiatives. DHI supports the National Digital Platform, contributing to national architecture development and promoting standards-based platforms with R&D cloud infrastructure and sandboxes which are being further progressed for Phase 3.

DHI's Project Portfolio remains well balanced across the care continuum and state of readiness levels. This year, DigiBETE, a digital diabetes education tool for children, is ready for adoption, and the Right Decision Service was transferred to Healthcare Improvement Scotland (HIS). Lifelines Scotland Programme hosted a national conference (Sept 2023), with over 120 participants and a ministerial address. DHI's Rural Centre of Excellence (RCE) Moray initiated three Living Labs for Real World testing, with key RCE assets transferring to NHS Lanarkshire to test. Additionally, RCE won 'Best Emerging Innovation' award at the TSA conference (March 2024).

All DHI activities are informed by research and skills activities. This year, the team produced 14 research reports, administered 18 postgraduate scholarships, and supported the Clinical Entrepreneur and Clinical Innovation Fellowship programmes. A major research [report](#) on navigating the digital skills shift in healthcare influenced the new SG '[Digital and Data Capability Framework](#)' (July 2024).

In addition, DHI delivered over 90 events (see fig.2). This included delivering keynotes, panel sessions, webinars and workshops, with our global reach expanding through partnership working with ECHA Global connector, SDI and Foreign offices. This exposure attracted mission visits from Europe, Asia and the Middle East. DHI continues to provide strong thought leadership through representation on national and international committees, influencing key strategies such as the EU Health Wellbeing manifesto.

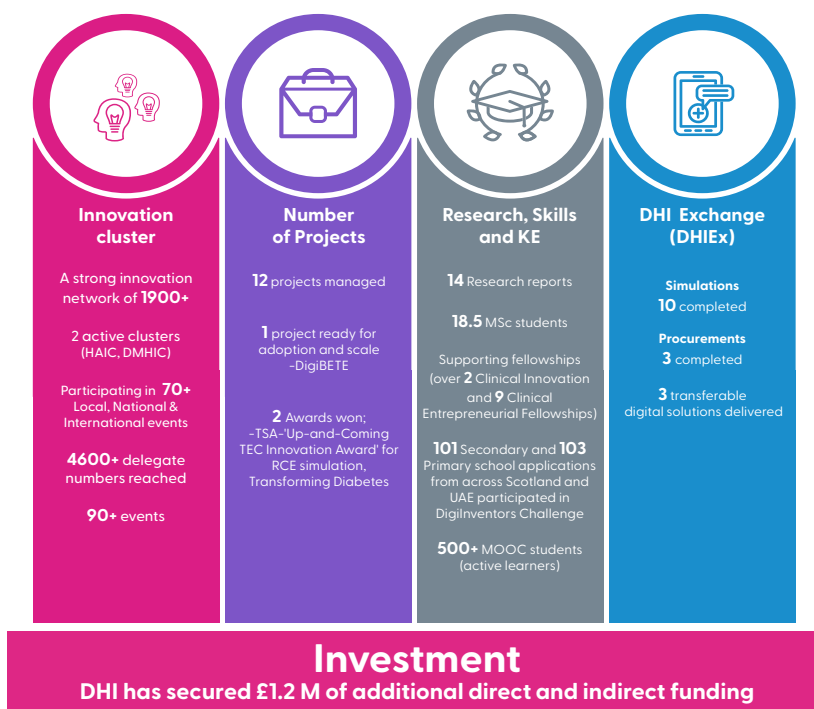


Fig. 2 - Key Performance Indicators 2023/24

This year's significant accomplishments are facilitated by DHI's Innovation Process Model (refer to Fig.3). This process initiates early engagements under the '**Engage and Scope**' stage before progressing to deeper collaborations at the '**Initiate and Develop**' phases, and, when/if proved to be successful, shifts to the '**Evaluate and Iterate**' stage. Projects that are considered as 'ready for adoption', feature in the '**Embed and Adopt**' section. All DHI's work encompasses an aspect of '**Learn and Share**', which summarises our wide dissemination and underscores our knowledge exchange and DHI's achievements for this year.

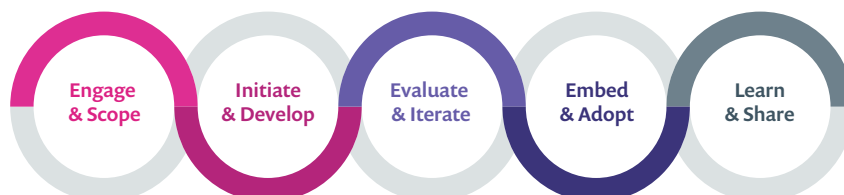


Fig. 3 -DHI Innovation process model



Engage and Scope

DHI engages to influence national and international policy; exchange knowledge and insight; support introductions and facilitate exciting collaborations which continue to deliver a strong pipeline of digital health and care innovations.

Strategic Engagement

The organisation continues to represent the Scottish Research and Innovation (R&I) community in digital health and care across a range of key strategic partnerships including Innovate UK, EPSRC, and relevant portfolios in Scottish Government and partners. This year included enhanced support for the Chief Scientist's Office (CSO) Innovation Programmes on Mental Health, Dementia, Drug Deaths Overdose Prevention and Diabetes, participating in specialist assessments and utilising DHI's extensive network to signpost opportunities and support knowledge exchange, along with other skills partners across the education sector (e.g. NHS Education for Scotland (NES), SISCA, Interface, U&C).

Innovation Clusters

With more importance now being placed on cluster development nationally, DHI shared insights and experience of innovation clusters with Scotland's Innovation Strategy team, and joined the Strategic Industry Clusters group to collaboratively explore opportunities for Scotland's Health & Life Sciences Innovation Cluster. Membership of the overarching Digital Health and Care Innovation Network continues to grow from 1,700 to 1,961 members over the last year (15% increase). This network contains DHI's innovation clusters for Healthy Ageing and Digital Mental Health.

Healthy Ageing Innovation Cluster (HAIC) has delivered 3 in person events and 1 online with over 120 participants. All events were recorded and live streaming was launched in October in partnership with the National Robotarium as part of care hackathon week. In February, DHI delivered an inperson event with Napier University and a workshop with the Advanced Care Research Centre from Edinburgh University, resulting in a [joint briefing paper](#). The final online event focussed on Social Care Innovation including presentations from Welsh partners, BT and Amazon Web Services.

Digital Mental Health Innovation Cluster (DMHIC) expanded by 21% with 221 new members this year. Events were specifically designed to meet the needs of academic, business and civic members. An event in September supported the £20million IUK Mindset Challenge launch (2nd tranche). The Health Innovation Network South London (HIN) now hosts the Mindset Challenge for IUK and DHI were invited to be part of the national Strategic Advisory Group. In June 2024, the DMHIC jointly hosted an immersive technology mental health showcase event with HIN in the XR (Extended Reality) Lab at Glasgow University. Abertay University presented, [The Longest Walk – Alexander Tarvet TIGA award](#) winner, an emerging trend in Gamification for Mental health, reflected in [DHI report](#).



Further to formalising a strategic partnership with DHI in August 2023, NHS Education for Scotland (NES) and DHI have made substantive progress in a number of areas. In the last 12 months this has included: extensive planning to support digital skills development for the health and social care workforce; closer working on remote and rural initiatives; and scoping virtual reality (VR) training, with joint bid opportunities progressing.

The next phase will focus on advancing digital skills in health and social care in Morayshire, supporting career paths for school leavers and mid-career professionals through targeted training opportunities.

Both organisations will continue leveraging their strengths to support national efforts, helping the health and social care workforce adopt emerging technologies. This partnership is also benefiting our wider network across Scotland and beyond.

Karen Reid,
CEO of NHS Education for Scotland



DMHIC brings together important stakeholders from across mental health incl. people with lived experience, clinicians, service managers, policy leads, industry, capital and academia to network and share experiences...an invaluable way to build effective innovation networks and lay the groundwork for transformational technology enabled care

Donald MacIntyre, Consultant
General Psychiatrist

Project Pipeline

DHI collaborates with key partners to create opportunities and develop a pipeline of innovation projects, responding to challenge areas, funding calls, and partner priorities. This year, DHI began a major research and scoping initiative in social care innovation, laying the groundwork for a Phase 3 portfolio. Internationally, DHI is working on significant project opportunities with Europe, Ireland, the USA, and the Middle East, including the Substance Use & Mental Health Interventions using Digital Technologies (SUMIT) proposal, submitted to the EU Peace Plus Programme. SUMIT aims to provide personalised community-based treatment for 1,500 people with substance use and mental health issues, potentially leveraging multi-million funding as part of a consortium involving Queens University Belfast, Trinity College Dublin, SCVO and St Andrews University.

Digital Lifelines Scotland (DLS)

DHI was commissioned this year (2023) by SG to assume portfolio leadership of Digital Lifelines Scotland (DLS) to support the priority to reduce drug related deaths and improve harm reduction.



Fig. 4– Digital Lifelines Drug & Alcohol Policy at Kilmarnock Prison

DHI organised several key events, including a national conference in September 2023 with over 120 participants, a visit from Scotland’s Minister for Drug & Alcohol Policy to Kilmarnock Prison in November, a vodcast launch with ECHA during Digifest in December, participation in Holyrood’s Digital Health and Care conference in February 2024, chairing the Drug Research Network Scotland (DRNS) hosted by Edinburgh University conference in June, and collaborating with Public Health Scotland to explore data linkage options.

Industry Engagement

Industry engagement continues to build on relationships with Scottish Innovation Ecosystem Stakeholders including Scotland Innovates, the Test Bed National Project Management Group, InnoScot Health, Scottish Enterprise, Scottish Development International, CivTech, University technology transfer teams, and other Innovation Centres.



Fig. 5– Women’s Cardiovascular Health Data (WCVHD) workshop

One key area of activity was the Women’s Cardiovascular Health Data (WCVHD) workshops that involved a number of stakeholders from industry, government and academia. Industry engagement with the WCVHD programme has been substantive, with 15 companies attending workshops, many of which had no prior connection to DHI. Key outputs were,

1. developing a shared understanding of problems inherent in women’s cardiovascular care pathways, and
2. identifying data-driven project concepts for further development
3. the events were delivered in partnership with Scottish Enterprise (SE) and the Innovative Healthcare Delivery Programme (IHDP) and facilitated by DHI’s design team.

In addition, companies continue to be supported through a mix of 1:1 and 1: many activities. Over the last 12 months, including 1:1 meetings with over 31 companies (42% Scottish) to better understand needs and inform collaboration opportunities.



Initiate & Develop

DHI's Initiate and Development portfolio further expands and promotes ideation around the Art of the Possible, moving early concepts forward through co-design workshops, rapid prototyping and simulations to Level 5 of our Readiness Level framework (see project portfolio appendix – Service, Business & Technical readiness framework). This provides partners a safe space to imagine and construct new possibilities and de-risk innovations at an early stage.

Moray Rural Centre of Excellence (RCE)

The Rural Centre of Excellence for Digital Health and Care Innovation (RCE) is a £5M project funded by the UK Government through the Moray Growth Deal. Focussed on the Moray local authority area, the initiative plans on becoming a leader in rural digital health and care projects. The RCE hosts a state-of-the-art Demonstration Simulation Environment (DSE) – has hosted a range (X) of events this year from workshops, government visits and international delegations. The RCE team have initiated and developed with citizens and stakeholder innovations through 'Living Labs' i.e. innovation 'ecosystems' are run in which all stakeholders including the community, private and public sectors work equally to develop innovation to tackle key health and care challenges. In the last year we have made significant progress in initiating three living Labs.

Living Lab 1 Supported Self-Management and Living Lab 2 Long Term Conditions Co-Management (NHS) has developed three consecutive campaigns in partnership with the NHS Diabetes and Dietetic Services services over the last 12 months, with a focus on type 2 diabetes and high BMI. The first Research and Development campaign gives participants the opportunity to access recommended diet and lifestyle management via the Community Connections platform and links them to community services such as Moray Leisure Centre (MLC) for targeted support. Campaigns 2 and 3 will move to develop digital tools to link those being supported by the Leisure Centre with dietetic (LL1 and LL2) clinical teams via a Personal Data Store for a more personalised experience.

Living Lab 3 Care in Place aims to support easier access to social care services for both unpaid carers. For example, people with frailty could be cared for through access to a directory of local and national services, supporting information in one place, linked to a Personal Data Store. Data could then be reused to refer to services without the need for patients to retell their story. This workstream is moving to real world testing in partnership with Quarriers, and the tool is attracting national interest.

The RCE Skills Fest (Nov 2023) was a successful all day in person event with over >100 delegates, four workshops and multiple panel sessions with key partners (Microsoft, NES, SDS etc.) delivered. The feedback showed knowledge/skills improved with good connections made in support of the living lab activities.



Living Lab 1 self-management and diabetes will help test a future state vision for weight management services in Scotland. It pivots to meet the needs of the population, citizen and the NHS. This unique pathfinder approach puts Moray's Regional Centre of Excellence and DHI on the map in providing innovation that could revolutionise weight management services for the future.



Jacqueline Walker,
Dietetic Lead Moray HSCP



The digital tools (Community connections -Care in place - LL3) we have developed in partnership with unpaid carers have real potential to support the search for the service that suits you [the carers] and increases the sharing of key information, reducing the friction for unpaid carers



Quarriers, Moray. TBC

DHI Exchange Portfolio

This year, the DHI Exchange has significantly elevated DHI's contribution in critical Scottish Government work programmes. DHI Exchange projects total 35 projects in the portfolio which are now maturing into pioneering initiatives in support of the Digital Front Door, Digital Identity and Integrated Care Record programmes. DHI also remains committed to supporting the National Education Scotland's National Digital Platform Initiative, actively participating in national architecture development, and advocating for standards-based platforms.

A number of Living Labs that undertook simulation in Moray have attracted interest from Lanarkshire and Lothian. The DHI Exchange works with many organisations across Civic, Academic and Industry, promoting partnership working (See fig.6).



Fig. 6– DHI Exchange key partners

Challenge support

DHI contributed expertise to several SBRI Challenge Initiatives including HBAIC Home Testing Challenge. This supports the wider DHI ambitions in relation to innovative approaches to point of care testing. DHI are working closely with CivTech to collaborate on future challenge funding calls, with this transitioning in to DHI.



DHI has been working to support a more person centered use of tech, their most recent delivery is well aligned with the GIRFE principles and national agenda, and we look forward to seeing the outputs from the pathfinder work



GIRFE team



Fig. 7– Demonstration of Simulation activity

NHS Volunteer (NHSV) Stage 2

DHI completed Stage 1 of the NHSV project last year outlining options for a new national Volunteer Management System (VMS). DHI has continued to work with NHSV over the last 12 months to secure SG funding for 'Stage 2'.

A series of workshops and small group sessions with stakeholders took place with a 'future state' model delivered as a transformative blueprint was delivered. The informed the development of a business case by DHI and Health Improvement Scotland (HIS) with successful funding approved in July 2024.

Lothian Pathfinder

A follow on project from the work with Midlothian Health & Social Care Partnership (H&SCP) has secured funding for its fourth phase expanding its reach to include Edinburgh H&SCP. Co-design, service mapping and prototyping have been iterated, and, a sandbox environment have been set up. Key Personal Data Store developments will progress 2025, including modules for unpaid carer support, older adult support and the integration of the new digital tools with the National Digital Platform and local Case Management Systems for the H&SCPs and relevant charities.



Evaluate and iterate

Beyond Readiness Assessment Level 5, DHI advances projects where the future state of the digital solution has been developed on a small scale often with a prototype that is ready to be trialled, iterated and evaluated (usually in real world settings).

DHI has continued to extend its design research expertise to produce physical and interactive prototypes, which elicit enhanced user feedback. Processes and methods have been developed to capture user needs in ways that are significant to stakeholders at various stages of development. For end users, this may take the form of a tangible or interactive prototype, while for developers, it often translates into a Product Backlog that outlines functionality, preserving crucial insights gathered earlier. This work plays a crucial role in iterating from feedback loops.

DHI Exchange - Pathfinder

The DHI Exchange continues to focus on integrated care innovation. Several pathfinder projects are being iterated with evaluation activated this year across Scotland. These pathfinders are based on a common theory of change: that more person-centred, integrated care is dependent on better data sharing, and that the large number of people and organisations involved require new approaches to facilitate this sharing. The main intervention is the introduction of a Personal Data Store infrastructure, with the team exploring if personal control, ownership and porting of data between services is desirable, feasible and scalable.

AIM4ALL

The Life Sciences Competitiveness Indicators 2022 indicate that the UK must increase the number of clinical trials in Scotland to improve health outcomes and economic benefit. There are two key challenges to increasing clinical trials in Scotland;

1. disparate data sets across the healthcare landscape,
2. protracted contract negotiations due to treatment manufacturers requiring high fees to cover their development costs.

DHI established and iterated the AIM4ALL Proof of Concept (PoC) over the last 12 months to demonstrate a mechanism to collate standardised, long-term clinical datasets across Scotland – with CAR T therapy as an initial use case. Following the PoC, DHI is now leading a collaboration of NHS Scotland and industry partners to establish a 'Living Lab' solution to refine the technical, business and governance aspects of an AIM4ALL digital service. The outputs and evidence gathered will inform a case for scale and may establish a blueprint for similar services internationally.





Embed and Adopt

This includes projects that have been successfully tested and evaluated in the real world and are considered to have sufficient evidence to support wider adoption. At this stage, the DHI shifts into higher Readiness Levels (6 and 7) and adopts a supportive role to assist implementation, adoption and developing a case for scale which is often led by other partners (e.g., NHS Innovation hubs, CfSD or NSS). These can also be introduced into the ANIA (Accelerated National Innovation Adoption) pathway. This year, DHI has supported a significant project in support of improved diabetes management i.e. DigiBete.

DIGIBETE

DHI, working in collaboration with Digital Health and Care (DHAC) and following a successful evaluation with early adoption sites, have secured funding to continued scale up and adoption of DigiBete during 2025. DigiBete is a self supported self-management education platform is specifically designed for and by Children, Young People and Families living with Diabetes. This digital resource will be made available nationally and will be embedded into mainstream NHS service delivery with an estimated 10,000 beneficiaries.

NHS GG&C procuring LTC platform

Due to the success of the COPD solution (Dynamic-Scot project), a national contract for a Long Term Conditions platform is currently out for tender, posted by NHS Greater Glasgow & Clyde (NHS GGC). Overall outcomes include the creation of a new Spin Out company (Lenus Health), and growth strategy for that company to take forward the Health Data Exchange and associated digital services commercially, with traction being gained across the UK health market to embed and transfer the innovation that originated in Scotland. The platform has now been integrated into clinical systems across 11 Scottish health boards and used across a dozen different pilots and live services. Some key achievements include:

- Significant reductions in waiting times for heart failure diagnosis in Glasgow
- Significant reductions in admissions to hospital for people with COPD in Glasgow
- Stress tested through millions of interactions with the platform to support contact tracing during Covid (54% of all positive cases use the tools).

The above programme of work resulted in several streams of further impact, including provision of an evidence base for two business cases developed for the new Accelerated National Innovation Adoption (ANIA) pathway. One of these resulted in a national procurement, with the other currently in the business case development process. A national contract for a Long Term Conditions platform is currently out for tender, posted by NHS Greater Glasgow & Clyde, as a result of the success of the COPD solution (Dynamic-Scot).



It's a fantastic resource. It makes so much sense for us all to be using this on a "once for Scotland" basis, saying the same things and saving time by working together'.

...a great project team to work with, very responsive.

It's been really well received by service users, and so easy to use



Digibete Evaluation Report, Diabetes Clinical Community, 2024





Learn & Share

DHI undertakes a broad range of activities at a local and international level to create learning and KE opportunities. This includes events (webinars, seminars, thought leadership and speaker slots), which disseminate key findings from its innovation cluster, market research, academic grant awards, project portfolio and simulations to influence skills development, strategic thinking, policy influence and collaborations.

Engagement and Reach

Over the past 12 months, our website traffic has increased by 114%, the number of sessions has risen by 118%, and page views have surged by 275%. Our newsletter subscribers have grown by 24%, with open and click-through rates significantly surpassing those of our comparators. In addition, DHI is progressing internal development of its Phase 3 website, building in-house capabilities and extending functionality e.g. embedding a Digital Innovation Hub to support more dynamic member interactions. Our social media channels continue to grow and yield high engagement rates and impressions.

Over the past 12 months, DHI led 22 events, co-hosted 16 partner events, and participated in 39 external events, engaging over 4,600 delegates. These events fostered strategic collaboration with stakeholders from India, Belgium, Spain, the Middle East, and North America. DHI also contributed through senior management roles on international boards such as EHTEL, ECHAlliance, UKTIN and All Policies for a Healthy Europe, which allows DHI to extend reach and raise Scotlands profile internationally.

Inspiring Future Entrepreneurs

In 2024 the #DigilInventors Challenge Primary School Edition evidenced significant traction, attracting a 54 increase in applications, engaging over 300 pupils across Scotland in 6 council areas including the Western Isles. The #DigilInventors Challenge Secondary School Edition partnered with Scottish Hockey to collaboratively design next years exciting challenge, promoting healthy activity through the use of digital technology in sports. This collaboration has developed a new challenge question designed to encourage greater participation and awareness of digital technology in sports.

Transforming Diabetes Care

DHI published Transforming Diabetes Care Through Innovation report. Research insights from this work have been used to inform digital innovation opportunities for DHI pipeline projects and strengthen relationships with Diabetes Scotland and CSO. This work has supported discussions in shifting from early innovation projects towards digital projects with higher levels of readiness for accelerated adoption and supported the case for further Diabetes investment in Closed Loop Technologies.



It's great to have partnered with DHI to create and launch the #DigilInventors Challenge Primary School Edition. The feedback from teachers, pupils and parents on the teaching and activities has been phenomenal as you can see through the increasing participation rates. I look forward to seeing how we develop the Challenge next year.

Gillian Reilly, Primary Science and Sustainability Development Officer, South Lanarkshire Council



Influential Market Research

This year a range of market research reports (14) have been completed, including an extensive research report entitled ‘How to navigate the digital shift in healthcare’. This reviewed frameworks used to support digital working by frontline staff.

The report was presented as part of a [webinar launch](#) backed by an international expert panel from the World Health Organisation, Scottish Government, NHS Education Scotland, the Australian Institute for Digital Health & Care, and Health Care Improvement Scotland. The event attracted an audience of over 100 participants. The report has since been the basis for a commission by Scottish Government and COSLA for a new capabilities’ framework.



This work informed the development of the new Scottish Health and Social Care Digital Capabilities Framework therefore relevance and impact has been high in relation to this work.



Lesley Holdsworth, SG advisor to NHS NES Digitally Enabled Workforce (DEW) team

Other key reports covered stakeholders’ views on Patient Reported Outcome Measures (PROMs) and the value and impact of the Right Decision Support service for the NHS; use of AI in Skin Cancer detection; and supported the development of the Digital Front Door by looking at best practice for digital Delegated Access. DHI now has more than [270 reports in total](#) with over 200 in the public repository.

DHI’s research has directly informed other national level

- development projects, such as Right Decision Support Service by Health Information Scotland.
- Digital Front Door by the Scottish Government.
- Scottish approach to digital and data upskilling of frontline health and social care workforce by the Scottish Government and NHS Education Scotland.
- Several larger scale research bids and the organisation of national research consortia.

Masters Scholarships/Internships

DHI’s Masters Scholarship and outreach work in workforce development have been key in the last 12 months. An improved engagement strategy was activated, which increased our overall level of engagement with Scottish HEI, identifying new potential courses, and targeting universities. As a result, we have achieved a 54% increase in student intake: 18.5 FTE scholarships were allocated among 25 individual students.

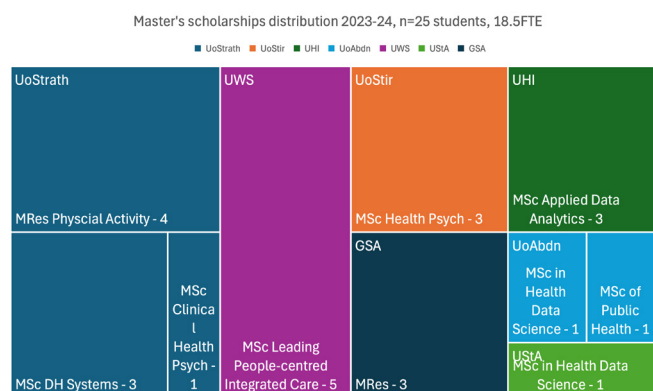


Fig 8. – University scholarship allocation

DHI engaged students from across seven Scottish universities and ten courses (see Fig 8), six of which are brand new to DHI’s scholarship funding. DHI also hosted its first annual Student Peer Seminar Day (May 2024), where students presented their dissertation abstract to peers. The event was also attended by academic supervisors from University of Stirling, University of Highlands and Islands, University of West of Scotland, and University of Strathclyde.

NHS Clinical Entrepreneur Programme (CEP) and Clinical Innovation Fellowships (CIF)

DHI, with other key stakeholders – CSO, NES, SG and InnoScot Health – have supported the NHS CEP and NHS CIF activities in Scotland. For 2024, Scotland secured 8 places for the 3rd Scottish cohort as part of the NHS CE programme delivered by Anglia Ruskin University for NHS England. The CIF programme attracted two PhD level candidates, building senior level capability. A well attended joint event took place at Abertay University (Nov 2023) to support shared learning. In addition, a Scottish Welcome event was hosted online in March, and the DHI organised a face-to-face event to introduce the fellows to the role of design thinking and person-centred innovation in May 2024.

DHI Project Feedback

DHI continues to provide outcomes that positively impact our stakeholders and their organisations. This section illustrates the level of impact identified across a range of categories that 16 of our stakeholders felt were relevant to the projects they were involved in.

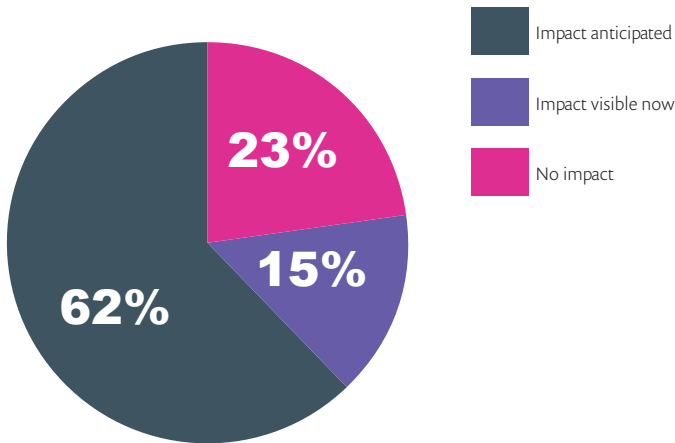


Fig.10 – More citizen focussed

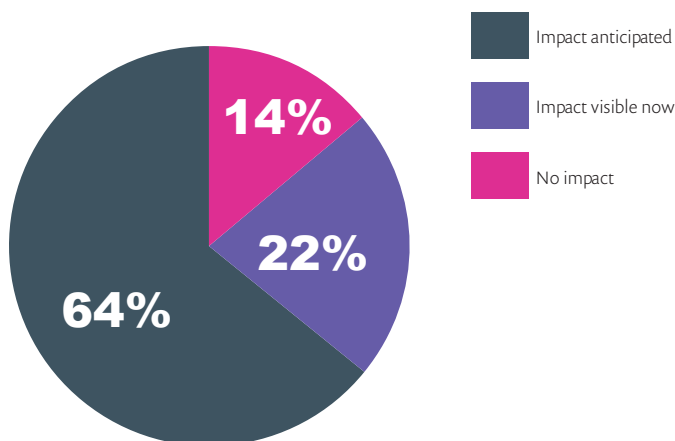


Fig.11 – Improved data exchange between citizens and services

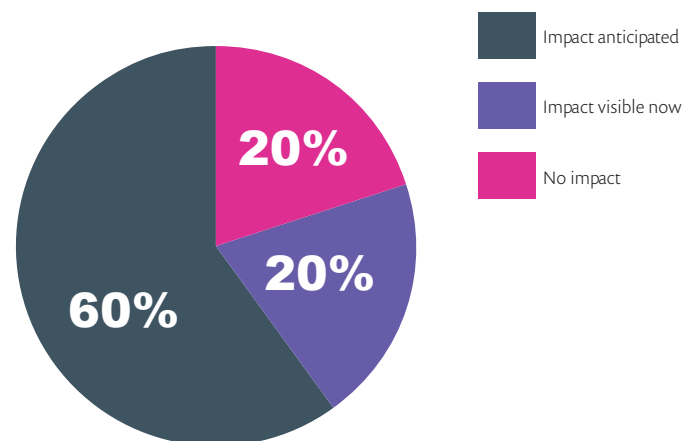


Fig.12 – Increase in technical readiness

DHI continues to make an impact on services and citizens, particularly around quality of care, better data exchange, less waste as well as more timely and citizen focussed services. As a result of DHI's project work,

- 57% of stakeholders anticipated an impact on the quality of care to citizens and a further 29% percent had observed this already.
- 62% of stakeholders anticipate less wasted resource will emerge and a further 8% of stakeholders had observed this already
- 61% of stakeholders anticipate an impact on the timeliness of the service to citizens will emerge and a further 8% have observed this already
- 62% anticipate the service will become more citizen focussed as a result of the project and a further 15% have observed this already, for example, more effective identification of patients at an early stage of their diabetes journey and on the next stage of their intervention (see Fig.10)
- 64% anticipate better data exchange between citizens and services as a result of the project and a further 22% have observed this already, aided by DHI increasing the awareness of care providers and citizens on what is possible with regard to information sharing (see Fig.11)

DHI significantly impacts stakeholders' strategic goals, with 60% reporting an increased appetite for digital innovation and 20% expecting it to grow. Additionally, DHI's knowledge transfer is effective, with 73% of stakeholders gaining knowledge in digital options and 67% in service development. DHI is also driving business impact, with 60% of stakeholders expecting increased product technical readiness for the market, and 20% already seeing this as a result of project work (see Fig.12)



DHI made a massive impact on the direction of our project. They were instrumental in our understanding of the landscape and identifying areas for innovation. We enjoyed the process and thoroughly enjoyed working with Chal and the team

Stephen Harrow, Edinburgh Cancer Centre



DHI Research Feedback

Impactful research

The majority of DHI's research reports (almost 60%) were rated as having had either Very high or High impact on the clients' work (see Fig.13) No respondents rated the work as having had no impact at all.

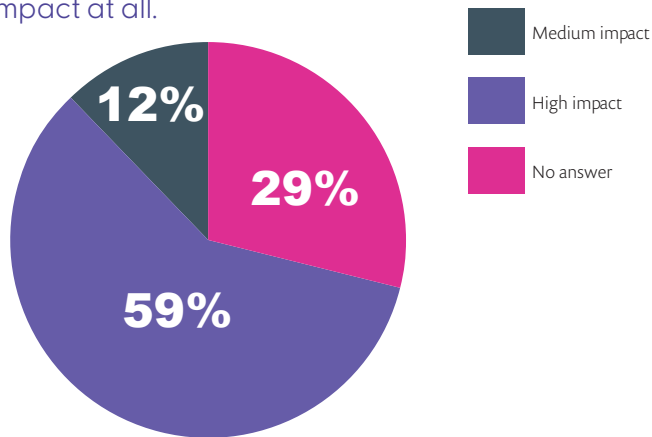


Fig. 13– Impact of DHI's research service; n= 17 reports

How DHI research is being used

This survey emphasised that the DHI's research service is having real-world impact. The clients noted that the research outputs help shape practice projects, inform strategy or policy development, and help re-focus the direction of research initiatives (see Fig.15).

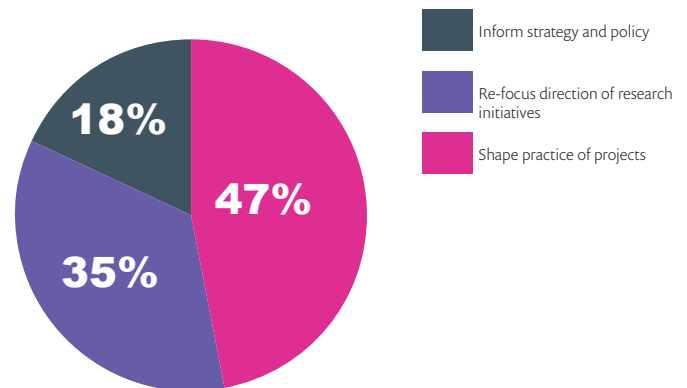


Fig. 15– Main uses of DHI's research outputs by clients n= 17 reports

Service Satisfaction

In terms of satisfaction with the produced reports, 82% of the respondents were either very satisfied or satisfied with the service, with 18% not providing an answer (see Fig.14).

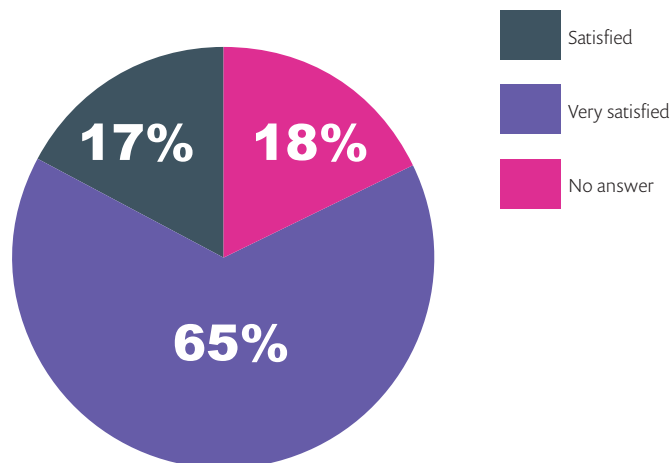


Fig: 14 Satisfaction with DHI's research service; n=17



The team have produced a highly relevant and rigorous commentary, one which will support organisations develop their own plans for developing the digital skills and capabilities of frontline staff and support the delivery of services in the digital age. There are some key messages contained within the paper that are of particular relevance to workforce planning and education to ensure that we have and continue to produce the workforce who can deliver services our population needs.



Hilary Lowe, DEW NES team



...this work has helped us to review our future research direction . We are planning to bring together an industry workshop from the output of the research to allow us to understand more about the available solutions.



Impact - NHS Forthvalley, AI Skin Cancer Consortium

Conclusion and future focus

DHI has demonstrated exceptional performance in concluding the final year of Phase 2 with outstanding results, exceeding our expected Phase 2 Year 5 Key Performance Targets. This success has allowed DHI to formulate an ambitious 10-year strategy and Phase 3 delivery plans that take account of the strong foundations created in previous DHI phases building on lessons learned, and to address the requirements of SFC and Scottish Government core funders for Phase 3. The DHI board and team are looking forward with enthusiasm to the commencement of DHI's Phase 3 activities from August 2024. (that aligns with the Priority Action Areas highlighted in Fig. 16)

Over the next 12 months DHI will:

1. Drive forward digital transformative solutions for health and care
2. Create a portfolio that includes more integrated care activity and projects.
3. Expand innovation cluster methodologies to enhance collaboration building and attract inward investment.
4. Intensify skills development and knowledge exchange initiatives nationally and internationally.
5. Strengthen industry support and strategic engagement.
6. Research & develop Net Zero principles, contribution measurements for digital health & care.

PAA1 – Support the transformation of health and social care		
PAA2 – Develop a digital & data infrastructure as national assets to de-risk innovation	PAA3 – Enhance Scotland's connected ecosystem through cross sectoral innovation clusters	PAA4 – Develop a future skills pipeline which delivers work-force capabilities fit for Scotland's future
PAA5 – Extend commercial engagement to support economic growth	PAA6 – Support health and care contribution to Net Zero	PAA7 – Enhance Scotland's international reputation in R&I

Fig.16 Potential priority action areas for Phase 3

“

The Digital Health & Care Innovation Centre is unique in its ability to bring together world leading industry and academic expertise and direct their efforts towards real-world challenges in caring for people's health and wellbeing. It has an outstanding record of finding the right partners, supporting collaboration and being genuinely innovative.

Karen Watt, Chief Executive of the Scottish Funding Council

”



Our 2024/25 contribution to the wider strategic landscape will be progressed through our Priority Action Areas (PAAs) activity as outlined below.

Health and Care transformation (PAA1)

- Manage a balanced portfolio of projects
- Maintain and develop additional formal strategic partnerships arrangements
 - Leverage and facilitate academic evaluation funding
 - Maintain and initiate additional rural living labs (MGD)
- Create opportunities to attract additional funding (across all PAAs)

Digital and Data (PAA2)

- Influence and support national programmes
- Horizon scan to explore data sharing platforms
 - Deliver multi-disciplinary pathfinders
 - Showcase the art of the possible
- Maintain an R&D infrastructure to de-risk innovation, using simulation as an approach
- Deliver Knowledge exchange events and activities

Cluster and Engagement (PAA3)

- Focus on interconnected cluster and ecosystem capabilities on key system priorities
- Establish robust methodology to measure and evidence value
- Scope cluster infrastructure, expanding cluster models as required
 - Identify cluster accreditation
 - Scope and draft a cluster blueprint

Skills and Education (PAA4)

- Deliver research reports
- Deliver postgraduate scholarships, map U&C capabilities, delivering skill awareness roadshows across Scotland, deliver diginventors
 - Scope Social Care Innovation and Entrepreneurial options
- Deliver knowledge exchange activity & events

Industry (PAA5)

- Embed service and commercial readiness training and learn and share assests
 - Promote inward investment
- Align technology 'PUSH'opportunities
 - Increase R&D funding for Scotland
- Develop demand driven calls with partners
 - Create collaborative opportunities

Net Zero (PAA6)

- Support the concept of the 20 min neighbourhood
 - Scope net zero principles
- Promote post graduate and research opportunities for Net Zero in Digital H&C
- Maintain an international presence at the ECHA Global health Connector ensuring best practise is shared widely

International (PAA7)

- Consolidate international strategic partnerships aligned to demand, synergy and funding options
- Maintain thought leadership positions to raise exposure of Scotland's R&D capabilities
- Develop joint funding proposals to encourage inward investment
 - Deliver Knowledge exchange events and activities highlighting best practise from other countries