

# Tech trials signal new future with NHS virtual wards

DOMESTIC humidity is probably not something the majority of the population would give a moment's thought to but monitoring it could mean the difference between life and death to some people.

That's one of the projects which have been run as part of new so-called 'virtual wards' among NHS trusts in the West Midlands whose aim is to enable people to leave hospital and continue their care remotely.

Technology is now allowing medical staff to monitor patients from afar rather than in a hospital setting, such as them taking their blood pressure and measuring blood oxygen levels, while video calls on tablets supplied by the NHS mean nurses can check up on those they are caring for.

One of the projects trialled in the West Midlands saw monitoring devices – snappily titled Data Oriented Response Intervention System or DORIS for expeditiousness – placed in the lounges and kitchens of residents of the Merry Hill Flats development in Wolverhampton who were over 50 and had existing, long-term health conditions.

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The devices, which are around the size of a bag of crisps, monitored domestic humidity and temperature and 'learned' a resident's typical routine, such as when they boiled the

kettle or opened the fridge door.

This let staff know remotely when that routine had been deviated from, signalling the patient might have been taken ill suddenly or had a fall and the pilot proved particularly useful last summer when the UK experienced blistering heat waves.

Staff could then simply contact the resident or next of kin to check on them or alert a liaison officer if the resident could not be reached.

A similar trial in Sutton, South London, actually saved four lives when alerts by the sensors triggered visits by carers who found vulnerable residents unable to move following a fall or illness.

WM5G, which is based in Birmingham city centre, was born out of a three-year, government-funded innovation programme to help the West Midlands maximise the benefits of emerging 5G mobile technology. Since that ended in March, it has transformed itself into a consultancy working to help accelerate the deployment of advanced connectivity and tech innovation across the region.

One of its projects has been advising West Midlands NHS trusts in collaboration with tech companies on the launch of these new virtual wards, including carrying out the humidity monitoring pilot in Wolverhampton.

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John Vesey is the health and care sector lead at WM5G after joining the organisation last summer.

He said: “The wards are being deployed as we speak and different places are deploying them on different topics such as frailty, diabetes and general medicine. Lots of the NHS organisations are still seeing them bedding in so they are no longer pilots but also not the polished article.

“Each of the West Midlands’ NHS trusts has deployments of virtual wards and they are supporting some of the options for discharge whether that’s intermediate care or community care.

“We are working closely with them on issues such as how stable they are, how they are growing and at what scale they need to grow at, and also bringing tech companies into the region or bringing their tech to the trusts.

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“Across the West Midlands, most of the wards are focussed on frailty and respiratory conditions while Wolverhampton has been looking at falls and prevention of them and some are

using the pulse oximeter that sits on your finger and measures blood oxygen levels at home.”

The introduction of virtual wards in England, some of which were trialled by NHS trusts during the covid pandemic, was mandated by central government last year, with the long-term aim of 50 virtual “beds” per 100,000 people – the West Midlands currently has an average of 14.

These are not a replacement for staff as the number of employees is the same, such as community nurses who visit people at home and nurses who conduct video calls to check up on patients and answer queries.



These boxes – known as ‘DORIS’ – are used to monitor the daily routines of vulnerable or elderly people in their own homes and have proved a lifesaver in the past

The need for them seems even greater in the current climate as daily headlines scream of an NHS in crisis and bed shortages reaching dangerous levels due to healthy patients being unable to leave hospital because of a lack of social care in the community.

While the virtual wards may seem like a win for all parties, there are some cons to them, one of which is the perception

that people are receiving second-rate care by not physically being in a hospital, alongside issues relating to connectivity in the home and also how comfortable patients are with using modern gadgets.

Jayne Rooke is also a health and care sector lead with WM5G.

She said virtual wards should be viewed as an extension of the care you would receive in hospital but as an enhanced version.

“You are still getting the benefits of all the amazing care you would receive in a hospital without the hassle of actually being there with all of the interruptions and other things going on,” she said.

“Hospitals are very busy and not great places to be. You can still get all the oversight from doctors but in a much more comfortable setting, either at home or in a care home.”

From left: John Vesey and Jayne Rooke, both health and care sector leads at WM5G, and Adrian Smith, head of digital transformation at NHS Arden & GEM CSU

Adrian Smith is head of digital transformation at NHS Arden & GEM CSU, which predominantly covers the East Midlands, and has been working alongside WM5G on the rollout of the virtual wards.

He added: “There are three really simple pros to this. The obvious one is discharging people from hospital earlier, patients do not continue to be exposed to other diseases while in hospital and at home you recover faster.

“There is plenty of evidence that if you are in your home environment with people around you, you will recover more quickly. That said, if you are in hospital and something else goes wrong then it can be tackled immediately.”

Virtual wards appear to be here to stay but are they the answer to the bed-blocking crisis?

Ms Rooke said they were part of the solution but not the only solution.

“NHS trusts had to set them up really quickly without all the usual planning so a lot of what we’re doing now is reviewing how they are faring.

“We have been talking to lots of NHS staff and they now understand this is the way to go, they have to adopt these new technologies. This isn’t a trial anymore, this is the future and a new way of working.”

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