Special Report

Helping the NHS with elective recovery and supporting new care pathways for patients

Digital healthcare and remote monitoring

inhealthcare

Introduction

The outgoing chief executive has challenged the NHS to think "very radically" about redesigning pathways into the health service rather than just return to "the same old ways of doing things". In an interview with HSJ, Sir Simon Stevens said the NHS has an "opportunity to think very innovatively" following the coronavirus pandemic.

Photograph courtesy NHS

Digital solutions can accelerate elective recovery and support new care pathways for patients, according to Tara Donnelly, chief digital officer at NHSX. As hospitals try to catch up with the backlog of five million patients waiting for treatment, she has called for the 'virtual wards', set up during the pandemic to monitor Covid patients at home, to be expanded for other conditions where patients would benefit.

In a blog for NHSX, Tara shares examples of digital home care to support patients with heart failure, COPD, cancer or in recovery from a stroke. In addition, she said digital solutions can support very different pathways for high-volume specialities such as dermatology, ENT, MSK, cardiac and perioperative care, and also improve the provision of care and guidance between clinical teams in primary and hospital care.

In this special report, Inhealthcare sets out a number of ways in which its market-leading technology can help trusts and ICSs to quickly and effectively deploy remote monitoring services to support patients at home and deliver on the objectives of NHS England and NHSX. These include our remote-monitoring service to improve quality of life for patients living with heart and lung disease in Norfolk, which has led to a reduction in A&E admissions and bed days among a group of high-dependency patients; the roll out of our teledermatology service after a pilot project in London showed benefits for patients and clinicians and the launch of our new partnership with Olympus for patients awaiting endoscopy procedures to increase NHS diagnostic capacity and reduce the number of missed appointments.

Notably, Inhealthcare helped deploy the Oximetry@Home service for confirmed or suspected Covid patients across southern England, making remote monitoring technology widely available to patients in primary and community care settings. Research shared by Dr Matt Inada-Kim, national clinical director for deterioration at NHS England, shows the service has reduced mortality, length of stay, intensive care admissions and re-admissions. Thanks to the resourcefulness of an NHS nurse, the service has now been expanded in one county to support patients with respiratory conditions. We believe it is a fine example of how it is possible to embrace new ways of thinking to redesign pathways following the pandemic.

Read on for more inspiration and please do get in touch at contact@inhealthcare.co.uk if you would like to find out how we can support your trust or ICS.

Virtual wards

One in five people have a history of asthma, COPD or other longstanding respiratory illnesses. In the pandemic, they have been classed as "clinically vulnerable" and advised to "socially shield". With NHS outpatient services reorganised to reduce the spread of infection, people with respiratory conditions have had limited access to face-to-face care.

To support respiratory patients at home and identify any early signs of deterioration, Inhealthcare has launched a new remote monitoring service in partnership with an NHS trust. The new pathway uses the same Inhealthcare digital health infrastructure as southern England's successful Oximetry@Home service, launched last year to support people diagnosed with Covid.

Hospital length of stay was reduced by an average of 6.3 days for COVID Oximetry@Home (CO@H) patients in comparison to non-CO@H patients.

Only 3.6% of CO@H patients were admitted to ICU compared with 8.2% for non-CO@H, and 5.8% of CO@H patients died within within 30 days compared to 20.5% of non-CO@H patients.

Research shared by Dr Matt Inada-Kim, national clinical director for deterioration at NHS England, shows the COVID Oximetry@Home service "considerably improved patient outcomes reducing the odds of longer length hospital stays and mortality".

The new service is almost identical to Oximetry@Home and supports patients at home with our tried-and-tested remote monitoring technology. It was swiftly repurposed for respiratory patients following a suggestion by a resourceful NHS nurse.

The pathway empowers respiratory patients to take control over their health at home and enables clinicians to identify any deterioration in their condition, intervene early when necessary and provide treatment to reduce mortalities, avoidable hospital admissions and save bed days.

The introduction of the new technology allowed us to scale up remote monitoring at pace. 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 service is simple and intuitive for patients

Patients use a pulse oximeter to monitor their oxygen saturation levels and report these readings on a regular basis to healthcare teams. They have a choice of communication channels to submit their readings via email, SMS text message or automated telephone call, making the service fully inclusive. If patients would prefer to speak with another person on the telephone, staff can input readings manually. Patients receive relevant health advice after submitting readings.

> 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.
>
> Patient

Clinicians can see at a glance who is in need of help. Staff view patient readings on a web-based dashboard and can see who might need intervention, supervision, support or has not submitted their reports. Alerts are generated if readings fall out of range.

Readings are stored safely and securely within NHS-approved cloud storage providers and are accessible only to relevant staff. Patient records are updated via integration with the EMIS Web and SystmOne GP systems.

Inhealthcare provides data and analytics for clinicians, illustrating the number of patients on the service and their progress through the pathway.

> 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

Teledermatology: improving referrals from primary to secondary care

Every year, more than half of the UK population is affected by skin disease and nearly a quarter of these have a condition that would benefit from medical care.

Concerns about skin conditions are responsible for three million outpatient consultations every year.

The introduction of a digital health solution can help to reduce outpatient consultations by providing a quick and secure way for images and information to be shared between family doctors and hospital dermatologists.

How the service can help to increase capacity

The Inhealthcare teledermatology solution was developed with clinicians. A digital referral form for GPs enables them to capture patient demographics, referral information and images of skin conditions into the patient record. Our app allows GPs to quickly upload images safely and securely into EMIS Web or SystmOne where it is viewable by dermatologists. We can also integrate with hospital systems.

Increasing productivity. Improving patient care.

Feedback from our pilot project in London shows that the service can increase productivity and improve patient access to care, diagnostics and treatments:

- Analysis of outcomes showed the service helped to discharge 38 per cent of patients with advice and without the need for a clinic appointment.
- The service saved one or more appointments in 53 per cent of cases.
- On average, the process takes just eight minutes to complete.
- It can also help to speed up the process of referral from GP to specialist.

These simple but effective steps were co-created with clinicians to improve referrals from primary to secondary care. As NHSX has said, teledermatology allows GPs to benefit from easy and quick access to specialist advice and guidance from hospital dermatologists, enabling patients to be referred more quickly and efficiently for treatment and diagnosis. Our technology can increase capacity in dermatology services and help specialists to spend more time with those patients who need the most care.

Jamie Innes, product director at Inhealthcare

Remote monitoring: Freeing up hospital beds and surgery time

Remote monitoring improves patient care, reduces pressure on clinicians and creates capacity in the NHS. Improving quality of life for patients and freeing up hospital beds and surgery time are key considerations when a digital service is developed.

Our self-testing services for high dependency patients, including those with heart disease and high blood pressure, help to achieve both these objectives by enabling people to be monitored in their homes.

Monitoring vital signs at home

Remote monitoring services allow patients to monitor their vital signs at home and relay readings directly to a clinician which means they don't need to travel into a clinic. Patients are given medical devices and trained to monitor their vital signs, including blood pressure, temperature, weight, pulse rate and oxygen saturation, at home. The patient then sends the readings to clinicians via an online submission form or automated telephone service, depending on how confident they feel using technology.

The service encourages patients to recognise changing symptoms and promotes self-management of their conditions.

It enables clinicians to monitor trends and intervene if readings move outside individual thresholds.

Heart failure

Our self-testing service is for patients who have recently experienced heart failure and need to be monitored to ensure their vital signs are within safe range. The service can also be used for patients who have chronic obstructive pulmonary disease.

Norfolk Community Health and Care NHS Trust deployed the Inhealthcare Heart Failure monitoring pathway and its outcomes demonstrate how it can support the NHS:

- 88% reduction in bed days
- 89% reduction in A&E admissions
- 65% reduction in GP visits
- 45% reduction in Out of Hours appointments

The analysis also showed a similar trend for patients who stayed on the normal service, suggesting that nurses were able to spend more time with patients who needed care the most.

BP@Home

Studies have suggested that 'white coat syndrome' is real, showing blood pressure measurements taken by a doctor are 50 per cent less accurate than when taken at home.

The Inhealthcare hypertension service, also known as BP@Home, allows clinicians to monitor patient's blood pressure remotely by enabling the patient to use a blood pressure device and, using a choice of communication channels, relays the readings back to the clinician.

If readings breach personalised thresholds, clinicians are notified and can step in as necessary with medical intervention.

> We have the automated call every day at 11am and I provide readings for weight, blood pressure, oxygen saturation and pulse. It provides great peace if mind and lots of people say how well I seem. Some people might be afraid of trying out new technology, but I try to advise them how good it is.
>
> Tony Robinson, 83, patient

Endoscopy: expanding diagnostic capacity within the NHS

Data from the National Endoscopy Database shows activity fell by 95 per cent during the peak of the coronavirus pandemic. To help NHS trusts catch up, Olympus and Inhealthcare have launched the Digital Education Solution.

It has been estimated that COVID-19 related delays to cancer diagnoses and treatment could be responsible for nearly 7,000 extra deaths in England.

According to a national survey of endoscopy, seven per cent of NHS acute services had Did Not Attend rates of more than 10 per cent in 2017. With the reduced capacity created by the pandemic, missed appointments have become more costly than ever.

Personalised digital support at every step

By digitising the patient journey from referral to appointment to post-procedure patient feedback, the service can benefit NHS staff by cutting out administrative work. This is particularly pertinent in the current environment when NHS clinics are operating with limited capacity due to COVID-19 restrictions and an increased paperwork burden due to symptom checking and screening.

In addition, hospitals are now facing the challenge of increased patient waiting times.

The Digital Education Solution, launched by Inhealthcare in partnership with Olympus, aims to increase NHS diagnostic capacity and ultimately help the elective recovery of the NHS in the recovery phase of the coronavirus pandemic.

It benefits patients by providing personalised digital support every step of the way on the lead up their appointment to ensure everything runs as smoothly as possible for both the patient and the endoscopy team.

It replaces traditional paper packs provided to patients with a range of digital communications, including personalised support, engaging educational material and clear instructions for preparations in the weeks and days leading up to the procedure.

The service empowers patients with improved communications and helps them overcome any fears they might have ahead of their procedures. It creates capacity within the system by streamlining administrative processes and reducing the bureaucratic burden. We are using the latest innovations in healthcare to deliver specialist endoscopy services as part of our COVID-19 response.

Dr John Greenaway, Consultant Gastroenterologist

How the service works

Suitable patients receive communications by email, text or automated call in the days and weeks leading up to the procedure. This includes an electronic appointment letter, instructions on how to get to the clinic, frequently asked questions and a medical questionnaire to determine their eligibility and part pre-assess the patient in advance.

Around five days before the procedure, patients will be sent information about the necessary dietary changes and bowel preparation, with follow-up reminders explaining how and when to act.

Any current medications that need to be halted ahead of the procedure will be picked up in the pre-assessment stage and the patient will receive tailored messages to remind them to stop at the correct time.

Hospital staff will receive an alert as to any patients who have failed to open the communications, creating the opportunity to send further reminders or intervene to ensure the patient is on track to complete the required preparation. This allows for the most effective use of resources.

About Inhealthcare

Inhealthcare is a UK market leader in digital health and remote patient monitoring. More than 20 million people across the UK can now access technologies developed by the company in partnership in the NHS.

The underlying technology platform and its associated patient and clinician-facing applications are registered with the Medicines and Healthcare products Regulatory Agency as a Medical Device. Inhealthcare has integrated the platform with NHS login, making it even quicker and easier for patients to use its digital health services.

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