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# Innovation Collaborative.

Developing a digitally-enabled remote  
oximetry monitoring service across  
**Hampshire** and the **Isle of Wight**.

**Part one: planning and implementation.**

**REGIONAL INNOVATION SERIES**  
SUPPORTING DIGITAL TRANSFORMATION



# Overview

This case study focuses on a project underway across the Hampshire and the Isle of Wight region, which became one of the early areas in the country to develop a fully digitally-enabled COVID Oximetry at Home (CO@H) service at the beginning of this year.

The new digital platform is helping to answer the challenge of how to share vital oximetry data more easily across different parts of the health and care system, making it easier and quicker for health care teams and services to work together in a context where every minute matters.

It is also unlocking improvements in patient experience, including the ability for patients to enter their own data for the first time, while enhancing clinical alert systems to improve the effectiveness of the response when oximetry data suggests a patient may be deteriorating.

Based on positive early feedback from patients and healthcare professionals, the project is now inspiring ambitious plans to roll out virtual wards to monitor patients with respiratory disease and other long term conditions using similarly digitally-enabled systems.



## About COVID Oximetry at Home (CO@H)

One of the early breakthroughs in the treatment of COVID-19 was the identification of silent hypoxia – the presence of low blood oxygen levels in a patient who might not otherwise seem unwell – as a symptom that requires urgent medical attention.

Across many parts of the country, the NHS is now using a simple monitoring device called a pulse oximeter to measure oxygen levels and pick up on early signs of deterioration which may suggest a patient requires urgent care.

In Hampshire and the Isle of Wight, the CO@H service was originally inspired by a local GP practice which launched a paper-based, self-monitoring pilot for their COVID-19 patients in April 2020. The model was then adapted and scaled up across the region over the following months.

Now, supported by NHSX funding, the region's CO@H service has become digitally-enabled, with a standardised digital pathway put in place across all parts of Hampshire and the Isle of Wight from the middle of January 2021.

### 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



Using NHSX funding, the project aims to **enhance the digital capabilities** of the CO@H service, including enabling patients to enter their own data, improving the visibility and use of data across different settings and creating better alert systems to identify and prioritise patients who need urgent treatment.

The technology will:

- Improve the quality of service for patients by giving them more choice and control over how they enter their data;
- Enhance the safety and speed of the service by ensuring healthcare professionals are able to access relevant information quickly and effectively;
- Support better decision-making in respect of workflow and capacity management across primary and urgent care as well as CO@H teams; and
- Allow digital interoperability, enabling patient level data to be seen across all settings, including ambulance services, hospitals as well as CO@H teams.

## 3300+

patients have used the Hampshire and Isle of Wight CO@H service to date

(1 November 2020 to 26 March 2021)

## 1200+

of which have benefitted from the digital-enabled service funded by NHSX

(1 January 2021 to 26 March 2021)

The use of technology to identify and monitor COVID-19 patients at risk of developing ‘silent hypoxia’ has been a key determinant in the fight against COVID-19. Having the ability to view all of our COVID-19 patients on a single dashboard has meant patients are safer, they are receiving the right care at the right time and the burden on our clinical teams has reduced; physically and emotionally. We know our patients are receiving optimum remote care 24/7.

**Sarah Kearney - Lead Respiratory Clinical Nurse Specialist & Covid Lead, Isle of Wight NHS Trust**

## Who is involved

The digital enablement programme is part of the wider Hampshire and the Isle of Wight CO@H project taking place across the integrated care systems in the South East of England. This is designed to remotely monitor and manage cases of suspected or diagnosed COVID-19, and to support timely escalation should a patient deteriorate.

The Hampshire and the Isle of Wight ICS is built on close collaboration with Wessex AHSN, combined with the support, leadership and insight of a range of clinical service leads and managerial and digital experts.



# What digital technologies are being used?

The Inhealthcare CO@H remote monitoring digital platform allows patients with confirmed or suspected COVID-19 to be looked after safely at home by allowing health professionals to track their vital signs and act on any changes to their condition.

Procured and built as a partnership between Wessex AHSN and Hampshire and the Isle of Wight ICS, the digital platform supports the existing process whereby patients with confirmed or suspected COVID-19 use a pulse oximeter to monitor their oxygen saturation levels and report these readings alongside other vital signs on a regular basis to their healthcare team.

The platform asks patients a series of questions and requests vital signs readings, which can be submitted via text, app, online or an automated call service, generating a real-time information for each patient.

This data enables healthcare professionals to track patients over time so that changes in their health can be quickly identified – while the system integrates with EMIS and TPP SystmOne GP systems so that the patient's records are automatically updated with their progress.

## Other key benefits



Staff can use the Inhealthcare Toolkit to tailor the pathway to fit their local STP/ICS model, while patients can choose from a range of inclusive and intuitive communication channels.



The platform sends SNOMED codes directly to EMIS and TPP SystmOne clinical systems. The product also links directly to NHS Spine, simplifying registration for NHS staff.



The platform interfaces with secondary care electronic patient record systems that can be adapted to suit different care pathways for monitoring other long term conditions.

“The introduction of the new technology allowed us to scale up remote monitoring at pace. It’s proving a vital part of our response to the pandemic and is also helping us to break new ground in terms of how we use remote monitoring to support patients in their primary place of residence. While this was implemented as an emergency response to COVID-19, there is clearly now an opportunity to embed technology-enabled remote care as a core part of the health and care offer in future. That’s incredibly exciting.”

Claire Parker – Head of Digital, Hampshire, Southampton & Isle of Wight CCG





# The impact on processes and working practices

The Hampshire and the Isle of Wight model supports the smooth flow of information between patients, the dedicated CO@H clinical team and local GPs.

- 1 Patients identified as having confirmed or suspected COVID-19 are referred to the CO@H service.
- 2 Patients receive an oximeter and a detailed guide about the service and how to use the technology. They are prompted to monitor their vital signs by the region's CO@H team.
- 3 Patients submit their oxygen readings, temperature, heart rate and levels of breathlessness by text, telephone or online. Staff can manually input readings if patients prefer to speak to someone.
- 4 The data populates a digital dashboard monitored by the CO@H clinical team and is transferred to the patient's record at their registered GP practice.
- 5 Patients are immediately advised by their preferred method of communication to telephone 999 if their reading indicates concern, while a Red, Amber, Green status flags to the monitoring teams when to contact a patient if further action is required.

## Supporting CO@H wider roll-out

The technology is also live in Dorset and is now being adopted by local CO@H systems across Surrey, Sussex, Milton Keynes, Oxfordshire and Buckinghamshire. The roll-out is being supported by Oxford and Kent Surrey Sussex AHSNs, using resources developed by Hampshire and the Isle of Wight ICS and Wessex AHSN's blended digital team.





# Key actions and insights

We asked the core project team to highlight the key actions that have supported the successful design and implementation of the technology.

## A genuine 'one team' approach

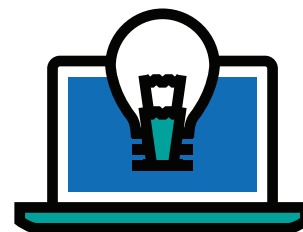
We knew we needed to bring different professionals together to make this work – and because we had such an engaged group, we found we could quickly create a strong 'one team' ethos around the project, built on a common desire to deliver the best possible service for patients.

This principle informed the way we designed the digitally-enabled service. We performed a gap analysis to find out where different localities were in their implementation journey and sought to create a solution that worked for them.

The result, we believe, is a really strong, bespoke product that successfully meets our clinicians' and patients' needs – and ultimately improves the care we can provide.

Dr Barbara Rushton, GP, Clinical Chair - South Eastern Hampshire and Chair of HIOW ICS CO@H/CVW Steering Group

## Practical, user-led road-testing ahead of roll-out

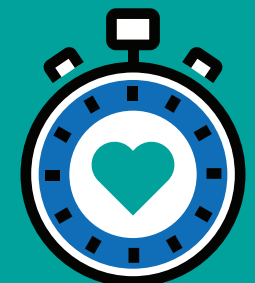


The remote monitoring service was built with clinical input every step of the way. For us to meet the aim of ensuring the dashboard data integrated into existing systems we made sure that a key project milestone involved pushing out a beta version of the solution for testing in what we called 'sandpit mode'.

By this we mean that all potential users from GPs, to hospital clinicians, through to the ambulance services had an opportunity to test out the platform dashboard to make sure it worked for them. Getting this user perspective early on enabled the solution to be improved as necessary and made sure it worked with a full range of systems.

Rachel Dominey, Associate Director Primary Care Innovation, Wessex AHSN

## Patient-centred design to tackle risk of digital exclusion



We know that many patients for varying reasons may not be able or want to engage with digital solutions when it comes to their care. A key principle of our solution was to ensure we didn't exclude anyone from the service: we wanted to provide options based on patient need and preference but have a consistent service provision regardless of the method they chose to interact with us.

Dr Caroline O'Keeffe, GP, North Hampshire Hot Hub



# The impact on people: the human perspective

While the project is still being formally evaluated, it has already received a wealth of positive feedback from those who have benefited. Below is a small selection of comments from patients and carers using the CO@H service.



“The automated phone call to monitor my readings was excellent and if any of my readings were out of range, I had a phone call not long after to check up on me.”

“The contact was very good – the phone calls were on time and the service was easy to use.”

“I was prompted with texts to send my readings, and I was always called if my readings were not good to check I was okay.”

“This service was excellent. It felt very reassuring to know she was being monitored. Thank you so much.”

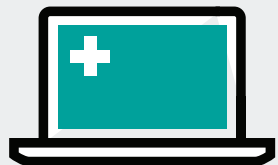
“This service was very helpful and it was reassuring that someone was checking on me three times a day because living alone with COVID-19 is very scary and lonely.”



**For more information about this project supported by NHSX:**

**Rachel Dominey**

Associate Director Primary Care Innovation,  
Wessex Academic Health Science Network  
E: [Rachel.Dominey@wessexahsn.net](mailto:Rachel.Dominey@wessexahsn.net)



**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](https://future.nhs.uk/innovationcollaborative)**.

Please e-mail **[InnovationCollaborative-manager@future.nhs.uk](mailto:InnovationCollaborative-manager@future.nhs.uk)** to request to join.