



FEATURE

COVID-19

The “virtual wards” supporting patients with covid-19 in the community

Managing patients at home eases pressure on wards and reduces patient anxiety, finds **Jacqui Thornton**

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London

Hospital doctors have established “virtual wards” whereby patients with covid-19 are managed at home, monitoring their own oxygen levels—and freeing up staff and beds. The primary aim of some of these wards is supported early discharge; others are referring patients directly from emergency departments and primary care.

The virtual wards were planned at the beginning of the pandemic to avoid hospitals being overwhelmed, but doctors say that as well as keeping people with covid-19 out of hospital if they do not need to be there, patients are less anxious.

“This isn’t about admission avoidance”

Manchester University Foundation Trust developed a “step down” approach in early March, whereby patients who had been admitted to hospital and treated for covid-19 were sent home and managed through regular phone calls. They were given an oxygen saturation probe if necessary.

This process went fully operational in mid March, involving more than 350 patients in three large acute hospitals. Analysis of the first 200 patients showed that 173 were fully discharged, 27 presented to the emergency department, and 20 of these were readmitted.

Consultant respiratory physician Binita Kane, who leads the project, says, “This isn’t about admission avoidance for once. This is about making sure that people are being cared for in the right setting. We’ve shown this is a safe, effective way of managing patients when they leave hospital.”

300 bed days saved in three weeks

Other trusts are using similar triage pathways and have extended them on a “step-up” basis for patients attending emergency departments to avoid admission. In Watford, West Hertfordshire Hospitals NHS Trust set up a virtual hospital in mid March and has managed around 1200 patients at home. It has been so successful it wants to continue the system after covid-19,

initially for respiratory patients but potentially rolled out across the trust.

As of 11 May, 1042 patients with covid-19 have been referred to the virtual ward—50% had been previously admitted, the other 50% were either presenting at the emergency department or referred from their general practitioner. Overall, 818 have been discharged back to their GP, and 224 are under review by the virtual hospital, with pulse oximeters if necessary.

In phase 1, nearly 400 patients were monitored through phone calls from a team of clinicians, including consultants, respiratory physiologists, and physiotherapists not involved directly with frontline care. This saved nearly 300 bed days over a three week period at the height of the covid-19 outbreak.

In phase 2 the trust began using a patient monitoring app called Medopad, into which patients enter data on their symptoms, temperature, heart rate, respiratory rate, and their oxygen level. This allowed the number of patients monitored at home to more than double.

Respiratory consultants Matthew Knight and Andrew Barlow are leading the virtual ward project. Knight says: “Whilst we can’t wait to see the back of covid, it has proved the success of our approach and so we want to continue with these new ways of working after the virus has been brought under control.”

A safety net for patients

At the Royal Berkshire Hospital in Reading, the TICC-19 (triage into community for covid-19 patients) pathway¹ has been used in the emergency department and acute medicine since 2 April. Eligible patients are determined using a flowchart.²

At home, patients check their oxygen levels with a pulse oximeter four times a day. Physician associates, medical students, and at risk emergency department staff are in daily phone contact using scripted questions, calling them back into the hospital for observation or treatment if they are concerned.

This pathway has now been extended to primary care hot hubs, centres set up for GPs to treat patients with covid-19. GPs image patients' lungs using handheld ultrasonography devices; the images are reviewed remotely at the hospital, and, if appropriate, patients are sent to the emergency department at the Royal Berkshire to be put on the TICC-19 pathway.

Data up to 25 May show that, of the 244 patients referred to the virtual ward, 11 patients are still under review, and four are in hospital; 29 patients reattended the emergency department, and 18 patients were readmitted. None have died.

Acute medicine consultant Andy Walden says: "It gives patients the confidence to go home so they feel much safer, knowing that they've got someone they can ring and that someone's going to ring them."

Joseph Nunan, ultrasound fellow in the acute medical unit, says: "From our early data, patients with non-severe covid-19 can be safely managed in the community instead of being admitted to hospital. A virtual ward provides a safety net for this cohort of patients."

In Manchester, Kane says that the team's nervousness about discharging patients early without a follow-up led them to the idea of the virtual ward. "Really early on in our pandemic planning we knew we were going to need to get people out of hospital quickly so we did not become overwhelmed, but this also needed to be safe," she says.

"We rapidly established the pathway over a couple of weeks, which I think has been a great achievement, doing that in such a short space of time. Everyone just pulled together."

Competing interests: I have read and understood BMJ policy on declaration of interests and have no relevant interests to declare.

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- 1 TICC-19. www.TICC19.com
- 2 Full triage flowchart for covid-19 positives/suspected. <https://ticc19.com/clinicians/covid-19-positives-suspected/full-chart/>

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