Special Report

Supporting elective recovery in the NHS with innovative digital technologies

How digital healthcare can transform care pathways and support the "waiting well" programme for patients waiting for treatment.

inhealthcare

"During the pandemic digital technologies transformed the delivery of care. The opportunity now is for the health and care sector to build on this and use the potential of digital to help the NHS address both its long-term challenges and the immediate task of recovering from the pandemic. In practice this means better outcomes for patients, better experience for staff and more effective population health management."

Amanda Pritchard,
chief executive NHS England

After years of laying the foundations for remote monitoring with NHS partners across the UK, 2022 looks set to be transformational for the expansion of technology enabled care services.

With the number of people in England waiting for planned care forecast to hit a staggering 13 million in the coming years, the House of Commons Health and Social Care Committee, chaired by former health secretary Jeremy Hunt, said the NHS has a big opportunity to change ways of delivering care that are no longer fit for purpose and build on the new integrated, safe and effective models that emerged during the pandemic.

"For the good of patients, staff and the public this opportunity must not be wasted," concluded the committee's report, 'Clearing the backlog caused by the pandemic'.

Extra funding announced by the Prime Minister includes £250m this financial year for an elective recovery tech fund to help Integrated Care Systems transform care pathways with the support of innovative digital technologies.

NHS England has told healthcare providers to use the lessons learned during the pandemic and *"rapidly and consistently"* adopt new models of care that exploit the full potential of digital technologies.

Chief executive Amanda Pritchard said systems must *"fully exploit remote monitoring technology and wider digital platforms to deliver effective and efficient care."*

Patients are anxious about the length of time that they are having to wait for their hospital appointments and there is growing concern about the impact on their health and wellbeing, and the widening of health inequalities.

The concept of Waiting Well has been launched by some NHS organisations to address the needs of these patients. Remote patient monitoring will play an important role in this programme and new cognitive support programmes are already being introduced.

NHSX has published a list of digital products that can assist with elective recovery and, in this special report, we consider how each of these products can help ICSs to reduce long waits for tests and treatments for patients and deliver on the government's ambitions.

1. Early discharge and home rehabilitation

By monitoring people safely in the comfort of their own home or care home until their treatment is complete, home remote monitoring services can support the safe and earlier discharge of patients from hospital.

This approach helps reduce delayed transfers of care and frees up inpatient capacity which can ease pressure on elective procedures and admissions from A&E.

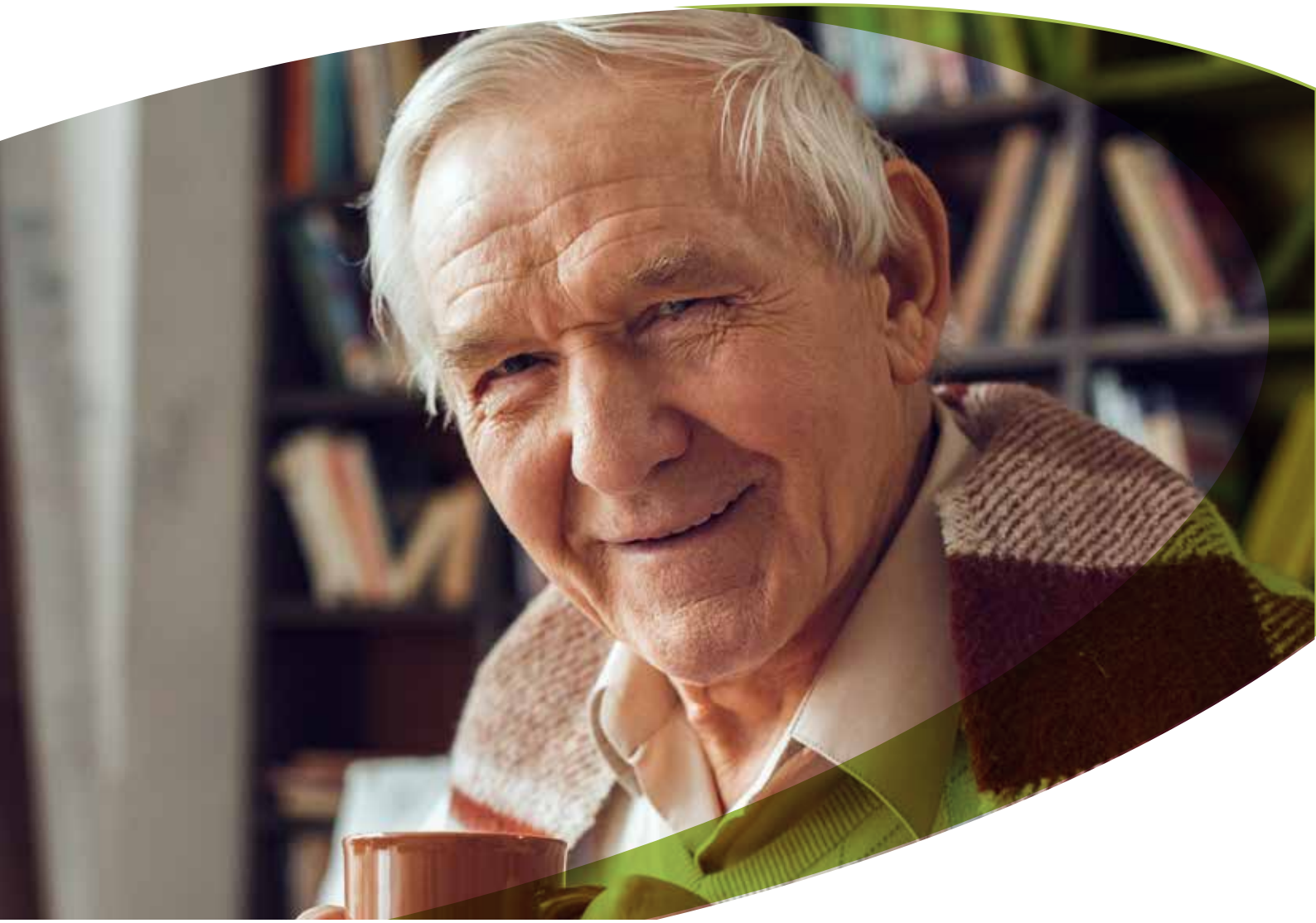
Patients use devices provided by the NHS to measure their vital signs and report the readings via a choice of communication channels.

Alerts are generated if readings are not submitted or if readings fall out of range so clinicians can intervene if necessary.

Inhealthcare offers a range of home monitoring services, including a digital care home service which coordinates the monitoring of residents and can be used to intensively monitor those discharged from hospital. Care home staff input vital sign readings directly to the Inhealthcare app using a smartphone application or online portal.

These readings are sent directly to NHS teams, including the GP, community nursing and dietetics. If any readings fall out of range, alerts are generated for clinicians to take action.

Enabling clinicians to spot the early warning signs of health deterioration and take the right steps to support the health and wellbeing of patients at home, helps to reduce hospital admissions and readmissions.



2. Home-based pre-surgical support

According to a national survey of endoscopy, seven per cent of NHS acute services had Appointment Did Not Attend (DNA) 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. To help reduce these rates, Inhealthcare has partnered with Olympus to launch the Digital Education Solution to support patients awaiting endoscopy procedures and increase NHS diagnostic capacity.

As well as aiming to reduce missed appointments, the service also aims to improve health outcomes, cut down administrative work and ease the strain on overstretched hospitals by digitising the patient journey from referral through to appointment and post procedure patient feedback.

This is particularly pertinent in the current environment when NHS clinics are operating with limited capacity and an increased paperwork burden due to symptom checking and screening. In addition, hospitals are now facing the challenge of increased patient waiting times.

By providing personalised digital support every step of the way on the lead up to their appointment, the service ensures that everything runs as smoothly as possible for both the patient and the endoscopy team. It replaces traditional paper packs with a range of digital communications, with patients receiving tailored support communications by email, text or automated call in the days and weeks before the procedure.

These 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.

Hospital staff receive an alert of 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.

Questionnaires are also sent to the patient after they have been discharged.

" The service empowers patients with improved communications and helps them overcome any fears they might have ahead of their procedures."

Dr John Greenaway, consultant gastroenterologist at The James Cook University Hospital.

3. Productivity benefits

Digital health is not about replacing staff but about providing them with the tools to make their day-to-day lives easier. Automating processes and enabling patients and carers to input health readings at home, can increase clinical capacity by cutting down paperwork, repetitive administration tasks and phone calls.

Inhealthcare's technology gives health and social care professionals the ability to remotely triage patients, meaning they only intervene when necessary. By detecting deteriorating health in a timely manner via thorough on-going monitoring, hospital admissions can be reduced.

What's more, clinicians only intervene when necessary and have more time to focus on patients who need the most care.

By integrating our software with clinical systems across the industry and with EMIS Web and SystmOne using their partner API's, Inhealthcare can get the right information to the right healthcare professional at the right time.

This means that multiple conditions can be monitored by one healthcare professional.

Digital immunisation service

This service is an excellent example of how an automated, digital service can improve productivity. It provides parents/guardians with a fully digital solution to enrol their children to immunisation programmes and helps NHS organisations deliver enhanced immunisation schedules and free up employees from labour intensive administrative tasks. It also reduces travel and face-to-face visits.

Our service with Dorset Healthcare University NHS has been running since September 2019 and has enabled the trust to **redeploy 13 out of 15 members of staff.**

Our service with City Healthcare Partnership Hull has achieved similar results. There was an estimated **time saving for administration teams of approximately six hours per** pre-vaccination session and **a 50% reduction in time spent at schools** for vaccination sessions.

Primary care

Remote monitoring can increase capacity in primary as well as secondary care, as demonstrated by our blood pressure at home service.

GPs receive blood pressure readings electronically rather than having to see them face-to-face when readings are required, freeing up appointments for more acute patients. By empowering patients to better understand and manage their condition, remote monitoring can also reduce the burden on GP practices.

"...this will lead to better preventative care for our patients, and also reduce the burden on GP practices as we will receive the patient's results electronically rather than having to see them each time. This should result in better health for our patients, fewer patients needing emergency care, and it frees up valuable appointments for more acute patients."

Dr Jagjit Rai, Partner at St David's Family Practice, Stanwell

4. Real time operational data and strategic population health management tool

The government has ambitious plans to harness the potential of data, whilst maintaining the highest standards of privacy and ethics, to help the NHS rebuild from the pandemic and address the long-term challenges facing the health and social care sector.

Having access to detailed reporting and analytics data can provide valuable insights into operational and clinical activities, and enable NHS care providers to make informed decisions about operational and clinical improvements for patients. This is why Inhealthcare has invested in industry-leading reporting and analytics tools for NHS organisations across the UK.

Inhealthcare has built a 'data lake' to enable new views into the growing amounts of data generated by NHS remote patient monitoring services. This will help providers and commissioners to analyse near real-time NHS data about patients and pathways to boost operational and strategic decision-making.

The data lake is fed with multiple types of raw data generated by NHS remote monitoring activities, such as vital signs readings, questionnaire responses and other workflow activity, and updated in near real-time.

NHS providers can view operational data, including patient information, and can enter their own search queries to see their patient cohort in a way that makes sense to them. This enables providers to stratify levels of risk within their cohort and improve patient management.

NHS commissioners can see strategic data such as how efficiently a pathway is being delivered without the need to access any patient identifiable information. This strategic view can help commissioners to identify productivity improvements and benchmark their performance against other NHS organisations. It also offers significant value for health research.

" It is a common problem in our sector that many remote monitoring systems are closed and unwilling or unable to share access to underlying data with the NHS, even though this data is owned by the NHS.

We recognise the enormous value for the NHS in data reporting and believe it will become essential for delivering successful innovation at scale in health and social care.

NHS providers and commissioners will be able to use our data lake to unlock operational and strategic benefits to improve outcomes for patients."

Bryn Sage, chief executive Inhealthcare

5. Patient portal and record sharing

In 2021, Inhealthcare completed the integration of its technology platform with NHS login, making it even quicker and easier for patients to use our digital health services.

NHS login has been created by NHS Digital and follows industry and government standards for security and identity. It is the secure way to sign-in to a wide range of health and care services.

We also completed our integration with the Message Exchange for Social Care and Health (MESH), the main secure large file transfer service used across health and social care organisations.

6. Robotic process automation

The Inhealthcare Toolkit allows clinicians to design and deliver new care pathways using cutting-edge processes commonly deployed in global industries like advanced manufacturing and financial services. This ability enables NHS organisations to model, execute, monitor, measure, analyse and improve their health and care services.

The Toolkit also allows for the co-design and co-development of pathways with service users.

This allows for immediate feedback on the creation of pathways which reduces the overall development cycle and ensures that the functionality meets their needs.

7. Streamline elective administrative processes

Inhealthcare has launched a self-referral programme for people with musculoskeletal conditions. It is believed to be the first digital health service in UK that uses the Spine national IT infrastructure to allow patients to self-refer onto a local NHS service.

This reduces unnecessary, time consuming administration and face-to-face appointments. It also enables clinicians to triage patients and prioritise those who most urgently need care.

8. Support people at home

Enabling more care to be delivered outside of traditional settings can increase capacity in the NHS by reducing hospital admissions, freeing up beds, helping to ease pressures on clinicians and waiting lists, and improving access to diagnostics and treatments.

It also reduces unnecessary face-to-face appointments and nurse's visits which not only saves time but also helps to reduce the risk of infection transmission.

Virtual wards offer support to people in their own homes instead of in hospital. Pre-pandemic, the majority of remote monitoring in the home was for long term conditions.

The introduction of the Covid Oximetry Home (CO@H) service has changed this and demonstrates how remote monitoring solutions make care available to the right people at the right time to improve patient outcomes and reduce the burden on frontline staff.

" We have demonstrated that patients are happy to monitor their conditions from home, and when they do, they not only develop a better understanding of their condition, but feel empowered to manage it better through remembering to take their medication and making lifestyle choices."

Dr Jagjit Rai, partner at family practice in Stanwell, Surrey.

Caring for patients in their home also enables them to take a more active role in the management of their health which can help improve both their quality of life and health outcomes.

Patents using the technology feel supported and encouraged to make the right decisions, and know that help is there if they need it.

Inhealthcare has repurposed the underlying CO@H technology to support people with other conditions including hypertension, heart failure and respiratory diseases.

" As a result of monitoring and submitting my results, my medication has been changed, and I have also made some lifestyle changes to help manage my blood pressure better.

These small changes are already helping me to feel in control and have had a positive effect on reducing my blood pressure.

The BP@Home team is really helpful, I feel supported and encouraged to make the right decisions, and I know that there's help at the end of the phone if I need it."

Mr Gurmit Bhamra,
Surrey Heartlands patient.

COVID Oximetry@Home

This is an excellent example of a digitally supported virtual ward. The service allows COVID-19 patients to be looked after safely at home and only admitted to hospital when necessary. It also supports the safe and earlier discharge of patients from hospital.

Patients use a pulse oximeter to monitor their oxygen saturation levels and report these readings on a regular basis to healthcare teams. Clinicians 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.

" It was reassuring that someone was checking on me three times a day because living alone with COVID-19 is very scary and lonely."

Hampshire and Isle of Wight Patient.

Research shared by Dr Matt Inada-Kim, national clinical director for deterioration at NHS England, shows the service *"considerably improved patient outcomes"* by reducing mortality, length of hospital stay, intensive care admissions and re-admissions.

Hospital length of stay was reduced by an average of **6.3 days** for COVID O@H (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 30 days compared to **20.5%** of non-CO@H patients.

" 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.

Find out more at **www.inhealthcare.co.uk**

Blood Pressure at Home

Our Blood Pressure at Home monitoring service enables patients with hypertension to measure and share their blood pressure readings with their GP from their home, reducing the need to attend GP appointments.

The patient uses 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.

The service allows patients to monitor their condition on an on-going, long-term basis rather than as a "one-off". According to NHS@Home, regular home blood pressure monitoring across a population of **50,000 patients could prevent up to 500 heart attacks** and **745 strokes over five years.**

A local trial with Surrey Heartlands ICS found that the digital service helped **53 per cent of users move from high to low threshold blood pressure** within five months.

The ICS believes that expanding the service could help thousands of patients to manage their conditions, improve their health, reduce the incidence of clinical events such as death, heart attack or stroke, over five years and save millions of pounds in reduced use of NHS services.

" 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 of mind and lots of people say how well I seem."

Tony Robinson, 83, patient

Care homes

Our remote monitoring service aims to keep vulnerable residents safe and well in their homes and prevent avoidable hospital admissions and readmissions.

We are working with care home residents across London to connect them to their family doctors and help clinicians to identify any patients at risk of developing health problems and intervene early with treatment.

We have also worked with Health Call, a collaboration of seven hospital trusts in the North East and North Cumbria, to develop and deploy an SBAR assessment service in care homes across the County Durham and Darlington NHS Foundation Trust region.

The pathway achieved some impressive results:

- **45%** reduction in specialist nurse visits
- **18%** reduction in overall unplanned admissions
- **13%** reduction in out-of-hours unplanned admissions
- **24%** reduction in in-hours unplanned admissions

Heart failure

Our self-testing service for patients who have recently experienced heart failure improves quality of life for patients, and frees up hospital beds and surgery time.

Patients are monitored to ensure their vital signs are within safe range.

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

9. Remote consultations

Inhealthcare is powering a Digital Clinic designed by its NHS partner Health Call Solutions to connect clinicians with patients at home and minimise the need to attend hospital appointments in person.

More than just a video conferencing service, it provides an all-encompassing approach to help hospitals build capacity and meet outpatient demand, catching up on the growing backlog of cancelled or delayed appointments. It integrates directly with hospital patient administration systems and books appointments, delivers reminders, records attendances, distributes and gathers patient questionnaires and shares outcome forms with electronic patient records.

The new integrated Digital Clinic is expected play a key role in the recovery of outpatient services and gives hospitals a way of managing their outpatient clinics and patient flow digitally using a mix of face to face, telephone and virtual interactions.

It also captures data on clinical outcomes. All of this seamlessly integrates with existing patient systems.

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 with 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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