



2024 - 2025

# ANNUAL REPORT

# health innovation

South East Scotland

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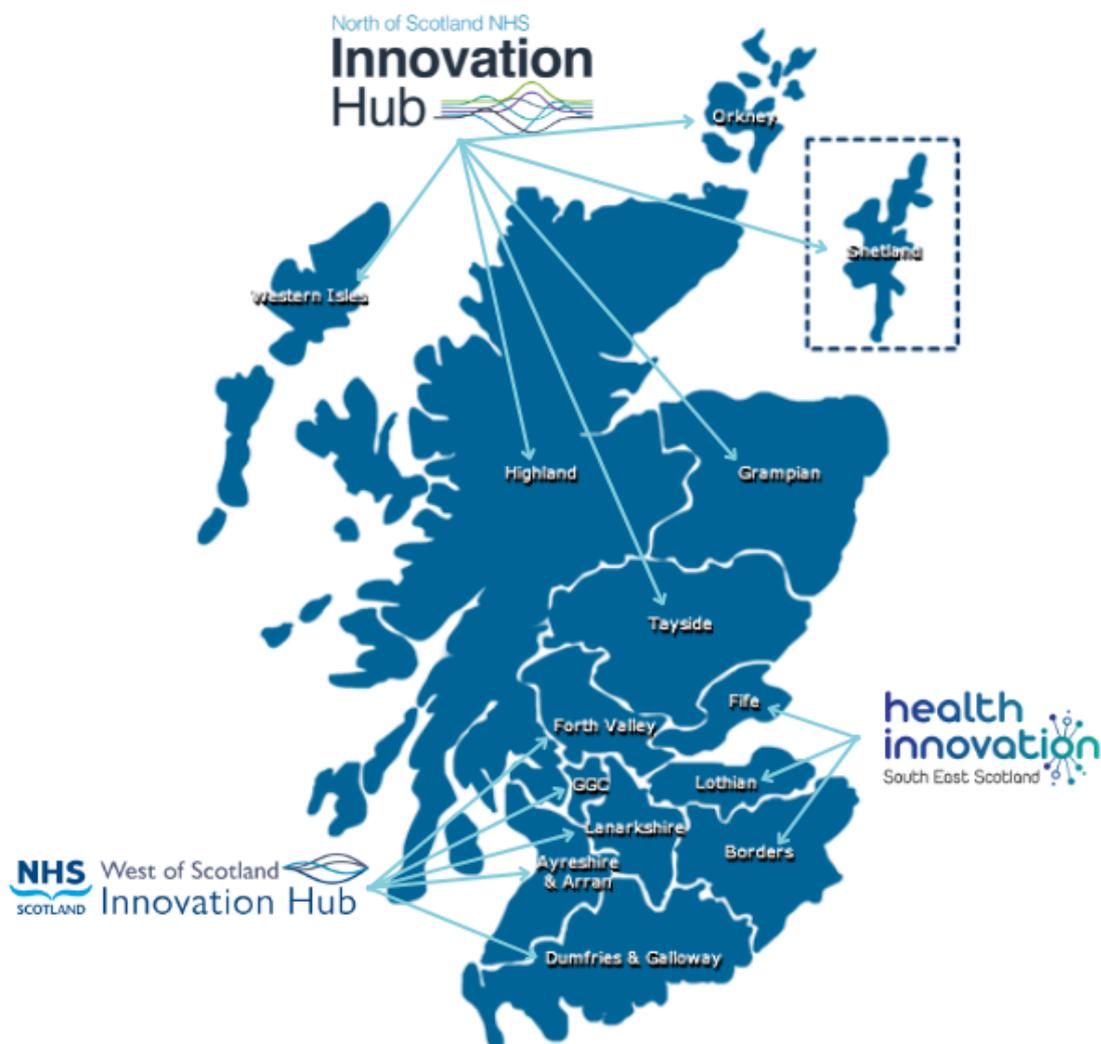
[hises.edinburghbioquarter.com](https://hises.edinburghbioquarter.com)

# South East of Scotland Innovation Hub



## Who we are and what we do

The Chief Scientist Office (CSO) funds three Regional Innovation Hubs, covering all 14 territorial NHS Boards in Scotland. Health Innovation South East Scotland (HISES) is the Innovation Hub based in the South East region, created to deliver the Government’s vision to utilise the innovation process to deliver a healthier and wealthier nation for the future. In 2024 – 2025 reporting period, Miss Tracey Gillies, Medical Director in NHS Lothian was the Executive Director Lead for Innovation, overseeing the core HISES Team based in NHS Lothian, with local Innovation Leads also funded in NHS Borders and NHS Fife.





Regional Innovation Hubs provide the capacity and capability for the NHS to engage in innovation activity and create the conditions to support the development, delivery, and adoption of new technologies within the health and social care system.

We provide an essential infrastructure for industry, academia and the third sector to collaborate with the NHS, translating research into innovative products and services that can directly benefit patients and improve the NHS. We also offer life science companies the opportunity to evidence the potential impact of their technology through access to expertise, governance, and technical capabilities such as trusted research environments, helping them to grow by co-developing within NHS Scotland.

Innovation Hubs allow innovative solutions to be tested in a real-world test bed environment to ensure they are fit for purpose- clinically, financially, and operationally – through evidence-based evaluation to determine any advantage over what is currently available. It is difficult to obtain this evidence without access to patients or clinical facilities to develop and test prototypes or new models, so the Innovation Hubs act as an enabler for this in addition to working on defining the value proposition of any innovative solution.

## Role of Innovation Hubs



02

Turning ideas and knowledge into products and services



Facilitate collaborations - co-design, co-develop and co-deliver with NHS, academia and industry



Provide leadership, support, test bed environment, regulation support, leverage funding, and access to NHS teams, healthcare settings, data and governance



Allow innovators to refine solutions, build evidence, inform strategy and develop thinking, and support scale-up and mainstreaming



Don't procure / implement solutions already on market, don't provide large-scale business as usual services



## National Open Innovation Activity

Since June 2022, nine open innovation competitions have been launched by the CSO Innovation Team to address priority challenges faced by NHS Scotland through the development of innovative solutions. Three of these national challenges are being managed by the HISES team, Mental Health and Women and Children's Health in NHS Lothian and Reducing Drug Deaths in NHS Fife.

## Mental Health

This innovation challenge aimed at [Innovating Mental Health Services in Scotland](#) launched in June 2022 as part of a two phase competition to develop disruptive innovative solutions that deliver sustainable, accessible, and equitable mental health services.

Phase 2 started in October 2023 and came to an end in Summer 2025. A total of three companies from Phase 1 were selected to carry out prototyping, piloting, testing and validation of new or improved products, processes, or services in environments representative of real-life operating conditions.

HISES worked with the company [Wysa](#) who have developed a clinically validated app which uses AI to support emotional health and wellbeing. Phase 2 user testing and evaluation of the app is complete after it was rolled out across 6 secondary schools in Edinburgh and 5 secondary schools in Fife. Across these sites, 949 students used the app, with 73% of young people completing five or more sessions, a remarkable engagement rate by digital health standards. Data collected suggests that around 95% of users return to the app after their first session. Here is a published article in [the Sunday post](#) with further information on their work and the use of AI therapy.



## Paediatric Remote Asthma Management

The [Children and Young People Remote Asthma Challenge](#) launched in October 2023 and focuses on several aspects of care of children and young people with asthma (5 to 18 years). 2 innovative projects from [Red Star](#) and [QIoT](#) were funded to collaborate with Test Bed Research Partners for Phase 1 of the competition.

Phase 1 concluded in August 2024, after a dynamic 3-month project period. Both companies were then selected to move forward into Phase 2 of the competition, both scoring extremely high in their applications. Phase 2 started on 13<sup>th</sup> March 2025 and will take place over 12 months, during which each participating company will work with their Innovation Hub partner to proactively address the challenge.

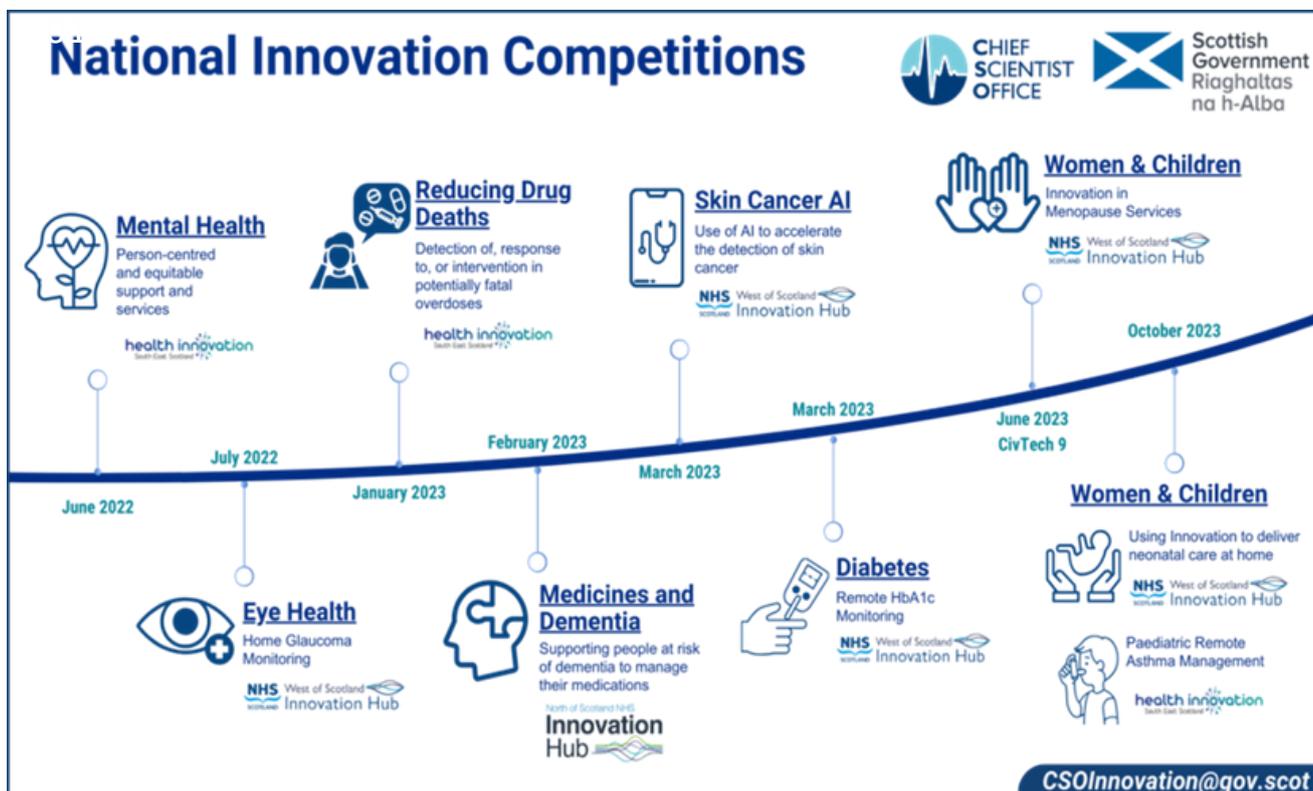
Red Star will continue to collaborate with HISES as their Innovation Hub partner and QIoT will continue to work in partnership with the West of Scotland Innovation Hub, to support the development and refinement of their prototype solutions.

## Reducing Drug Deaths

In support of the UK's Drugs Strategy, [From Harm to Hope](#), and Scottish Government's National Mission on Drugs, the UK Office for Life Sciences and the CSO are funding the [Reducing Drug Deaths Innovation Challenge](#) to develop disruptive innovative solutions focused on detecting of, responding, and intervening in potentially fatal drug overdose episodes. The challenge launched in September 2023 and is being delivered across the 4 U.K. nations.

Phase 1 concluded in January 2024 for eleven companies with £100,000 funding for up to 4 months to collaborate with Test Bed Research Partners across the devolved nations to develop technology solutions aimed at reducing drug deaths, bringing together a diverse range of partnerships including leading universities, healthcare providers, charities and industry specialists across England, Scotland, Wales, and Northern Ireland.

Seven companies were selected to progress to Phase 2, with a budget of up to £500,000 each, commenced in August-September 2024 and will run for 12 months. Phase 2 projects will demonstrate the prototype in a representative environment that will have the potential to be implemented in a real-world environment.



Across the region, there are 20 live innovation projects within the HISES Portfolio including local, regional, and national initiatives. HISES support projects onto the Accelerated National Innovation Adoption (ANIA) Pathway.

24-25

# Year in Numbers

# £681,786.85

Total Costs Recovered

# 20

Active Projects



# 2

International

# 18

In Scotland

# 30+

Collaborations

# 15

Active projects responding to Scottish Government Innovation calls



# 17+

Clinical Areas Covered

# 7

ANIA work supported

## NHS laboratory specimens delivered by drone for first time by Project CAELUS

In August 2024, NHS laboratory specimens were delivered by drone for the first time during [live flight trials](#) between the Edinburgh BioQuarter next to the Royal Infirmary of Edinburgh and Borders General Hospital in Melrose. These trials are part of [Project CAELUS](#), a national innovation project aiming to test the use of drones as a way of delivering vital medical supplies, including essential medicines, blood, samples, and other crucial healthcare items across Scotland.

Currently, laboratory samples which inform urgent clinical decision-making are transported by road and can take up to five hours between NHS Borders and NHS Lothian. Innovation activity conducted by Project CAELUS could see this delivery take 35 minutes, enhancing the transport provision, particularly for rural areas.

*“Across NHS Lothian, we are continually exploring ways to innovate and enhance our patient experience. Lothian and the surrounding areas are very diverse, from city to country and coastal living. Drones could play an important role in helping to transport samples for testing or speed up the delivery of critical medical supplies. These exciting trial flights have been a collaborative effort between our clinical leads, South East Innovation Hub and partner organisations and I look forward to seeing further developments with this project.”*

Miss Tracey Gillies, Medical Director and Executive Lead for Innovation, NHS Lothian

Press release [here](#).



# NHS Lothian gives patients access to AI physiotherapy in UK-first

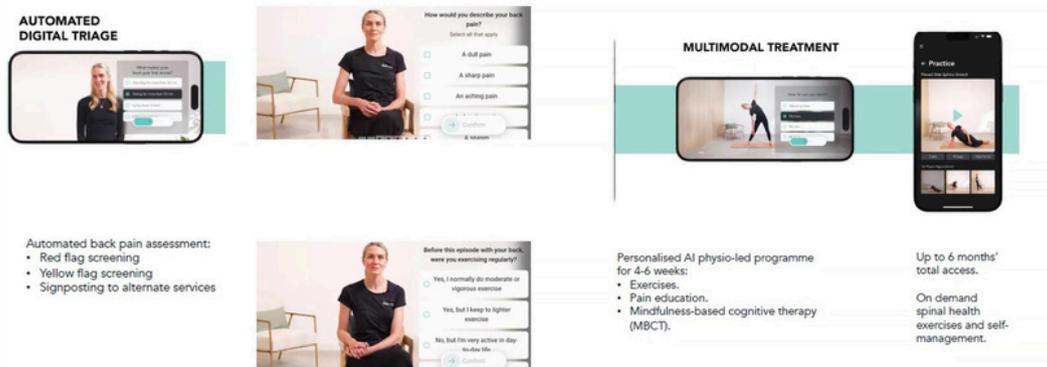
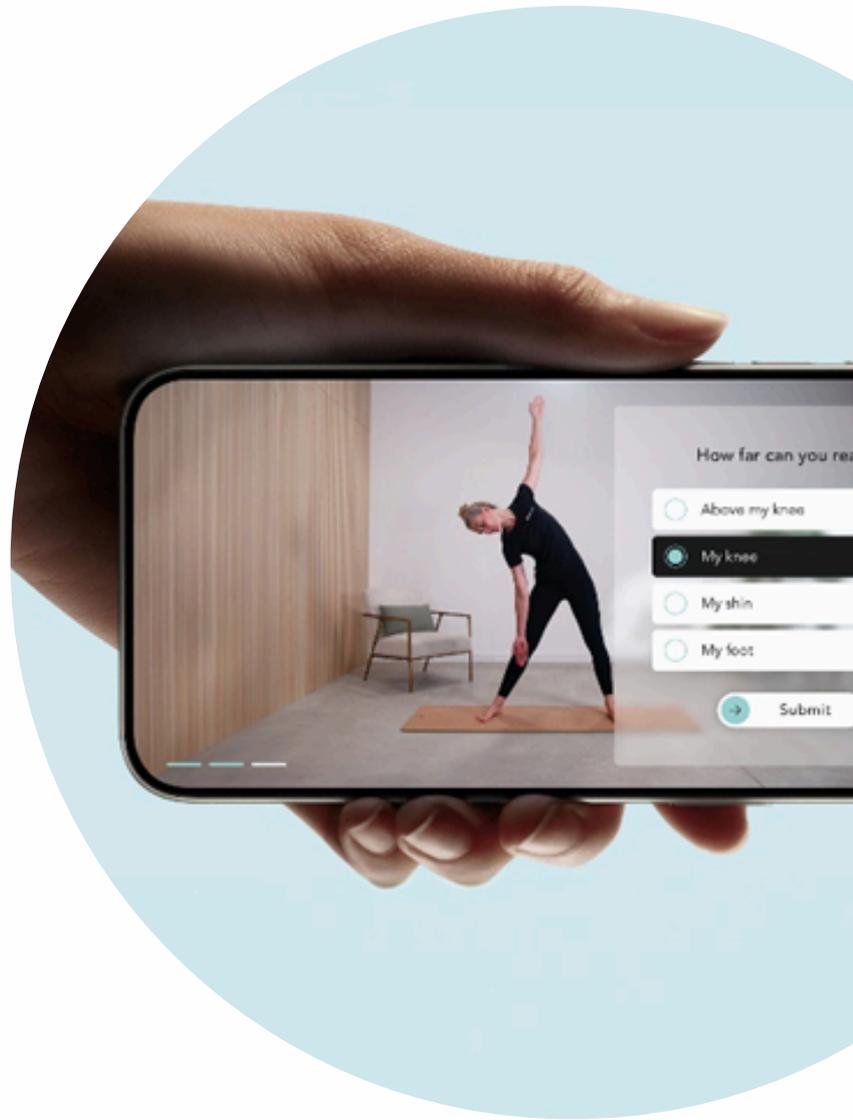
NHS Lothian is the first NHS organisation in the UK to make the new AI clinic, called [Flok Health](#), available to patients across a range of community healthcare settings. The new service has been deployed as a collaboration between Lothian, Flok, and HISES.

Flok have developed an automated digital clinic to deliver gold standard multidisciplinary Musculoskeletal (MSK) pathways on a population scale. Flok's technology – which incorporates a UKCA-marked software medical device – streams interactive generated video appointments direct to patients through a smartphone application.

The NHS Lothian pilot allowed anyone registered with any of the 116 GP practices within NHS Lothian direct access to Flok's digital MSK clinic via existing self-referral portals or can be referred by participating GP practices. This is the first large- scale pilot in the UK and an exciting opportunity to explore how technological developments such as Flok can complement the range of healthcare services for people with MSK complaints.

Press release [here](#).

STV broadcast [here](#).





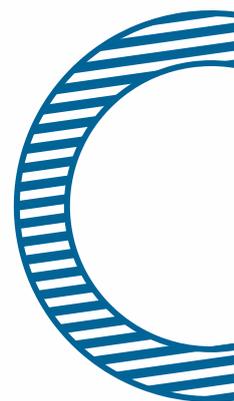
# Communications and Engagement

During 2024-25, HISES has continued to build on the success previously achieved across various communications and marketing channels, including traditional media, online media, our own website and social media channels, and at events.

Our communications activity has several key objectives, including the promotion of the Hub amongst fellow professionals as part of our aim to attract potential innovators to work with us and to raise the profile of the HISES Hub as leaders in innovation.

Building on last year's strategy, we continued to maintain and develop the website, and grow our social media audiences, particularly with the launch of our [HISES LinkedIn channel](#).

Engagement on LinkedIn shows HISES is positively communicating with healthcare and innovation professionals and organisations, funders, and current and potential industry partners.



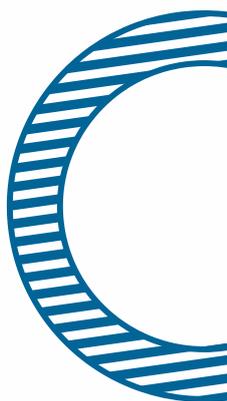


# Case Studies



# Case Studies

- NSN + Britspine Poster 2025
- Flok Health Project Poster - 2025 NHS Scotland Event
- MyWay Digital Health Case Study
- WYSA Case Study
- CT Guided Biopsy Case Study
- Care Home Data Asset Partnership Case Study
- Life After Stroke Case Study



# Most digital back pain appointments are completed outside core clinic hours when traditional constraints are removed



## Authors

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## Affiliations

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 2: NHS Lothian, Edinburgh, United Kingdom  
 3: Health Innovation South East Scotland (HISES), Edinburgh, United Kingdom

## BACKGROUND

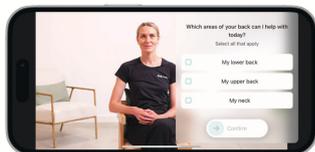
Digital healthcare may overcome structural barriers to traditional healthcare access, such as fixed appointment schedules, transportation challenges, and work or family responsibilities. Flok Health digital physiotherapy appointments are accessible instantly, at any time of day, and from anywhere with an internet connection.

This retrospective study, carried out by NHS Lothian, Flok Health, and HISES, evaluated patient-selected appointment times to understand whether digital physiotherapy facilitates more equitable access to care for real patients with low back pain.

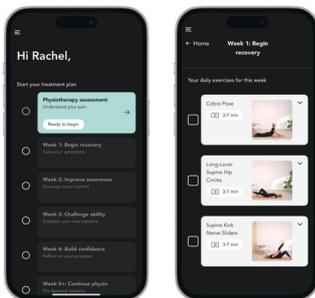
## METHODS

**Intervention details:** Flok Health's digital physiotherapy pathway is delivered by a software application medical device that can autonomously assess and treat low back pain (with or without sciatica).

The patient uses the Flok Health mobile app to gain a comprehensive assessment of their symptoms, after which they are either cleared for continued treatment by the app or advised on the most appropriate alternative action for their problem.



The app then delivers weekly treatment appointments that the patient can access at whatever time suits them. These appointments provide tailored advice and exercise prescription for 4+ weeks.



After the initial treatment phase, the app provides ongoing exercise sessions to maintain their improvement.

Patients can receive additional telehealth support from a team of real physiotherapists alongside the automated pathway at any time in their journey.

## DATA SOURCE AND ANALYSIS

The time and day of appointment completion by real NHS Lothian patients aged 18-65 were extracted. These patients presented to Flok Health's service having self-referred or been signposted by clerical/clinical staff in GP surgeries. The first 500 appointments completed by patients from trial inception (24th July 2024) were descriptively analysed.

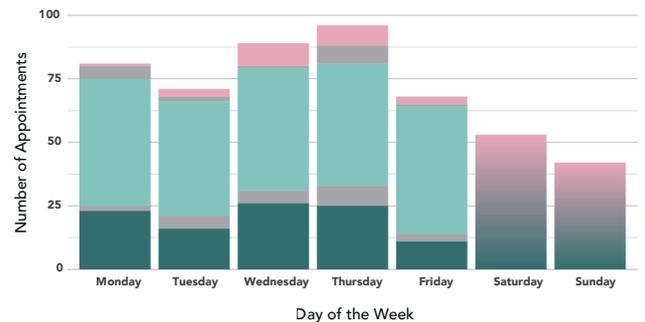
## RESULTS

Of the 500 completed appointments, 241 (48.2%) were completed during weekday core hours. Among the remaining 51.8% of appointments, 164 (32.8% of total) were completed during weekday non-core hours and 95 (19.0% of total) at the weekend. The preference for non-core hours was emphasised amongst patients who reported being in employment: 127 appointments (41.4%) during core hours and 180 appointments (58.6%) during non-core hours.

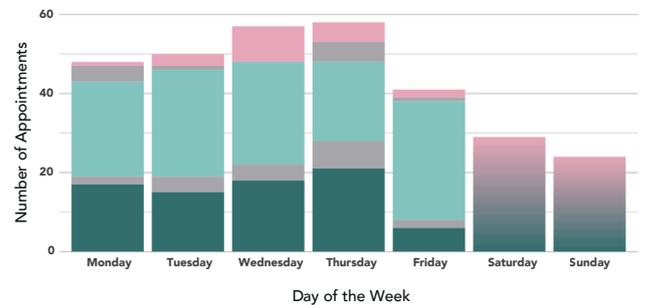
### LEGEND

- Extended clinic hours
- Core clinic hours 0900 - 1700
- Outside core hours - morning
- Outside core hours - evening

For All Patients  
**Flok Completed Appointments by Day and Time**



For Patients in Employment  
**Flok Completed Appointments by Day and Time**



## CONCLUSIONS

**Slightly over half of digital appointments were completed outside typical physiotherapy clinic hours.** This suggests that digital physiotherapy may offer more equitable care for patients who struggle to attend traditional appointments due to work or other daytime commitments. It could therefore also enable meaningful occupation to continue alongside rehabilitation with less disruption. Future studies could investigate whether better serving this patient demand for out of hours MSK care improves equity of access and/or outcomes.

# NHS Lothian Trial AI Digital Back Pain Clinic to Help Extend Patient Choice in UK First



## Background

Flok Health (a CQC registered healthcare provider in England) has developed an automated digital clinic for low back pain. The technology – which incorporates a UKCA-marked software medical device – streams interactive generated video appointments direct to patients through a smartphone application. Patients are screened for red flags using the latest national guidance, undergo physical movement assessments, and provide real-time feedback on exercises and progress. The technology responds live, delivering specific and personalised treatment over a multi-week programme. Overall, the digital clinic is designed to deliver automated musculoskeletal (MSK) triage, appropriate safety signposting, and treatment for non-specific low back pain with or without lumbar radiculopathy.

Flok's Digital Back Pain Clinic is being piloted in NHS Lothian through a collaboration between Flok, NHS Lothian and the South East of Scotland Innovation Hub (HISES). This marks the first large-scale UK pilot of its kind and offers an exciting opportunity to evaluate how digital technologies like Flok can complement existing healthcare services for people with musculoskeletal (MSK) conditions. It also represents the UK's first autonomous pathway for managing back pain and sciatica, enabled by Flok Health's CE-marked Class IIa medical device software.

## Aims/Objectives

The aims included evaluating overarching feasibility, clinician and patient engagement, service integration, additional healthcare utilisation and economics. By embedding the digital tool into routine care pathways, the project sought to generate early insights into its potential to improve access, reduce demand on traditional services, and support scalable innovation across the health system.

- Introduce and embed Flok health digital back pain service within NHS Lothian as an alternative care option for individuals with low back pain/ lumbar associated leg symptoms (LBP) using a staged, progressive and controlled implementation approach
- Assess the additional LBP related healthcare utilisation within NHS Lothian among individuals who engaged with the digital service during the intervention period and the subsequent three months
- Assess the extent to which the digital back pain service was able to reduce demand on in person MSK physiotherapy services during the intervention period and for the three months afterwards. In particular analyse the proportion of people who chose digital only management approach
- Analyse the demographic characteristics of patients who opted to use the digital back pain service
- Evaluate digital inclusion by comparing demographic characteristics of individuals accessing the digital back pain service to those accessing in person MSK physiotherapy services
- Examine patient pathways and care journeys, including triage outcomes and service navigation
- Advance the development of the Flok digital back pain service by generating insights from its deployment in a real-world NHS environment
- Undertake economic evaluation with range of scenarios
- Evaluate patient experience and outcome

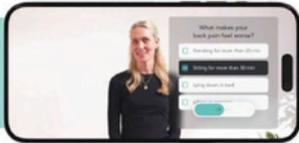


## The patient's digital clinic journey

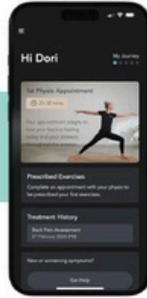
### SELF-REFERRAL



### AUTOMATED DIGITAL TRIAGE



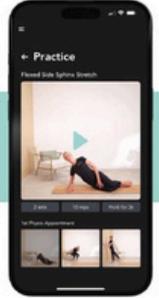
### NO WAITLIST



### MULTIMODAL TREATMENT



### PREVENTATIVE CARE



## Methodology

We piloted Flok Health's automated digital back pain clinic as an occupational benefit for NHS Lothian staff in 2023 with remarkable success. Since July 2024, we have been using Flok's service for direct patient care.

During the pilot, patients could have accessed Flok's digital clinic via the following routes:

1. When requesting an appointment from a participating GP practice for low back pain. Patients were offered access to Flok's digital clinic as an alternative to a face-to-face appointment at the practice, and those that agreed received an SMS from their practice with registration instructions.
2. When a GP or Advanced Practice Physiotherapist (APP) determined that a patient would benefit from referral to physiotherapy services for low back pain. Patients were offered access to Flok's digital clinic as an alternative to a referral to NHS Lothian's MSK service, and those that agreed received an SMS from their practice with registration instructions.
3. Via self-referral, in response to posters displayed at participating GP practices or on existing self-referral portals. The posters displayed a URL and QR code linking to the registration instructions.

As part of our innovative pilot, we are conducting a comprehensive service evaluation to assess the effects of Flok Health on the healthcare system. This evaluation will examine key outcomes, including:

- Measure of effectiveness
- Safety
- Health economic benefits
- Patient outcomes
- Patient experience

Over 600 patients treated

## Results/Outcomes

Flok Health's AI back pain clinic closed to new patients in March 2025, as the trial has come to its planned end, with over 600 NHS Lothian patients taking up the offer and the system providing automated triage in over 90% of cases. Individuals who engaged with the Flok digital back pain service were invited to provide feedback on both their experience and outcome through in-app and email surveys.

The pilot allowed anyone registered with one of the 116 GP practices within NHS Lothian to take advantage of Flok's digital MSK clinic. All registered Flok Health patients will continue to receive access to their personalised assessment and treatment programme for up to 6 months.

The uptake for this trial has been excellent, and the feedback has been overwhelmingly positive. Analysis of the evaluation data has commenced, and the findings will be circulated to all participating practices once completed. Self-referral has been the biggest driver for uptake to the app, followed by clinical sign up then clerical signposting. Therefore, we would see this product fitting into existing MSK pathways as an enhancement to current offerings.

Health economic modelling suggests that the automated digital clinic will also represent significant time savings when operated in parallel with existing MSK services. The digital service may also be less expensive to deliver than traditional appointments and is expected to significantly decrease both capacity strain and waiting times for existing/traditional MSK services.



# MyWay Digital Health Project



## Case Study

### Hypothesis

*The use of a diabetes inpatient application using a unique mix of multiple data sets (for inpatient, outpatient and point of care settings) will help medical staff to make better decisions and to improve inpatient diabetes care.*

<b><u>Health Board</u></b>	NHS Lothian	<b><u>Challenge Area</u></b>	Inpatient Diabetes
<b><u>Clinical Lead</u></b>	Dr Stuart Ritchie	<b><u>Innovation Model</u></b>	Small Business Research Initiative (SBRI)
<b><u>Industry Partner</u></b>	MyWayDigitalHealth	<b><u>Funding Source</u></b>	Chief Scientist Office/ Scottish Government
<b><u>Project Manager</u></b>	Veronica Arias	<b><u>Duration</u></b>	12 months

## Context

Almost 10% of the global population has diabetes and rising. In the UK, 15-17% of all hospital (inpatient) beds are occupied by people with diabetes at any time. Diabetes inpatient care consumes around £2.5 billion per year.

## Problem

There are significant numbers suffering a deterioration in their diabetes care, such as high or low glucose events or foot ulcers, because of poor management. Non-Diabetes hospital staff are poorly trained in diabetes management and there is limited capacity with specialist diabetes teams. Consequently, staff training and tools to support clinical decision making are vital to improve patient outcomes.

## Solution

To develop a prototype digital tool app to help clinicians make correct decisions and more easily identify individuals at risk of poor outcomes during an inpatient stay. This includes supporting triage of patients coming into hospital, flagging those needing specialist review, prompting staff to assess and protect feet, advising around glucose target and treatment changes, such as insulin prescription and supporting the right decision to admit or discharge a patient. This tool uses information (data) from medical records and from connected hospital glucose meters.

## Evaluation

A prototype of the decision support app for an inpatient setting was developed and tested in a simulated environment provided by MWDH.

A series of 4 workshops with 11 primary and secondary health care practitioners were organised using prototype screens to discuss protocols, research and resources identified in the first phase of development and a post-workshop questionnaire.

Also, 4 testers were asked to evaluate a set of clinical scenarios and comment on the system outputs.

## Results

The project developed prediction models by looking for patterns in historical data to develop algorithms that can predict who is most likely to come to harm. Also developed, were rules and pathways coded into the app using clinical consensus linking to agreed protocols and guidelines to deliver advice and support to clinicians throughout the hospital at the point of need.

## Challenges

Data linkage and access to DataLoch took significantly longer than planned.

Permissions to bring models back into DataLoch's environment took a long time.

The app was meant to be tested in a semi-live environment provided by NHS Lothian, but the test server to enable was delayed in becoming available. So, the team used their own environment with synthetic data.

Clinicians/HCP recruitment for testing was challenging and the limited project funding was not enough to cover the full costs incurred by the company.

## Learnings

The educational benefits of the app were noted throughout. The tool was seen as a way of reducing referrals to the hospital diabetes team safely.

While not all hospital, such as prescribing info, is digitally accessible, it was noted that this is an upcoming goal.

Threshold/cut-off points for trigger may need ongoing review. Special groups like pregnant women should always be referred. Those with hypoglycaemia or hyperglycaemia should be referred urgently.

Reminders and alarms should be used sparingly to prevent user fatigue. Should add clarity as to who the recommendations and alerts are aimed at.

A list of social factors may be useful for the discharge section.

A QR code may be useful when linking to local guidance.

## Next Steps

To obtain the regulatory approval and market the product in the UK and EU, the following requirements must be met:

- Quality Management System (QMS).
- Technical documentation.
- Clinical evaluation.
- Notified Body Review.

The screenshot shows the 'MyDiabetes Clinical' app interface. At the top, there is a navigation bar with a back arrow, the app name 'MyDiabetes Clinical', and a home icon. Below the navigation bar, a blue box contains the question: 'underlying medical problem needing treatment?'. Underneath this question are two buttons: 'Yes' and 'No'. Below this, there is a section titled 'Question 6' with a blue box containing the text: 'Do any of the following apply:'. Below this text is a list of four bullet points: 'Any concern about critical condition', 'Unlikely or unable to follow advice', 'Unable to self care or no support', and 'Tomorrow is Sat/Sun or public holiday'. Underneath this list are two buttons: 'Yes' and 'No'. At the bottom of the screen, there is a large red button labeled 'Admit'.

# MyTailoredTalks for CT\_Guided Biopsy



## Case Study

### Hypothesis

*Amending an existing digital solution and content to enhance information-sharing and communication between patients and clinicians will improve patient experiences, reduce clinical resource explaining the risks and benefits and mitigate the risk of late cancellations or abandoned procedures.*

<b><u>Health Board</u></b>	NHS Lothian	<b><u>Challenge Area</u></b>	Lung Cancer
<b><u>Clinical Lead</u></b>	Rishi Ramaesh, Consultant Radiologist	<b><u>Innovation Model</u></b>	Patient Pilot
<b><u>Industry Partner</u></b>	Pogo Digital Health	<b><u>Funding Source</u></b>	Health Innovation South East of Scotland
<b><u>Project Manager</u></b>	Robin Scott	<b><u>Duration</u></b>	6 months

## Context

According to NHS England [i], Lung cancer is one of the most common and serious types of cancer. More than 43,000 people are diagnosed with the condition every year in the UK. The current pathway from initial suspicion to diagnosis is a complex and multifaceted one, requiring interactions and consultations with several different healthcare professionals in a variety of health care settings.

[i] <https://www.nhs.uk/conditions/lung-cancer/>

## Aim

This project was to determine the number of patients who would engage with a digital information portal and to amend an existing digital solution and produce relevant content to improve information-sharing. This would enable clinicians to easily identify patients who need further information to support their decision-making process, and significantly reduce the risk of patients who were unable to have the procedure carried out. A pilot period of 6 months was carried out to determine the % of patients who registered and used the system. The app was to enable the patient to be more knowledgeable about the procedure, the risks and benefits of having it done, and reduce the amount of time the clinicians were having to discuss these with the patients.

## Problem

Often there is a high late cancellation rate for biopsies, as patients realise late in the decision-making process that the risks of the procedure are more onerous than they thought. Late cancellations mean that slots for the procedure cannot be offered to other patients, leading to loss of the slot altogether at an approximate cost of £1,000.

## Solution

Using the existing platform of MyTailoredTalks, the clinical team made short films to take patients through the journey of having a CT\_Guided Biopsy. Patients were asked to complete a questionnaire upon viewing the videos to gauge their understanding of the procedure. The patients could also make use of a call back button which alerted the clinical team if they had further questions or concerns.

## Key Evaluation Data Sources

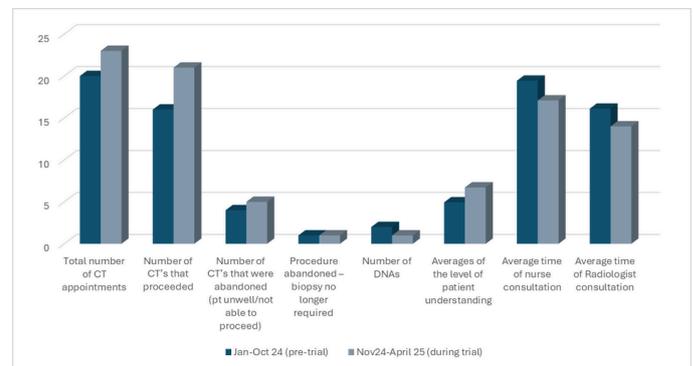
The evaluation plan drew data from the following sources:

1. Data from the manual time recording sheets were compared to those who haven't used the platform to those who have used the MyTailoredTalks platform, and this was also compared to time recording sheets prior to the pilot commencing.
2. Verbal feedback from patients and staff allowed us to make real time changes to the pathway with an aim to increase its usability.
3. Answers from patient evaluation questionnaires in MyTailoredTalks and verbal feedback at their appointments were collated for an overall view of their understanding of the procedure.
4. Evaluation questionnaires from staff were obtained around use/ acceptability/ practicality.

## Results

The feedback from patients who registered and viewed the videos was positive. "Useful, informative, easy to understand", "Watched video, found discussion on complications difficult but informative".

There were mixed reviews from the clinical staff as to the efficiency of having to register the patients on the system. "I feel the process is very repetitive and have to wait for a code each time to get into the site". Although the clinical team reported that patients that watched the videos had a better understanding of what the procedure entailed than those that did not watch the videos.



## Observations and Lessons

- Clinical staff do not always have access to technology in clinics.
- This group of patients are overwhelmed at their pre-diagnosis appointments.

Information leaflets were beneficial in getting patients registered, who could then share the talks and discuss with family and friends.

## Next Steps

A QR code will be issued to be used on Patient Information Leaflets to view the videos.

# WYSA

## Case Study

### Hypothesis

*The introduction of AI tools to support young people's wellbeing and mental health services leads to increase levels of access to the right support, provided in the right way and at the right time.*

<u>Health Board</u>	NHS Lothian	<u>Challenge Area</u>	Mental Health
<u>Clinical Lead</u>	Fiona Duffy	<u>Innovation Model</u>	Small Business Research Initiative (SBRI)
<u>Industry Partner</u>	Wysa Ltd.	<u>Funding Source</u>	Chief Scientist Office/ Scottish Government
<u>Project Manager</u>	Amirah Aslam	<u>Duration</u>	Phase 1 start date: 22/2/23 (3 months)  Phase 2 start date: 2/10/23 (20 months)

## Context

Despite growing mental health needs, schools face significant barriers to supporting students effectively. Traditional pathways rely on staff noticing signs of distress and initiating referrals, which can take time and may exclude students who do not meet strict thresholds but still need help. Long waiting lists, high referral rejection rates, and fragmented service pathways have left many young people without access to timely care.

## Problem

Stigma remains a major deterrent, especially for boys and younger adolescents, who are often uncomfortable seeking face-to-face support. Additionally, there is limited access to mental health services outside of school hours, leaving many students without options during evenings and weekends. Staff are under constant pressure, particularly during exam periods, and may lack the resources or training to provide early intervention.

## Solution

Rather than replacing traditional services, WYSA sought to complement them, easing pressure on referral systems and reaching those who may otherwise go unsupported. WYSA offers an AI enabled support tool designed to improve young people's emotional resilience by sign posting them to the right care, at the right time, and in the right place. The tool is available as an app on both android and IOS, downloaded directly for the app store. The app has clinically developed tools and modules designed to support their mental health and wellbeing, and an AI supported chat feature where young people can anonymously explore their current feelings and be guided to tool packs that might help.

## Evaluation

Young people aged 11 to 18 were introduced to the WYSA app through posters, assemblies and classroom sessions, while school staff received training to support its use. The initiative, supported by local health teams and education stakeholders in Scotland. The pilot was delivered in 6 high schools in North West Edinburgh and 5 high schools in Fife. Two different pathways were evaluated, to School Leads in Edinburgh and to Child and Adolescent Mental Health Services (CAMHS) in Fife.

## Results

Over 949 students used the app, with 73% of young people completing five or more sessions, a remarkable engagement rate by digital health standards. Usage peaked late at night and in early mornings, indicating that support was reaching young people at times when schools were closed and traditional services were least available. Students most frequently accessed tools related to stress, anxiety and sleep.

## Challenges

There were some barriers at the start of the pilot due to challenges within the local NHS sites, which delayed progress but the Innovation Team were instrumental in working through these barriers and ensuring there was a sufficient extension within the timescales to gather the required data for results.

Wysa notes that ongoing collaboration with schools will be key to the success of future rollouts.

## Learnings

The initiative improved the efficiency of existing systems. Wysa prevented 22 unnecessary referrals and supported 3 students who were identified as needing additional care. A basic cost analysis estimated savings of more than £130,000 in professional time and resource use.

School staff noted that implementation was straightforward and that Wysa offered them greater visibility into students' wellbeing needs without adding to their workload. Younger students and adolescent boys, groups that are often harder to engage, made up a significant proportion of users.

## Next Steps

Following the pilot, Wysa is working with schools to explore how to embed the app year-round as part of a wider wellbeing strategy. Early feedback suggests technical tweaks to the in-app mental health questionnaires and allowing for computer-based referral support may improve overall accessibility. In a time of growing need and shrinking resources, Wysa's early intervention model offers one possible answer to a pressing question: how can we make mental health support accessible to every young person, when they need it most?

**“The goal is early support, for every student, at the moment they need it”**

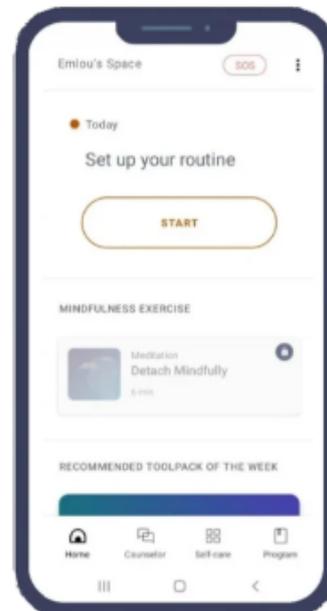
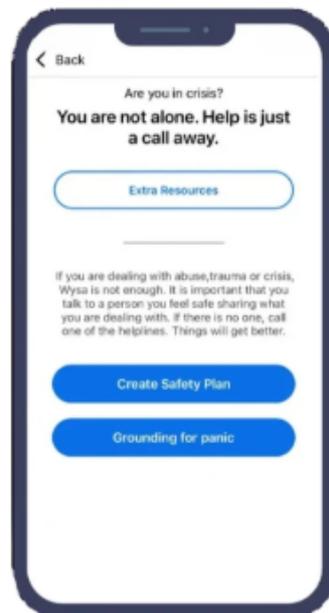
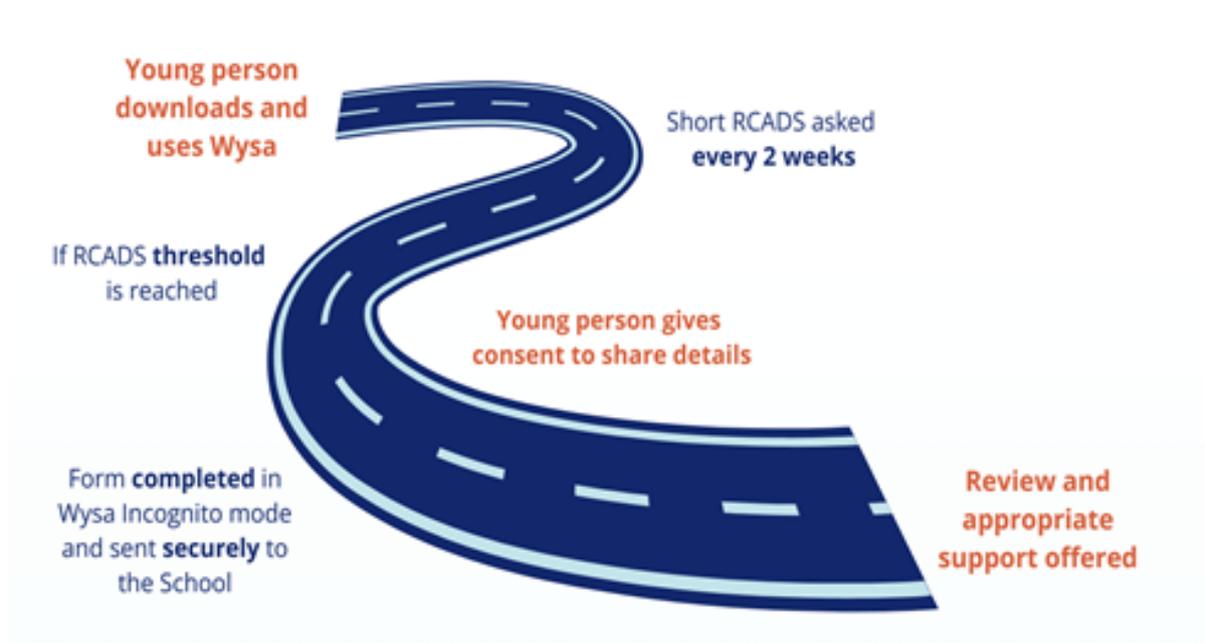
Emma Taylor, UK CAHMS Clinical Lead, Wysa.

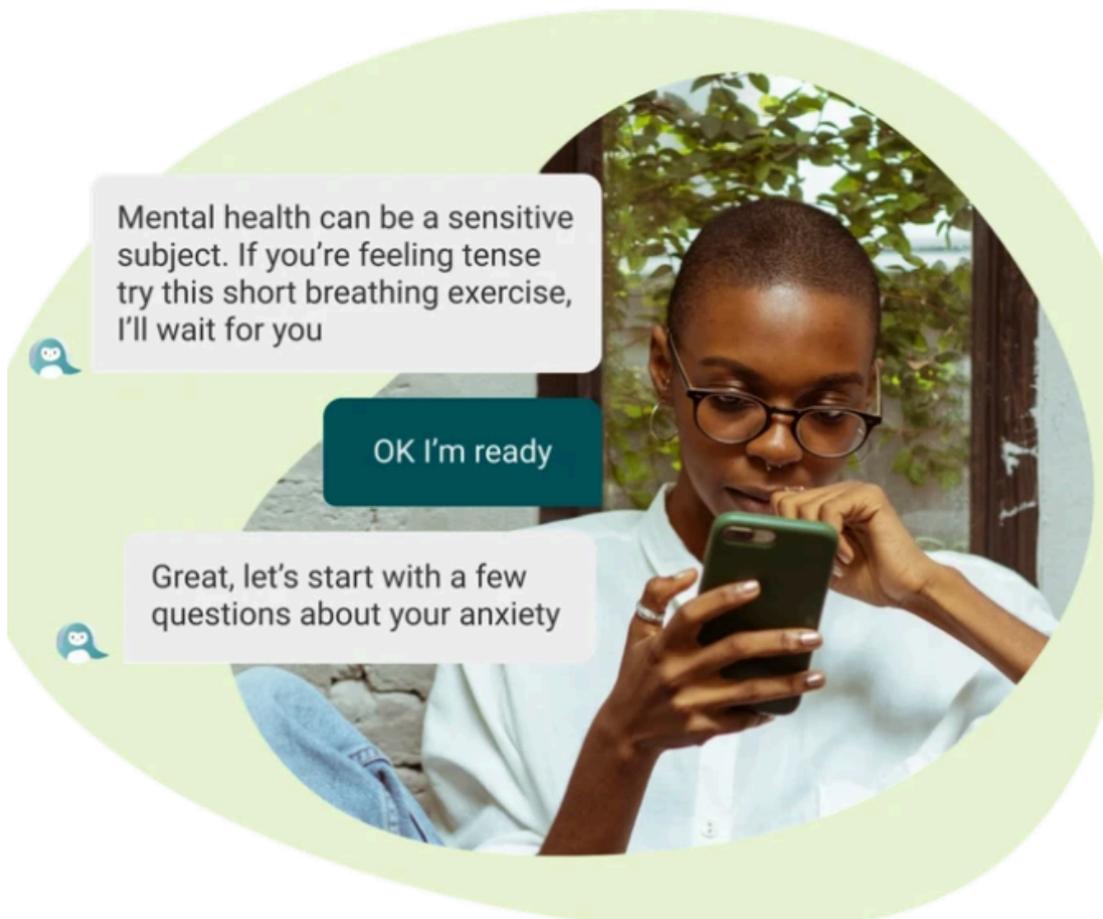
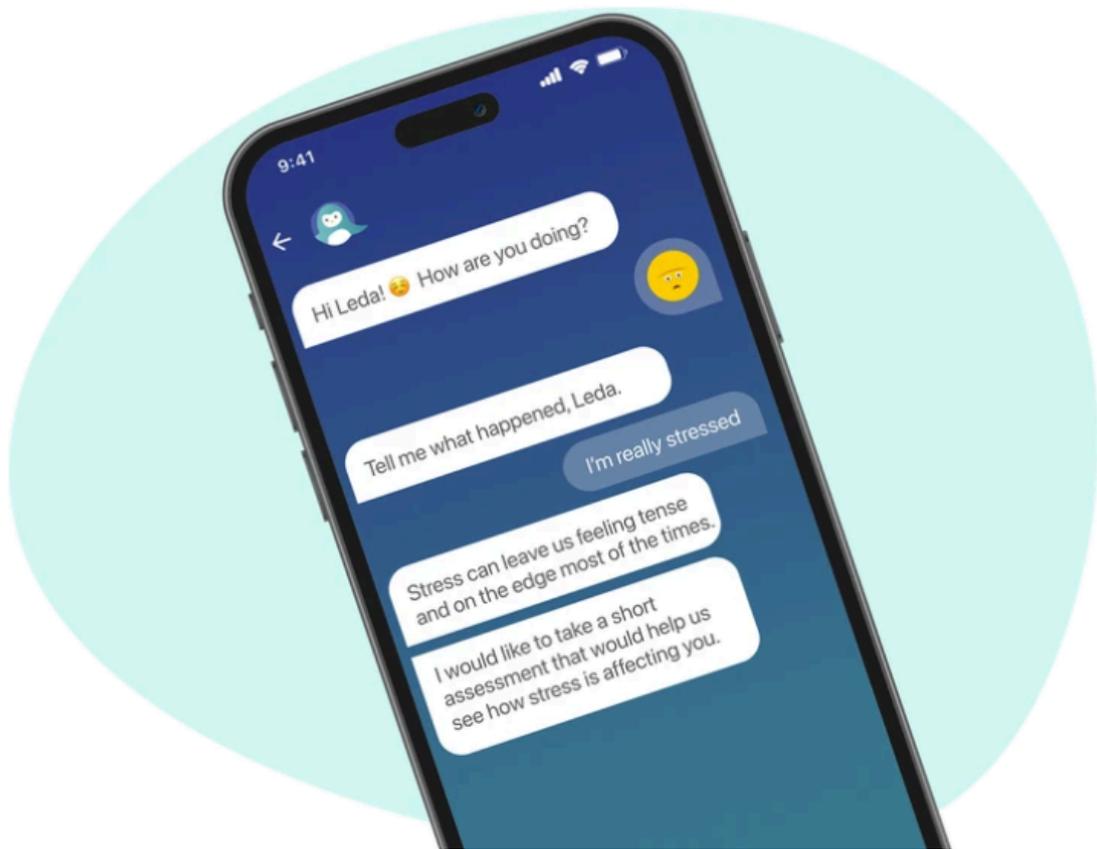
**“It feels like a human talking to me but without the judgement.”**

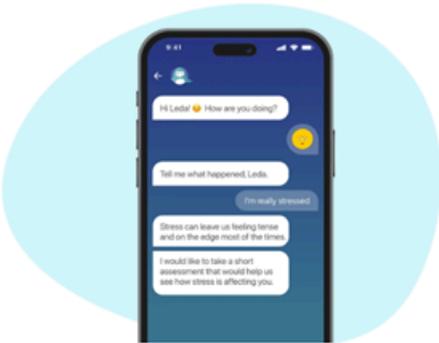
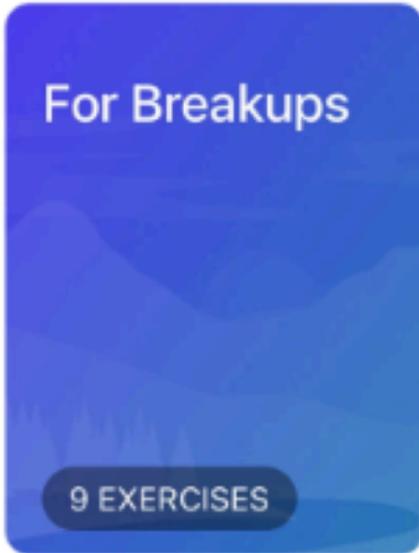
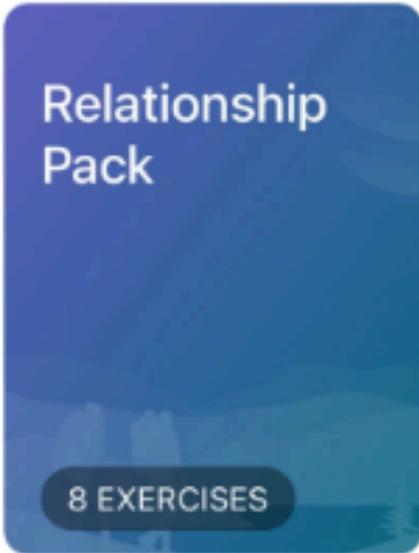
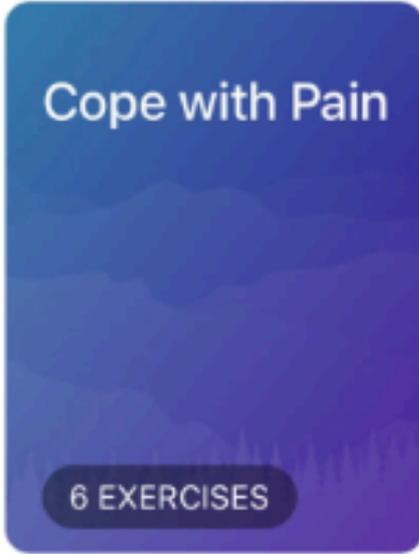
Participant, high school student.

# Wysa Incognito

Wysa Incognito allows young people the option to access additional support via appropriate staff members at their School if the young person reaches the clinical threshold.

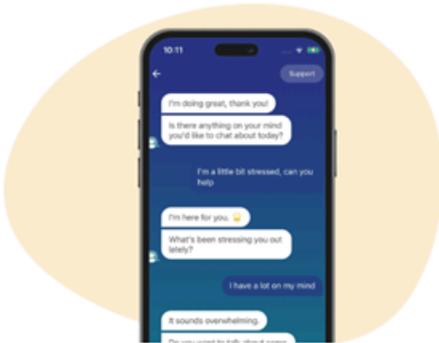






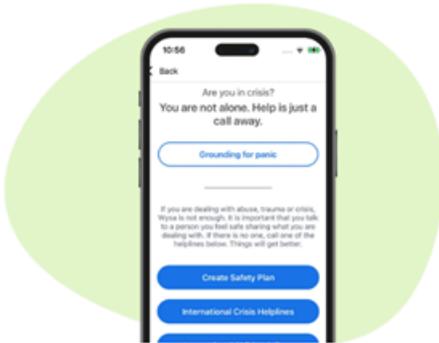
**24/7 access**

24/7 access to Wysa's conversational tool and 150+ tool packs



**Daily check-ins**

To improve engagement with the app and build rapport



**Customised onward signposting**

Customised risk pathway to support young people to access the right support when needed

# Care Home Data Asset Partnership

## Case Study

### Hypothesis

To test if Care Home Data can be matched with primary and secondary healthcare records to provide meaningful data. To provide a report of current care home residents and associated healthcare data to care homes. To support H&SCP, academic and industry Care Home research and innovation activity.

<b><u>Health Board</u></b>	NHS Lothian	<b><u>Challenge Area</u></b>	Care Home Data
<b><u>Clinical Lead</u></b>	Susan Shenkin	<b><u>Innovation Model</u></b>	Small Business Research Initiative (SBRI)
<b><u>Industry Partner</u></b>	3 Care Homes	<b><u>Funding Source</u></b>	Chief Scientist Office/ Scottish Government
<b><u>Project Manager</u></b>	Robin Scott	<b><u>Duration</u></b>	12 months

## Context

Scottish Government's (SG) data strategy aspires to empower innovators, industry and researchers who can deliver new technology and data driven insights to improve and inform policy and practice. There is a need for significant work to make this a reality in social care, and particularly using individual-level care home data. We propose practical steps needed to strengthen the data foundations and ensure that the currently available care home data can be used, while working to maximize the future potential of this valuable asset.

## Challenges

- Addressing governances and legal concerns for novel project
- Care Home staff's capacity to engage
- How do care homes get legal advice?
- Confidentiality concerns from residents/families
- Disconnect between health and social care data and governance processes

## Problem

Care Homes use several different systems to collect data on their residents to support their daily care and reporting to statutory bodies. These are not currently matched up with health or other social care records. Care homes may be privately owned, run by third sector, or the Local Authority, and therefore NHS processes for data sharing do not apply. Currently only very limited social care data are available in DataLoch, and no data relating to care homes. The inclusion of individual-level data from care home residents will be invaluable for future research and innovation projects to support planning and care of people currently in care homes, those moving into care, and transfers between the care home and healthcare (e.g. admissions to hospital).

## Solution

We worked with three care home partners, and people in charge of ethics and governance processes in the University of Edinburgh and NHS Lothian, to build a method of safely and securely moving information about individual residents from the care home to DataLoch. We then linked this with information already held in DataLoch about GP attendances, hospital admissions and medicine prescriptions. We only included information about people who could provide consent for this (or who had someone who could do this on their behalf). We made a one-page 'dashboard' report about the information and shared this back with the care homes. This showed showing summaries of the health and care of the residents, and how well the information in the care home and DataLoch agreed with each other. We also used the Unique Property Reference Number (UPRN) in DataLoch to accurately identify four care homes, created a report of summary level information of all their residents' health records, and shared this with care homes. We interviewed all participants to summarize lessons for the future.

## Key Evaluation Outputs Sought

1. Demonstrate feasibility of transfer of data from care home to DataLoch.
2. Link data from selected resident care home records with primary and secondary care data to produce
  - a data quality report of linked data
  - a report at care home level (aggregated summary)
3. Produce recommendations for next steps in linking data from care home residents and their primary and secondary health data based on understanding barriers and opportunities

## Results

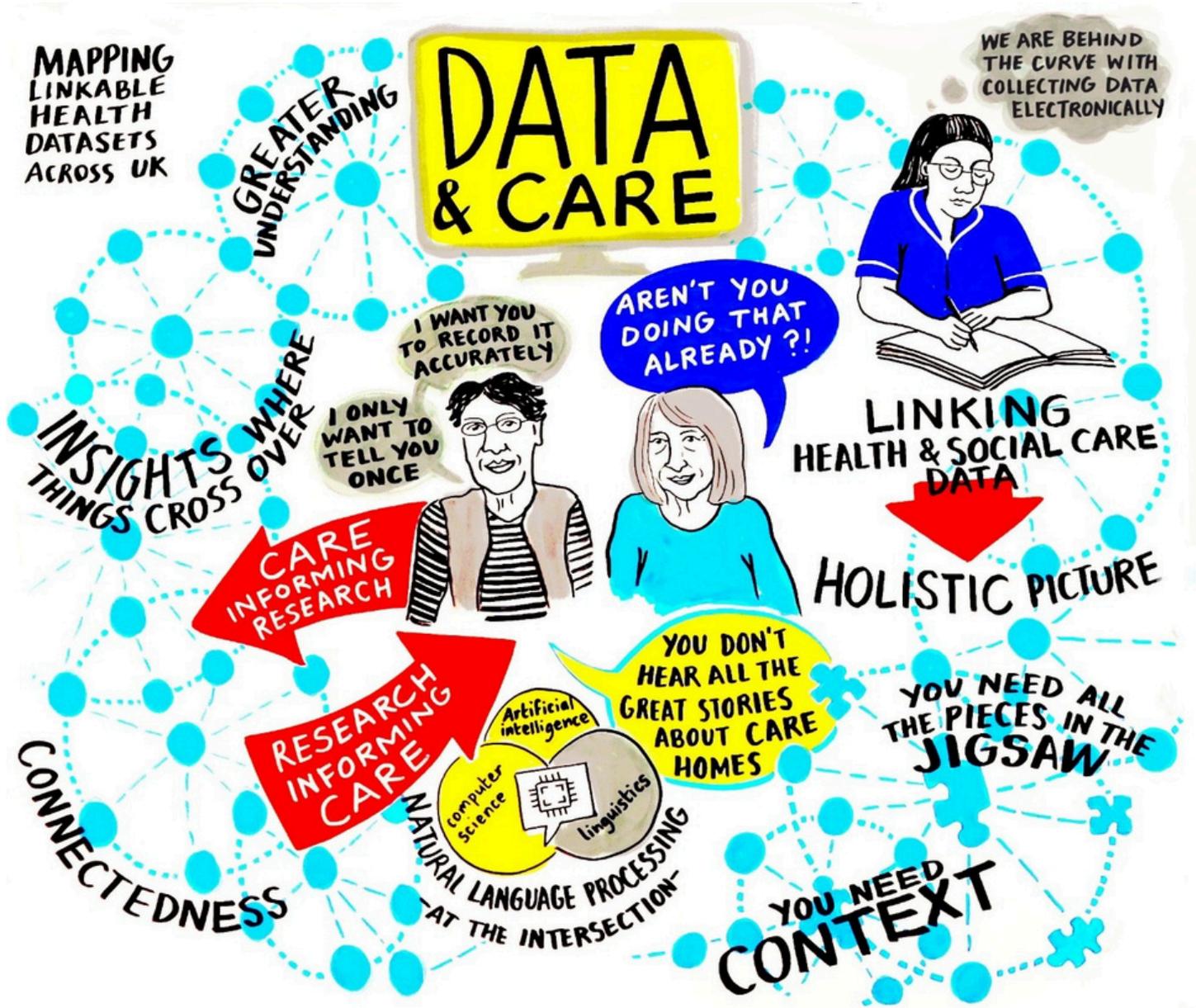
It was quite complicated to get all the agreements in place to safely and securely move the data, but we now have a process in place to do this. We were able to move information about residents from three care homes, link them to information in DataLoch and share this back with the care homes. They found these reports helpful, particularly as they could summarize changes over time. This was not possible for one care home, which only had temporary (respite) guests. We also were able to identify all four care homes (from three partner organisation) using the UPRN, and provide summary-level reports for all residents for each care home including only the information held in DataLoch itself (i.e. not using any information from the care home). The care homes found this very useful, particularly identifying changes over time, and gave us suggestions for improving these reports in the future. The interviews told us that people involved in the project felt it was important to think carefully about how to balance innovation with the need for very strict formal processes; that care home data sharing could benefit both the residents and the care home systems; there were many barriers to the completion of the project, but also many things that that helped it to be successful. DataLoch are now writing a Care Home Data Pathway and discussing how individual-level care home data could be shared at scale without requiring individual consent for each project.

## Learnings

- Start discussions with Information Governance on requirements at the beginning or before project starting
- The value of strong relationships, collaboration and good communication in innovation projects.
- Be clear of the process, reasons and end results to residents/families to build trust
- Need a good understanding of the care home context

## Next Steps

This project has shown that there is a lot of enthusiasm for sharing data at both an individual-resident, and summary, level between social care and health – and many people believe this is already happening. It is important that care homes are supported to collect information electronically, and to get the financial and practical support they need to set up new systems and arrange to share data safely. It is feasible, and the processes are now established, but we now need to make this much easier to do at a larger scale, while making sure that this is done safely and securely. This is important both for research questions, and for the use of data in caring for people's health and social care.

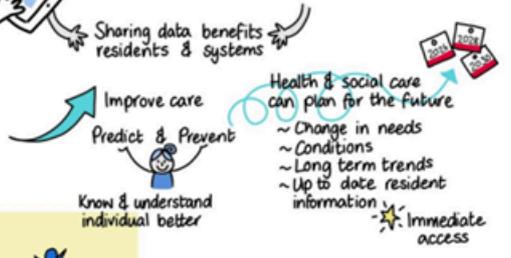


Graphic drawn by Claire and Jenny from MoreThanMinutes.co.uk from the Data and Care Session from the ACRC-AIM-CISC symposium 21<sup>st</sup> May 2025

# BALANCING



# CARE HOME DATA SHARING



Case Studies - Qualitative research

- 14 interviews
- ★ Gather views & experiences
- ★ Understand key processes & learnings
- ★ Develop accessible & secure model for care home data

Participants: Care Home managers, NHS DataLock, Researchers NHS Innovation

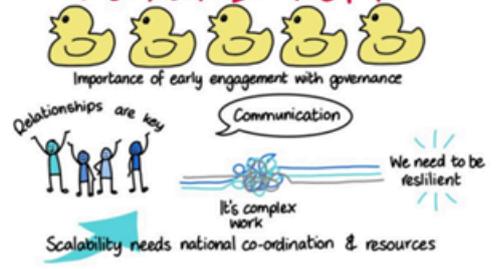
# BARRIERS



# FACILITATORS



# KEY LEARNING FUTURE WORK



Graphical summary of learning from qualitative evaluation of Data Sharing Partnership Project (interviews and analysis done by Dr Eddie Donaghy and ACRC PhD student Nicola Crowe), drawn by Clare Mills of [www.ListenThinkDraw](http://www.ListenThinkDraw.com)

# Life After Stroke (LAS) Digital Pathway

## Case Study

### Hypothesis

*The automatic personalization of information will allow stroke patients to access and retain this in a means not currently possible through either staff relaying this directly to the patient verbally or via general information leaflets, with this done through a digital platform that will also allow for remote monitoring and onward referral to CHSS support in line with the already established LAS pathway.*

<b><u>Health Board</u></b>	NHS Lothian	<b><u>Challenge Area</u></b>	Stroke Unit
<b><u>Clinical Lead</u></b>	Charlie Chung	<b><u>Innovation Model</u></b>	Service Evaluation
<b><u>Industry Partner</u></b>	Pogo Digital Health	<b><u>Funding Source</u></b>	NHS Lothian & Chest Heart & Stroke Scotland
<b><u>Project Manager</u></b>	Amirah Aslam/Robin Scott	<b><u>Duration</u></b>	9 months

## Context

Tailored Talks had been in development with the intention of having information on slides available for patients on various aspects of stroke. This was developed into the Life after Stroke Digital Pathway in partnership with the platform developer, Pogo Studios, and Chest, Heart & Stroke Scotland.

## Problem

Patients are generally discharged from Stroke wards with various paper leaflets relevant to their condition. Further information will be shared as necessary by clinical colleagues responsible for supporting the patient after discharge.

The purpose of the project is to improve information sharing and communication between patients and clinicians, to improve patient experiences and give patients access to tailored medical information without adding to the administrative load on clinicians.

## Solution

The area for patient benefit is to improve access to personalised information about the consequences of their stroke for each suitable patient.

Tailored Talks will provide the digital referral route for all suitable stroke patients to CHSS by NHS staff, prior to discharge. This will also facilitate the actioning of a call back from CHSS to the patient, once they personally register with Tailored Talks, enabling a home visit.

This will reduce the demand on constrained hospital staff to deliver personalised information and reduce costs associated with printing, information provided through the slide presentations will be "easy to digest" and personalised, family/carers can also access this digital information.

## Key Evaluation Outputs Sought

- Evaluate the acceptability of digital information delivery through LAS digital pathway among both patients and healthcare staff
  - Through structured verbal and electronic feedback from healthcare staff
  - Through structured verbal and electronic feedback from patients
- Track and analyse patient-reported symptoms over time to identify trends and better understand the ongoing impact of stroke on individuals' lives
- Production of an evaluation report
- Compilation of lessons learned which can assist when piloting other digital projects

## Results

30 NHS hospital staff and six CHSS staff were trained to use the system; 20 NHS staff actively onboarded patients (average 5.4 patients per onboarder, range 1–39, median 2).

128 patients were onboarded—97 at RIE, 14 at WGH, and 17 at SJH. During this time, there were 916 NHS Lothian stroke admissions; therefore (128/916) 14% were onboarded onto the pathway.

47 (37%) registered on the system, typically within five days of onboarding. Patient characteristics are shown in Table 1. Only 26 patients had completed six months on the pathway, and one patient had used the CHSS call-back function. No patients actively withdrew from the pathway.

Many patients reported receiving little or no stroke-related information before joining the pathway: of 51 respondents, 13 (25%) reported receiving no prior information, while 21 (41%) recalled verbal information only.

### Patient symptom questionnaires

Completion rates over the period of each patients' participation declined over time; 38/47 (81%) completed the baseline questionnaire and five completed the 6-month questionnaire. A system error meant it was not possible to confirm how many patients received or completed the later questionnaires, limiting assessment of changes over time.

Fatigue was the most consistently reported symptom, affecting 35/38 (91%) of patients at registration and remaining the most common issue among the small number who responded at six months (4/5; 80%). Anxiety, sadness, and pain or altered sensation were also frequently reported, while cognitive difficulties (such as memory and concentration problems), emotional lability, and sleep disturbance were less commonly reported. Physical impairments, particularly difficulties with walking, balance, or hand use, appeared to be less reported over time.

Table 1: Comparison of onboarded patients who registered with those who did not register

Characteristics	Onboarded	Number registered (n,%)	Number not registered (n,%)
Totals	128 (100)	47 (36.7)	81 (63.3)
Age (years)		0-18: 0(0) 18-30: 0(0) 30-40: 1(2.1) 40-55: 8(17) 55-65: 13(27.7) 65+: 25(53.2)	0-18: 0(0) 18-30: 0(0) 30-40: 1 (1.2) 40-55: 9 (11.1) 55-65: 19 (23.5) 65+: 52 (64.2)
Gender	88 (69) 40 (31)	Male 33 (70.2) Female 14 (29.8)	Male 55 (67.9) Female 26 (32.1)
Deprivation index*			
1 (most deprived)	16	4 (8.5)	12 (14.8)
2	24	8 (17)	16 (19.8)
3	19	6 (12.8)	13 (16.0)
4	21	9 (19.1)	12 (14.8)
5 (least deprived)	42 (32.8)	10 (40.4)	32 (39.5)

\*based on patients' postcode using the Scottish Index of Multiple Deprivation (5)

### Staff (NHS and CHSS) feedback

#### Verbal feedback

NHS staff (n=4) described patient identification and invitation as straightforward, often facilitated through multidisciplinary team discussions, and found training resources helpful. However, challenges were noted with the timing of onboarding (often at hospital discharge, when patients were overwhelmed), technical barriers (device access, Wi-Fi, availability of charged laptops), and the two-step onboarding and registration process. They also reported that the original patient leaflet was confusing. Some felt the pathway might be better introduced after patients had returned home.

CHSS staff (n=3) emphasised that the pathway did not reduce patients' need for direct conversations and support. They highlighted additional workload when hospital onboarding was missed and noted that some patients felt overwhelmed by the volume of emails inviting them to register and complete questionnaires. However, they acknowledged that the pathway could become more efficient if hospital onboarding improved. One CHSS staff member found the

information on the Tailored Talks platform useful for creating printed information packs for stroke patients.

### **Questionnaire**

16/19 (84%) NHS Lothian hospital staff responded. Most (10/16; 63%) reported that onboarding was straightforward. Many (11/16; 69%) were satisfied with the training provided. Views on patient willingness to participate varied considerably. Written comments suggested that some patients were reluctant due to difficulties with technology, anticipating that the process could be burdensome, or preferring verbal or printed information. CHSS staff (3/5; 60%) reported challenges in identifying which patients had been onboarded, felt the pathway did not reduce administrative workload, and did not find it a useful tool for preparing reviews or supporting patient

### **Patient feedback**

#### **Verbal feedback by CHSS**

Patient feedback during the pilot was collected opportunistically due to staffing and time shortages. Number of patients approached was not consistently recorded.

Patients who were invited but did not register often described the process as confusing, overwhelming, or too reliant on email communication. Those who registered but did not complete questionnaires reported feeling overloaded after discharge, with some expressing anxiety triggered by the information provided. Patients who actively used the pathway generally gave positive feedback, highlighting the clarity, usefulness, and reassurance of the tailored content, though a few found it less relevant to their circumstances. (supplementary table 1)

In response to patient and staff feedback, early adjustments were made, including simplifying email instructions, reducing reminders, revising the patient leaflet with input from the lived experience group, and encouraging staff to onboard patients earlier in their admission while supporting them through registration.

### **Patient Additional Feedback and final evaluation questionnaire**

Among those who had completed six months on the pathway (n=26), 18 patients agreed to be contacted over the telephone. 14 (78%) provided feedback between 25 April and 13 May 2025. Feedback highlighted three main themes. First, while some patients reported full recovery within days of their stroke, many continued to struggle with lasting symptoms such as fatigue, pain, balance problems, and anxiety. Second, experiences of the digital pathway were mixed: several patients had stopped using it once they felt better, some encountered technical difficulties, and a few felt the content was not relevant. However, others found the system easy to use and generally positive. Third, views on Tailored Talks were broadly favourable, with patients valuing the information as useful, reassuring, and accessible. Suggestions for improvement included making content more concise, adding more visual elements, and offering hard-copy options. A minority expressed a clear preference for verbal information over written or digital formats. (supplementary table 2)

We completed the evaluation questionnaire by phone with these 14 patients as an administrative error invalidated online questionnaire responses. All patients reported using the pathway independently, without support from family or carers, and none recalled receiving written information about the pathway before registering. The questionnaire was structured around 13 questions mapped to the seven constructs of the Theoretical Framework of Acceptability:

affective attitude, opportunity costs, burden, self-efficacy, perceived effectiveness, ethicality, and intervention coherence. (Table 2)

**Table 2 below provides a detailed breakdown of questions, responses, and their alignment with these acceptability criteria.**

Acceptability Criteria	Question	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
Affective attitude	1. I feel positive about using the LAS pathway	6	3	2	3	0
	2. I was happy with the quality of Tailored Talks (TT)	5	3	3	2	1
Opportunity costs	1. In order to use the LAS pathway, I had to give up something important to me	0	0	4	7	3
Self-efficacy	1. I was satisfied that the questionnaires covered all my symptoms	6	1	5	1	1
	2. I felt satisfied that TT was helpful	6	1	4	1	2
	3. I was satisfied with the amount of TT I got	4	4	3	1	2
Perceived effectiveness	1. I felt that Tailored Talks helped me manage my symptoms	6	2	3	1	2
	2. I am less likely to seek advice on my symptoms having read about them	3	1	5	3	2
Burden	1. TT increased my anxiety	0	0	6	2	6
Ethicality	1. TT were delivered in the right way for me	3	1	4	3	3
	2. TT allowed me to revisit information when I wanted to	2	3	7	0	2
	3. I would have preferred to receive TT face to face from a healthcare professional	4	6	1	3	0
Intervention coherence	1. I understand that TT was supposed to help me manage my symptoms	3	11	0	0	0

In summary, 9 out of 14 (64%) viewed the LAS digital pathway as at least acceptable, with 4 (29%) rating it completely acceptable. Only one patient found it unacceptable, while four (29%) gave no clear opinion. None had used the CHSS callback function, though two considered it potentially useful.

### Challenges

- Lack of eligible patients
- Lack of onboarded patients going on to register
- Ward pressures and staff shortages
- Information Governance approval delays (NHS Fife)
- The product did not integrate with NHS clinical NHS systems therefore extra workload was added for staff throughout the project with regards to the manual transfer of data.

### Learnings

- Delays in gaining approvals early in the project
- Timely creation and review of content
- Lack of relevant stakeholder (AHP) input sought and implemented prior to rollout
- Capacity of IG teams in varying Boards may cause delay or inability to proceed with rollout
- Avoid rollout at sites during busy periods (ward moves, holiday seasons)
- Ensure clinical staff have access to electronic devices on the wards
- Offering of the digital tool earlier in the stroke pathway could have increased numbers
- Fewer people in the deprived index areas took up the pathway and there is still a lot of work to do to ensure equity of digital access
- Ensure that ownership of data and removal processes are discussed and documented at start of project
- Products should integrate with existing clinical systems for seamless transfer of information

### Next Steps

This digital tool does not deliver an adequate solution for stroke patients or staff involved in the pathway and will not be adopted by the NHS at this stage as the uptake did not warrant the associated costs of the system.



# Awards

# Awards



[Pogo Digital Healthcare receives Public Sector Innovation prize at Digital Tech Awards](#)



[Kathy Harrison Wins Digital Leader Award](#)



[NHS Lothian Midwife invents pioneering theatre scrubs](#)

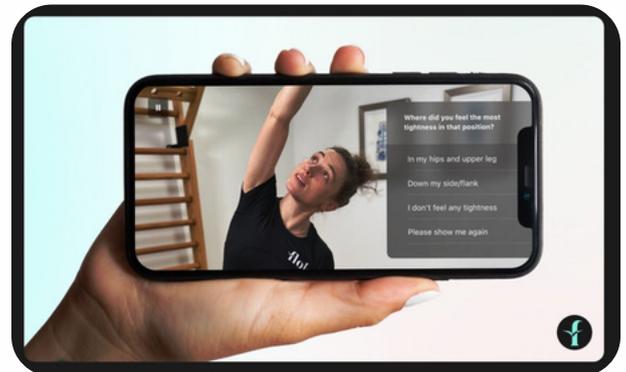


# Media and Engagement

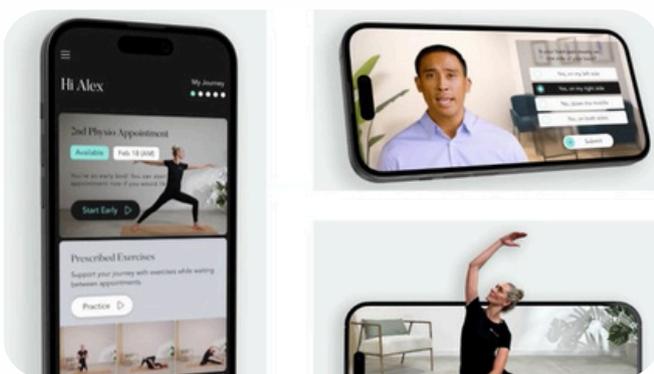
# Media & Engagement



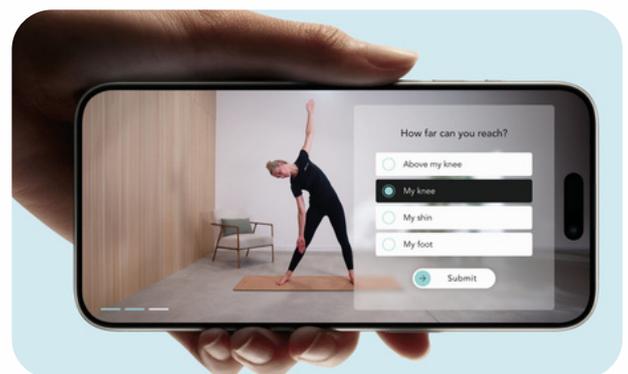
[New Digital Stroke-Management Pathway Launched in Lothian](#)



[UK's first AI physio clinic trialled by NHS to tackle wait times](#)



[AI Physio Pathway](#)



[NHS Lothian gives patients access to AI physiotherapy in UK-first](#)



['AI physio finally gave me relief from years of back pain'](#)



[The bot will see you now: Thousands rely on AI therapists as waiting lists for mental health grow](#)

# Media & Engagement



[Live flight trials commence for drones to deliver important medical supplies in South East Scotland](#)



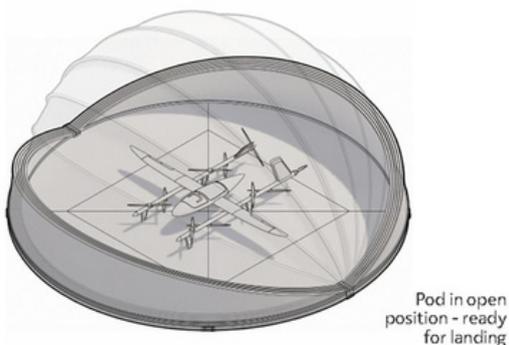
[NHS laboratory specimens delivered by drone for first time by Project CAELUS](#)



[Scottish Ambulance Service starts vital research as part of Project CAELUS](#)



[Case study: Project CAELUS](#)



[From air to care – Project CAELUS Showcase held at Glasgow Science Centre](#)



[Children and Young People Remote Asthma Management Challenge SBRI Phase 1 Winners Announced](#)

# Media & Engagement



[Children and Young People: End of Phase 1 SBRI](#)



[Children and Young People Remote Asthma Challenge](#)



[Phase 2 Winners Announced – Children and Young People Remote Asthma Management SBRI Challenge](#)



[CSO Reducing Drug Deaths Innovation Challenge: Phase 2 Announced](#)



[Key DataLoch enhancements – November 2024](#)



[DDI initiative surpasses innovation goal by fourfold, five years early](#)

# Media & Engagement



[MY Tailored Talks for CT\\_Guided Biopsy](#)



[Improving Hip Fracture Outcomes Using Data: Clinical Engagement Event](#)



[Bridging Innovation and Design: Collaborative Workshops on Reducing Loneliness and Social Isolation](#)



[Celebrating Student Innovation: Tackling Loneliness Through Design](#)



**ANNUAL REPORT**  
2024 – 2025



[City Region Deal Annual Report 2024 - 2025](#)

# South-East Scotland NHS Innovation Intrapreneur Course

On 30th May 2024, colleagues from across the region were invited to attend a one-day course at The National Robotarium to discover the world of “Innovation Intrapreneurship”, learning how to contribute and inspire others to be involved in innovation, ensuring the long-term sustainability of the NHS through the co-production of innovative products, services, and processes. Circa 100 delegates joined the HISES team, listening to informative speakers and participating in teams to learn how to use two key tools during interactive workshops.

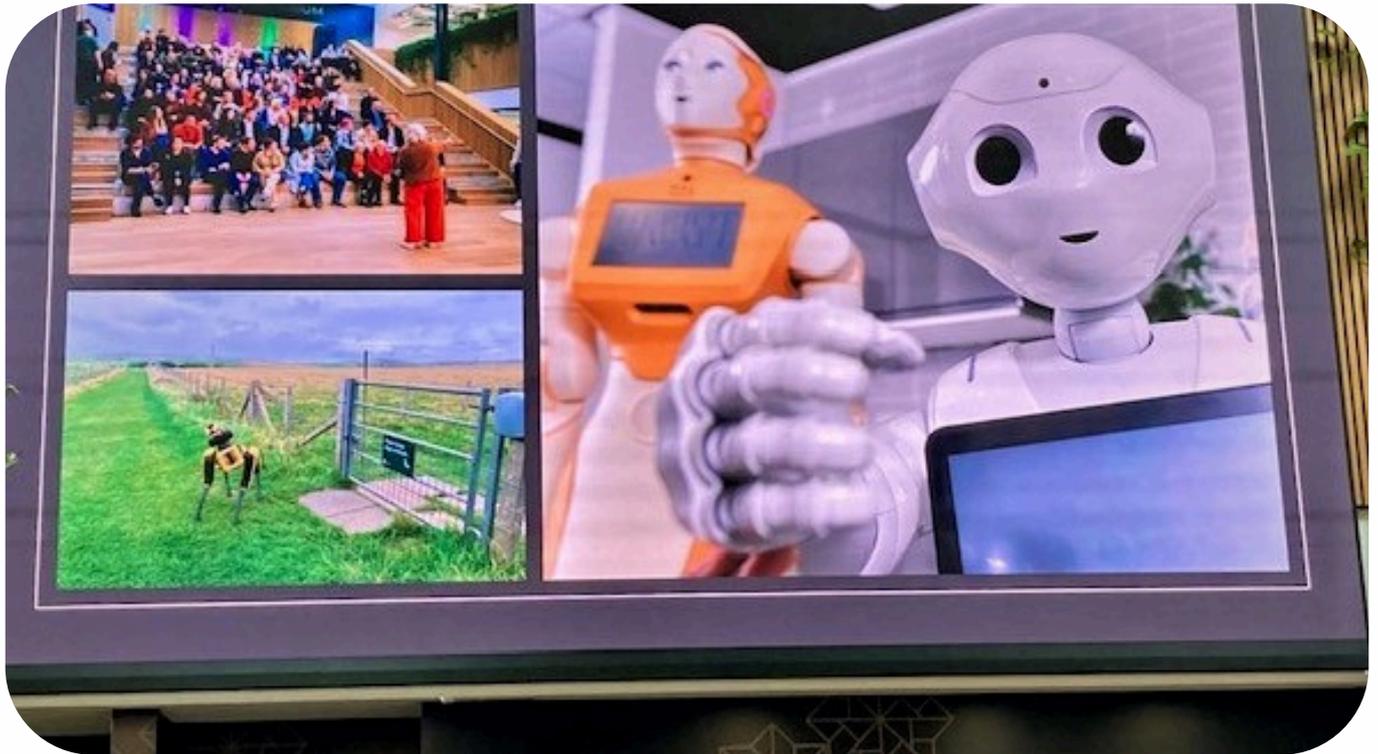


The course was approved by the Federation of the Royal Colleges of Physicians of the United Kingdom for 5 category 1 (external) CPD credit(s).

The morning session was Chaired by Prof. Juliet MacArthur, Chief Nurse, Research and Development, NHS Lothian and the afternoon sessions were Chaired by Prof. John Innes, Non-Executive Board Member, NHS Lothian.



# South-East Scotland NHS Innovation Intrapreneur Course



## Course Objectives

- Identify the value that innovative solutions can bring to the NHS, its staff and the population it serves;
- Explore the necessary factors for the adoption of innovative solutions within NHS Boards, with the potential for broader implementation across NHS Scotland, the rest of the UK and potentially globally;
- Embrace a “Safe to Fail” approach to experiment with innovative solutions, capturing valuable insights for their continuous development to stay relevant in a fast-changing world.

## Key topics covered in the programme

- Overview of the National Innovation Programme for Health & Care in Scotland
- Innovation as an opportunity in the current challenging financial climate
- Showcase of innovation success in the NHS
- Using ‘Value Proposition and Business Model Canvas Tools’ to support innovation
- Patient and Public Involvement in innovation
- The opportunity to make Scotland the fastest growing health innovation life science cluster in Europe
- Using simulation suites for effective innovation



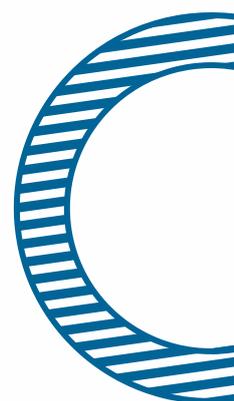
# Innovation Fellows

Clinical Innovation is receiving attention as the key to developing new models of health and care delivery and supporting fresh thinking that creates value – devising new ways of working, new models of care, and solutions that can impact patient care. It is also recognised that skills gaps in the workforce are a key barrier. For Scotland to achieve its aim, we need a workforce that has the knowledge and skills they need to lead successful innovation in health and care.

Through the CSO, the Scottish Government has invested in innovative opportunities developed through the Innovation Fellowship Scheme which aims to strengthen the innovation culture to solve real problems in the NHS and social care, improving the quality, efficiency and sustainability of health and care delivery and supporting NHS Scotland's Re-mobilise, Recover, Re-design Framework.

The scheme has provided funding for protected time to contribute to, conduct and lead innovation projects and to develop an innovation career within their post, increasing capacity in priority areas. Following a thorough and highly competitive application process, HISES secured the appointment of 3 Innovation Fellows on Cohort 1 followed by an additional Fellow on Cohort 2.

HISES continues to support Innovation Fellows and their specific projects.





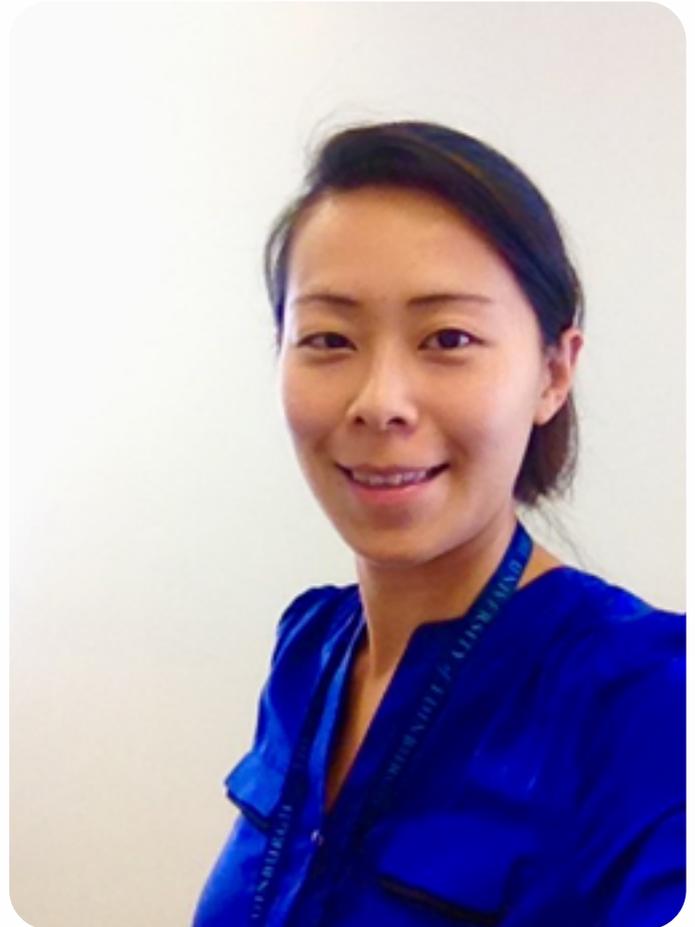
## Dr Yvonne Chun PhD MBBS, Consultant Stroke Physician at the Royal Infirmary of Edinburgh and Border General Hospital, Cohort 1

As well as being a Consultant Stroke Physician across NHS Lothian and NHS Borders at the time of appointment, (now NHS Lothian only) Yvonne is also an Honorary Senior Clinical Lecturer at the Centre for Clinical Brain Sciences, University of Edinburgh.

Yvonne's project entitled 'Care Calendar' provided an opportunity to work with key stakeholders and Pogo Digital Healthcare to test/develop a prototype solution for multiple problems through its technological co-development, combining robust clinical testing and iterative design to ensure Care Calendar achieved its full capabilities.

Care Calendar is an interactive digital calendar designed to enable clinical teams to plan, prompt, deliver, record, and monitor care events along the patient journey, both in the hospital and in the community.

Care pathways can be programmed by clinicians and tailored to their specialty or the individual patient. Staff can feel confident that the right care is delivered at the right time, every time. Real-time data will help clinical managers predict discharges, plan elective admissions and staffing efficiently. Patients will be empowered in their own healthcare journey via the patient interface.



## Joyce Henderson, Lead Advanced Physiotherapy Practitioner, Paediatric Orthopaedics at Victoria Hospital in NHS Fife, Cohort 1

As an Advanced Practice Physiotherapist, Joyce has worked in a variety of clinical roles within NHS Fife HSCP, including 15 years in Community Paediatrics, specialising in MSK and Respiratory roles. However, in the past 7 years, Joyce has found that her passion lies in the speciality of Paediatric Orthopaedics and Leads the Fife wide Baby Hip surveillance service, based in Victoria Hospital in Kirkcaldy.

As an experienced clinician Joyce is committed to delivering the principles of Realistic Medicine and Value based health and care.

Joyce is leading on an innovation project which aims to enhance diagnostic capabilities, improve patient outcomes, as well as develop efficient, effective clinical pathways which are not only sustainable but fit for the future needs of our population.



NHS Fife's Baby Hip Surveillance Service has developed a relationship with MEDO AI who have created MEDO Hip – ARIA (Automated Real time Intelligent Assistant) an AI augmented 3D ultrasound platform and are also developing a POC handheld Ultrasound assessment tool that would allow novice users to capture best images. The portable AI powered ultrasound system aims to deliver image diagnostics under 1 minute.

Joyce was successful in a highly competitive funding call for GAP funding from UK Research and Innovation. Joyce was awarded a total of £242, 292. This project involves academic collaborations with the University of St Andrews and University of Alberta, Canada. There is also collaboration with in-kind contribution from Exo Inc. Joyce also received funding from the Fife Health Charity to support the employment of a Data Manager to assist in the set up and running of the project. Joyce's project will progress to clinical evaluation of the POC handheld ultrasound tool following submission of a research ethics application.

## Dr Rishi Ramaesh, Consultant Radiologist, NHS Lothian & NHS Fife, Cohort 1

As part of the Fellowship, Rishi worked on a project entitled 'Catching it Early: Artificial Intelligence and Cancer Diagnostics'.

Artificial intelligence within medical imaging is an exciting and fast-paced area of innovation and has the potential to revolutionise healthcare diagnostics. However, much more work and study are needed to ensure that AI tools are effective and safe to use in radiology. This project mainly focused on using AI in cancer imaging.

Two areas of development which are particularly exciting and innovative in Rishi's work are in how we can utilise machine learning to detect lung cancer earlier and how we can use machine learning and radiomic analysis to personalise cancer treatments for patients.

A funding application submitted by NHS Lothian, NHS Greater Glasgow & Clyde and the Usher Institute at the University of Edinburgh, then went on to be successful for the project entitled 'Accelerating trustworthy AI in radiology: scalable software for clinical users to independently validate commercial products at local sites.' Innovate UK awarded a £1.2M grant as part of the 'Accelerating trustworthy AI: Phase 2 Collaborative R&D' competition. The proposal looks at a radical and novel innovative solution that will allow healthcare providers and hospitals to rapidly evaluate and test radiology AI products independently, and at a fraction of the cost of current evaluation frameworks.



## Claire Yerramasu, Advance Practitioner Physiotherapist in NHS Lothian and Team Lead for the Midlothian Community Respiratory Team (MCRT), Cohort 2

Claire was awarded a place on Cohort 2 of CSO Innovation Academic Fellowship which was targeted at clinicians early in their career to undertake a higher degree (MD or PhD) designed to develop future innovation leaders within the NHS.

Claire's PhD project entitled 'Utilising Routine Data and Digitally-Enabled Care to provide regional identification, triage, and management optimisation for COPD', builds on the existing COPD Innovation portfolio in NHS Lothian.

This great work led by Claire and Midlothian's Community Respiratory Team is helping to reduce admissions and make a difference to patients. We are delighted that this work was broadcast by the BBC as they dramatically reduce hospital stays and free up NHS beds for other patients.

