Delivered in partnership with

The AHSN Network

NHS X

Innovation Collaborative.

Developing virtual wards to manage long term conditions across the Midlands.

Part one: planning and implementation.

REGIONAL INNOVATION SERIES
SUPPORTING DIGITAL TRANSFORMATION

Overview

Across Leicester, Leicestershire and Rutland the COVID-19 pandemic has helped to drive forward a rapid expansion of remote monitoring schemes which is allowing clinical teams to keep track of patients with chronic conditions safely and in the comfort of their own home.

Inspired by efforts to establish 'virtual wards' for heart and lung patients after the pandemic began, the region is upscaling and extending the use of technology across four care pathways:

1. **Phase 1** - Heart failure and COPD patients (first established spring 2020)
2. **Phase 2** - Digital rehabilitation for heart failure and COPD patients (summer 2020)
3. **Phase 3** - COVID-19 virtual wards for supporting hospital discharges or 'step down' (autumn 2020)
4. **Phase 4** – Virtual ward for supported hospital discharges extended to include patients on weaning doses of oxygen. (January 2021)

It forms part of a wider plan to improve digital health services for people with long term conditions, aiming to reduce the pressure on hospital services and improve outcomes by detecting and addressing signs of deteriorating health earlier among recently discharged and chronically ill patients.

3000

Remote monitoring devices to be deployed across the region in 2020/21

4000+

Patients treated for COVID-19 who have been discharged from the acute trust to date

(Source: University Hospitals of Leicester NHS Trust)

15-20k

People live with COPD or heart failure across the region

(Source: estimates based on British Heart Foundation and British Lung Foundation data)

31.6%

Of non-intensive care hospital beds were occupied by patients with COVID-19 at peak across the region

(Source: University Hospitals of Leicester NHS Trust)

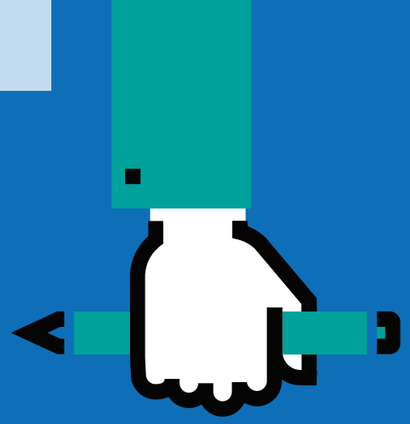
ABOUT THIS SERIES

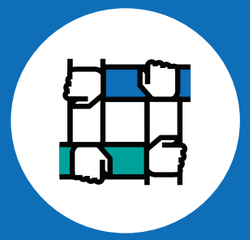
Health and care teams across England are increasingly using new technology to enable more care to be provided at home in response to the COVID-19 pandemic, supported by additional funding from NHSX. NHSX is also working with the AHSN Network to deliver the Innovation Collaborative to enable regional teams to accelerate deployment, and share learning and best practice.

The **Regional Innovation Series** takes an in-depth look at some of the exciting projects underway across the country. It explores the challenges and opportunities presented by new technologies and looks at their impact on people, processes, cultures and the practical tools available to patients, service users and frontline professionals.

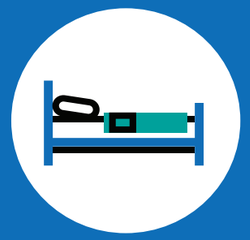
Each study will be followed by a second report capturing the key insights and reflections, once the project is fully established, with the aim of helping others embarking on similar programmes.

Project aims and ambitions





Protect clinically vulnerable patients by reducing the need for community clinics and home visits.



Reduce unplanned hospital admissions involving people with long term conditions, including those recovering from an admission with COVID-19.

Provide patients with better information and support to help them manage their condition and wider health and wellbeing.

Provide a viable blueprint to expand the use of digital technologies across the region and other care pathways in the future.

Who is involved

Three Sustainability and Transformation Partnerships (STPs) are working in partnership across the Midlands to develop, scale and evaluate the use of technology to support patients with long term conditions.

The Leicester, Leicestershire and Rutland project includes the following organisations:

Leicester City Clinical Commissioning Group
West Leicestershire Clinical Commissioning Group
East Leicestershire and Rutland Clinical Commissioning Group

NHS

East Midlands Academic Health Science Network
Igniting Innovation

NHS
University Hospitals of Leicester
NHS Trust

NHS
Leicestershire Partnership
NHS Trust

What digital technologies are being used?

Across all four pathways, the technology is set up to help **patients self-manage their condition at home** while giving them support and reassurance that the monitoring equipment will ensure their clinical teams can act swiftly if their health deteriorates.

Patients capture relevant clinical data using monitoring equipment provided by their clinical team according to an agreed management plan. They then upload their patient data using a **computer, tablet or smartphone which connects to a web-based remote monitoring platform called CliniTouch Vie.**

This data allows health professionals to **spot long-term trends** in a patient's condition and **identify signs of deterioration earlier** and before they require hospital admission. The technology enables patients to have an assessment via video call with their health professionals if required and clinicians can send direct messages to their patients. The remote monitoring service is offered to all suitable COVID-19, COPD, heart failure and pulmonary rehabilitation patients and a **tablet is provided to any patient who needs one** – which they can keep for as long as they need to use the service.

Any changes to a patient's care and condition are documented in Electronic Patient Records (TPP SystmOne). Work is underway to assess interoperability across a wider range of systems.

Our approach is to always put the patient at the heart of this process. We haven't thought about organisational boundaries but have instead tried to walk in the patient's shoes as they move along the care pathway so we fully understand their perspective. As a result, I hope we've created a model that genuinely supports their needs.

Zoe Harris, Cardio-Respiratory Service Lead, Leicestershire Partnership NHS Trust

The impact on processes and practices

The model has been built around the needs of the patient, ensuring firstly that they receive the support they need to use the technology, and secondly that this enhances their control over their condition and enriches the dialogue they have with their clinical team.

Set up

Patients are given **personalised support to set up and use the technologies,** including a patient user guide, a demo session as part of their hospital discharge, telephone and video calls and even socially-distanced, face-to-face training at home if more help is needed.

Monitor

A management plan is discussed and agreed with the patient and they submit answers to **a set of questions and take vital measurements relating to their condition.** They upload this data which feeds through in real-time to the platform's central dashboard.

Alert

Parameters for individual patients based on their baseline data informs an algorithm in the system which **automatically flags patients who may be at risk or who are deteriorating using a red, amber, green health status.**

Intervene

A **multidisciplinary team,** made up of clinicians, nurses and physiotherapists, then work together to diagnose and treat the problem and prevent an unplanned hospital admission wherever possible.

The pandemic has made us think thoroughly about how we can co-ordinate different teams to improve the way we work with patients, carers and clinical teams. Our main aim is to give our patients the best possible care and reassurance, even more so in these challenging times, and a digital approach can help us achieve that. It also means we can be smart about how we use our resources so that we're able to cope with a bigger case load of potentially deteriorating patients more efficiently.

Irene Valero-Sanchez, Consultant Respiratory Physician and Clinical Lead for Integrated Care, University Hospitals of Leicester

Key actions and insights

We asked the core project team to highlight the key actions that helped them make progress on implementation and adoption by patients and practitioners. Here are their three reflections on the process so far.

Working across boundaries through clear governance structures

"A particular challenge for us was working across different STPs to define accountability and quickly develop a robust but straightforward governance and operational framework that we could then apply and adapt quickly and easily to future complex services. Working as a system rather than a single provider made this happen.

"Within this framework, we were able to bring together the right experts to predict potential issues and manage them head on, such as how we calculate and weight patient data calculations to a defined RAG status for the dashboard or the incorporation of data protection principles.

"We took the time to get these governance principles right and the solid foundations we laid in the very early days are now yielding success. This is demonstrated by the speed in which we've implemented successive projects, sometimes in just as little as one week. We're now in the position where we can expand our care offering at real speed."

Nisha Patel, Senior Elective Care Services Manager, Leicester, Leicestershire and Rutland CCGs

Active listening to put the end user at the heart of the process

"We've never shied away from listening to our clinical team's feedback, who act as our 'critical friends'. For us it's the natural thing to do, as we are all invested in the project's success – and their clinical insights have helped to create a service that really does embody the care principles that we set out to achieve and reflect in this new pathway putting the patient at the centre of all our decision making.

"Throughout the project we've made a conscious point of using the 'You said, we did' model in regular meetings, forums and training sessions to demonstrate that feedback is listened to and incorporated throughout the project stages.

"Within any project there's a lot for colleagues to take on board and adapt to, but our active listening approach has also supported the emergence of 'champions' who've supported colleagues to culturally and practically adopt the various pathway processes."

Zoe Harris,
Cardio-Respiratory Service Lead,
Leicestershire Partnership NHS Trust

Creating 'front of house' ambassadors for technology

"We realised that creating new, dedicated roles or adapting existing administrative roles within our hospital wards to support the virtual ward process was, and continues to prove to be, critical to the success of the patient onboarding process.

"The unpredictable nature of the pandemic meant we needed a group of colleagues, with the capacity protected within their roles, to talk to patients about the positive impact remote monitoring could have on their physical health and emotional well-being while providing the context for the rationale of using technology in this way.

"These colleagues work closely with front-line practitioners and as 'virtual ward ambassadors' they are on hand to offer the opportunity to any patient who wants to be cared for in this way while providing the vital administrative support."

Irene Valero-Sanchez,
Consultant Respiratory Physician
and Clinical Lead for Integrated Care,
University Hospitals of Leicester

> Thanks for getting me well. I came in needing a lot of oxygen. With the care, dedication and support of the team I was able to leave 8 days later and I have continued to improve. Thank you for setting up the 'remote monitoring app'. It gives confidence you are still being monitored.

Thank you note from a patient with COVID-19 who joined the remote monitoring programme following their discharge from hospital

> Any system is only as good as the people that use it. I feel more able to manage my heart failure as I have learnt what's normal for me as I have recorded my data. I am reassured that my nurse is reviewing my data on a daily basis and will contact me if needed to see how I am and make any changes to my care.

Testimonial from a patient with heart failure who was supported by the project

IMPACT

900+

Patients have been supported across the four pathways including

700+

Patients with heart failure and COPD

(1 April 2020 – 5 March 2021)

50

Patients with heart failure and respiratory conditions have been supported so far through the digital rehabilitation pathway

(1 September 2020 – 5 March 2021)

172

COVID-19 patients have been discharged after a hospital admission with remote monitoring at home with only eight people being readmitted to hospital during their 14-day monitoring period.

(2 November 2020 – 5 March 2021)

20

Oxygen weaning patients have accessed the COVID-19 virtual ward

(20 January 2021 – 5 March 2021)

For more information about this project supported by NHSX:

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To find out more about the Innovation Collaborative:

Existing members can access the Innovation Collaborative Digital Health workspace on the FutureNHS platform by visiting **future.nhs.uk/innovationcollaborative**.

Please e-mail **InnovationCollaborative-manager@future.nhs.uk** to request to join.