Redefining healthcare with digital technologies

The following three facts point to a simple truth: the way we deliver healthcare in the UK must change.

- When people fall ill, they want to feel cared for. They want to see a doctor, face to face in many cases. They don't want to wait weeks, months or years for treatment. And they don't want to worry about being forgotten about or falling foul of administrative error.

- Most people own smart devices and rely on them for work, leisure and everything in between. Increasingly, they expect to be able to engage with the health service in the same way, ideally from the comfort of their own homes.

- Nearly one in eight people are now awaiting operations and other NHS treatment. The backlog has grown to **6.8 million**, up from **4.2 million** before the pandemic. As we head into winter, those pressures will continue to bite.

Inhealthcare is working with NHS organisations across the UK to redefine healthcare with digital technologies in an inclusive way that ensures nobody is left behind.

Solving the biggest challenges facing the health service

Inhealthcare launched a decade ago with the ambition of helping to solve some of the biggest challenges facing the health service.

The founders saw how technology could free clinicians from mundane tasks to spend more time caring for patients and empower people with long-term conditions to look after themselves.

Ten years later, Inhealthcare has turned this vision into reality, delivering digital health, remote monitoring and virtual ward services at scale across the UK. To date, more than **two million patients** have benefited from the company's technologies, which are tried, tested and proven.

During the pandemic, Inhealthcare worked with the NHS to quickly rollout one of the first virtual wards, bringing life-saving care to more than **25,000 people** and helping to reduce intensive care admissions and the length of hospital stays. Inhealthcare's Oximetry @ home became the biggest remote monitoring service in the UK.

Clinicians are now using the same virtual ward infrastructure to help patients self-manage other conditions including hypertension, COPD, asthma, heart disease, diabetes, depression, malnutrition and cancer.

This year NHS Scotland confirmed Inhealthcare as the successful bidder for a contract to support the scaling up and mainstreaming of remote monitoring services across Scotland. Inhealthcare supports **more than 50 NHS trusts** in England and provides digital health services to the **five Health and Social Care** Trusts in Northern Ireland.

Pioneering patient-centred care: When Inhealthcare started in 2012, 'telehealth' was based on expensive pieces of hardware, which in many cases doctors were reluctant to refer to patients.

The underlying problem was simple: the approach was too focused on the equipment, rather than the patient.

With background experience and expertise in cloud computing, Inhealthcare doubled down on designing services around the needs of the individual. The company pioneered the design of digital health services with a choice of communication channels, giving people without a smartphone or internet access the ability to manage long-term conditions at home via the traditional telephone landline.

Inclusion and integration are key to transformation

The ability of health tech companies to deliver digital inclusion and integration will determine the success or failure of digital health services and virtual wards being set up across the country.

Digital exclusion is a growing social problem. In the South East of England, **28 per cent** of the population are limited users of the internet but in the North East, it is **38 per cent**. In Wales, **36 per cent**; the East, **33 per cent**; Scotland and Northern Ireland, **32 per cent**. Based on these numbers, provided by the Good Things Foundation, building digital health services for people who are limited users of the internet risks excluding around a third of the population.

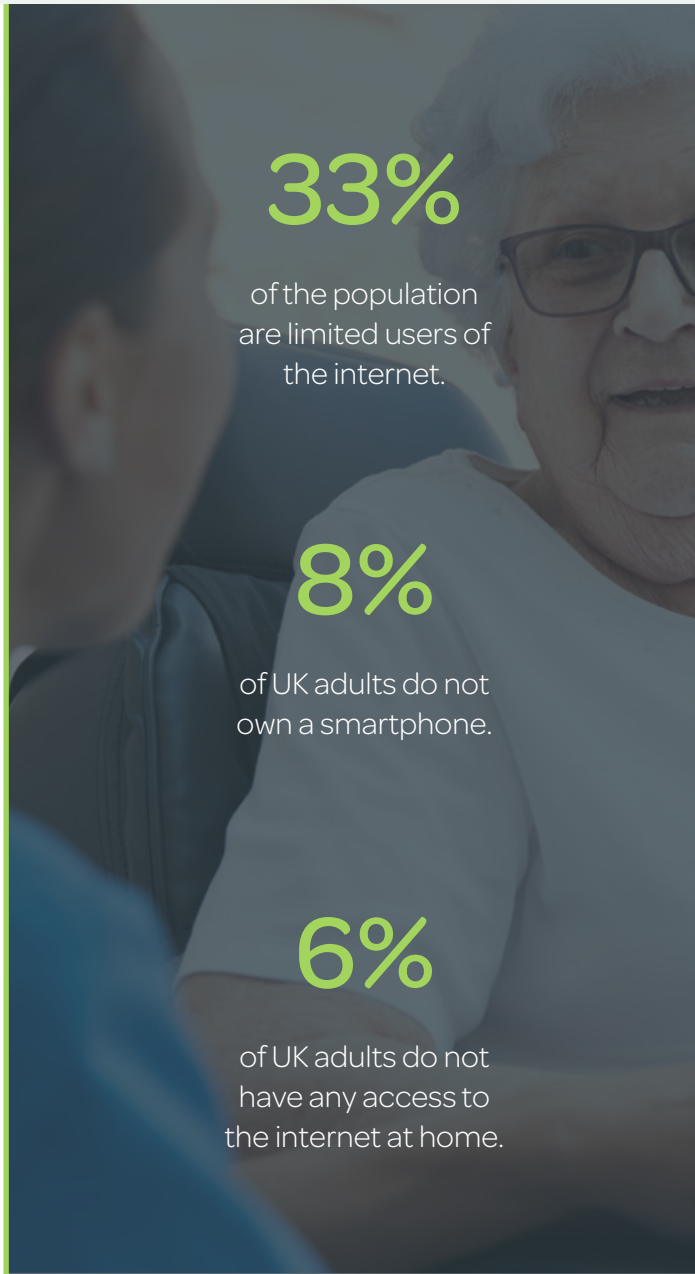
Too often, health tech entrepreneurs make the mistake of assuming that everyone has the latest smartphone and is a digital native like themselves. In fact, **eight per cent** of UK adults do not own a smartphone, according to Deloitte Digital Consumer Trends 2022.

That's equivalent to **4.7 million people**. Further, **six per cent** of UK adults do not have any access to the internet at home, says Ofcom, and this increases with age, with **a fifth** of those aged 65 and above not having home internet access, compared to just **one per cent** of 18-34s.

Inhealthcare ensures that patients have an all inclusive and accessible choice of communication channels – email, SMS, automated phone call or direct contact from clinical team – to avoid any risk of digital exclusion. An evaluation for the Scottish government found indications that Inhealthcare's pathway contributed to reduced health inequalities with more than twice as many people from disadvantaged areas using the system than those from affluent areas.

Integration is essential for digital health services and virtual wards to work effectively. Data must flow securely around the health and care system, helping doctors and nurses make the best possible clinical decisions for patients who can be supported in the place they call home, including care homes.

To make this happen, health tech companies must prioritise integration. Integration is a major commitment and takes time and money, but it is essential for effective transformation of health and care services.



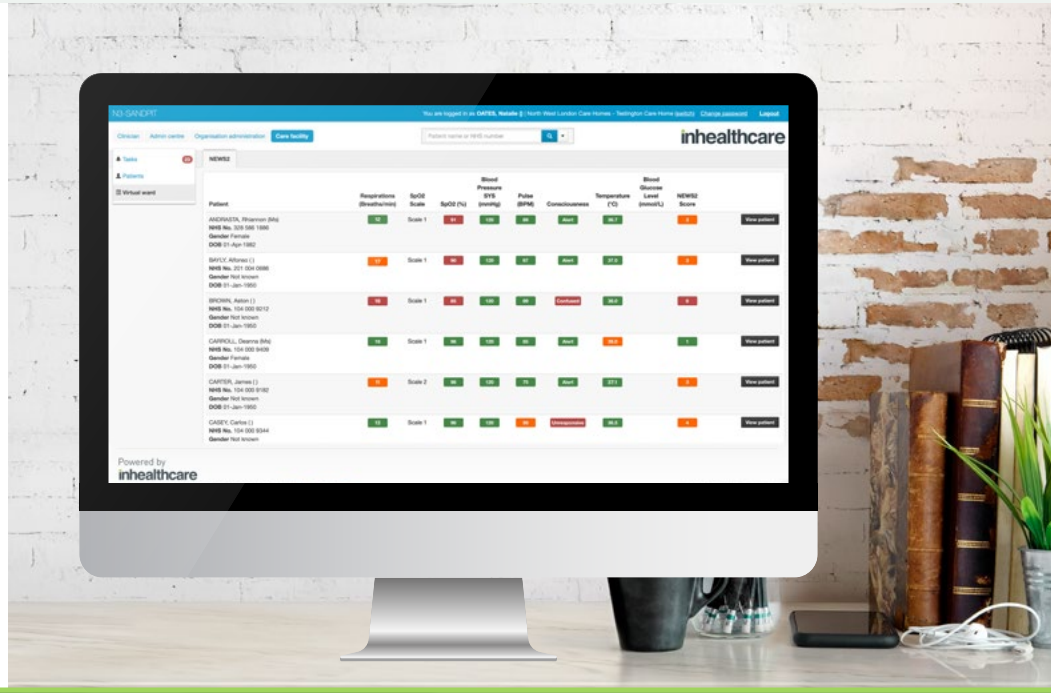
Inhealthcare's digital technologies fully integrate with:

- National hospital and primary care systems
- NHS login
- NHS Spine
- GP Connect
- MESH
- SCI Store
- EMIS Web
- SystmOne

NHS login makes it quicker and easier for patients to access services, and the integration with NHS Spine allows clinicians to validate NHS numbers and retrieve latest patient demographics.

Inhealthcare provides open and published APIs for connecting to third party systems. Its platform and patient and clinician apps are registered as medical devices. And the company provides industry-leading data reporting and data analytics to give NHS organisations valuable insights into service outcomes and operational effectiveness.

With true integration, virtual wards can enable earlier supported discharge from hospital and provide alternatives to admission by supporting patients at home instead of hospital.



Joining up care for patients:

Inhealthcare is working with the NHS on a groundbreaking project to improve the flow of information between different parts of the health and care system in Yorkshire.

The programme will help the NHS to spot efficiency savings, see patients and their status at any time and free up hospital beds with confidence that discharged patients will be picked up by community providers.

The future of virtual wards

Inhealthcare has pioneered remote patient monitoring in the UK.

The company used this experience to launch and expand a wide range of virtual ward services for conditions and illnesses including Covid, hypertension, COPD, asthma, heart disease, diabetes, depression, malnutrition and cancer.

Remote monitoring uses smart devices such as blood pressure monitors, forehead thermometers, oximeters, weighing scales and smartphones to gather data about patient health and wellbeing. These readings are relayed safely and securely to clinical teams to support decision making with 'red flag' alerts for any readings which fall outside set thresholds, enabling timely intervention.

Remote monitoring provides "***a safe and effective route***" to manage patients at home and significantly reduces demand on alternative services, according to an NHS evaluation by Sussex Health and Care. Patient feedback was "***overwhelmingly positive***" with **99 per cent** reporting a "***very good***" or "***good***" experience and just one per cent providing a neutral response.

Virtual wards are evolving as wearable technology becomes more sophisticated. Patients on virtual wards can be '***stepped up***' to what is called continuous monitoring or '***stepped down***' to less frequent monitoring, according to clinical need.

This blended approach can reduce hospital re-admissions. The Inhealthcare platform has open and published APIs for connecting to third party systems, supporting a diverse range of different medical technologies for the delivery of continuous monitoring. For instance, the company has partnered with MediBioSense to offer NHS trusts use of the Vitalpatch® wearable patch, which is CE marked and has FDA medical approval.

The small waterproof patch measures **eight physiological measurements continuously**, in real time, including single-lead ECG, heart rate, heart rate variability, respiratory rate, body temperature, body posture, falls detection and activity. This is the kind of wearable technology that will redefine healthcare. But to succeed, health tech providers must be able to deliver digital inclusion and integration.

As we have seen, when people fall ill, they want to be cared for. Most people own smart devices and expect to be able to use them to engage with the NHS but a significant minority are digitally excluded. Meanwhile, pressure continues to mount on the health and care system. As this white paper shows, it is within our reach to redefine healthcare with digital technologies.

Scaling up virtual wards for heart failure:

The Norfolk Community Health and Care NHS Trust is expanding a successful remote monitoring service with Inhealthcare to help increase life expectancy and improve quality of life for patients diagnosed with heart failure. Analysis of the six months before and after introduction showed a significant reduction in hospital bed days, A&E attendances, GP visits and out-of-hours appointments.