How consultants are creating virtual wards for hospital patients

- Clinicians to 'start off safe' with low-risk, tech savvy patients
- Approach shows how clinicians are meeting NHS challenge
- Roundtable gathers feedback from frontline staff

Fears are growing of a *'twindemic'* caused by Covid and flu. This winter, up to half of all hospital beds could be needed by patients with respiratory conditions, according to the BBC.

How can hospitals accommodate the growing demand?
One of the answers is through the provision of virtual wards, which use technology to extend hospital care into patients' homes.

Inhealthcare hosted a roundtable discussion to share insights into how clinicians are responding to the challenge from NHS England to create 40 to 50 virtual ward beds per 100,000 of the population by December 2023.

In this White Paper, we summarise the debate and illustrate how NHS organisations can hit the target and deliver safe and sustainable hospital care at home to patients under the watchful eye of consultants who can determine the appropriate level of oversight according to need.

To establish our credentials, Inhealthcare delivered the UK's largest remote monitoring programme during the pandemic.

We are now using the same technology to help NHS organisations establish and expand virtual wards.

Throughout our 10-year history, we have grown by successfully co-designing digital health services with clinicians.

Key takeaways

Consultants said they are *"starting off safe"* with a small number of low-risk, technologically capable people to show the virtual ward approach works before expanding to care for more patients at home.

They added that as prerequisites, individuals should understand the virtual ward is unable to provide 24-7 care and be able to call for help if they became unwell.

At the roundtable, we heard how cardiologists are creating new virtual wards for patients with heart failure and atrial fibrillation to avoid unnecessary overnight stays in hospital.

Consultants said they would take baseline readings from patients in a hospital setting before adding heart failure and atrial fibrillation patients to a virtual ward.

They would be happy with a number of spot readings per day, rather than a continuous stream of data, as even the most intensely monitored patients in hospital are usually subject to four to six readings per day.

Specialist nurses then would *"look, review and act"* to contact patients at home if readings fall outside parameters set for each individual.

A safe environment

"It's about starting off safe with the least frail patients who are tech savvy, demonstrating that it works in a safe environment and then expanding," said one of the consultants whose organisation has tasked him with creating a virtual ward for cardiology patients.

"For the cohort of patients who are not that unwell and are ambulatory, we can give them medication and explanation and get them home in a virtual ward. Otherwise, they would stay in hospital."

Consultants in other specialisms will choose the approach that suits the needs of their patients. Inhealthcare's technology allows for a step up/step down model, offering different frequencies of monitoring from one or two times a week to several times every day, according to individual need. It is clear from the roundtable discussion that clinicians do not want to be deluged with unnecessary endless streams of data.

However, it was stated that trend analysis based on a set period of readings would be very useful to clinicians.

Push advisory messages

The question came up of what happens out of hours. Consultants said they would look to specialist nursing teams to closely manage virtual ward patients from Monday to Friday.

Outside of these times, duty nurses would need to have access to virtual ward information and alerts. While hospitals would like to have more specialist nursing staff, there is a shortage of funding.

Inclusive communications

Nor should the cohort of patients without smartphones be overlooked. A project manager from an integrated care system in southern England stated that smartphones can be very challenging for some users and remote monitoring technology should be accessible to all.

Patients must have a positive experience of a virtual ward and must not have any troubles trying to make the technology work.

"It could cause more problems to their health and the wider healthcare economy," warned the project manager.

It was also asked what would happen if, for whatever reason, the technology failed. In these circumstances, Inhealthcare would be able to flag up to clinicians that a patient had not submitted any readings and should be contacted to see if they need help.

Patients using Inhealthcare services have a choice of digitally inclusive communication channels including smartphone app, web browser, SMS text and telephone landline.

An evaluation for the Scottish government found the company's approach improved access to NHS services and reduced health inequalities with more than twice as many users from disadvantaged areas.

During the pandemic, Inhealthcare delivered life-saving care to more than 25,000 Covid patients with the Oximetry @home service across southern England.

Research shared earlier this year by Dr Matt Inada Kim, an acute medicine consultant and national clinical director for deterioration, has demonstrated

"a significant association between CO@h and better patient outcomes; most notably a reduction in the odds of hospital lengths of stays longer than 7, 14 and 28 days and 30-day hospital mortality".

From weighing scales to wearable patches

NHS organisations are using the same tried, tested and proven infrastructure to build virtual wards and help patients self-manage other conditions.

At one ICS in southern England, clinicians are setting up remote monitoring for respiratory conditions by adding the ability to record NEWS2 scores, physiological 'early warning' measurements that are routinely recorded at a patient's bedside.

People with asthma and COPD are to be given blood pressure cuffs, oximeters and thermometers to take regular readings. Inhealthcare's technology platform has open and published APIs for connecting to a diverse range of medical devices, from weighing scales to wearable patches.

These can support a wide range of health conditions including hypertension, diabetes, depression, malnutrition and cancer.

In conclusion

Inhealthcares product director Jamie Innes chaired the roundtable, which took place under Chatham House rules. Speaking afterwards in conclusion, he said:

"The overriding message from our discussion is that virtual wards are 'starting off safe' before looking to expand, as in the case of our consultant cardiologists. It is important to remember that a lot of what is needed to create a virtual ward is already in place.

"Above all, our advice is to keep it simple when designing digital health services and put the patient at the centre of everything you do."