

## **Oxford Health uses Oxehealth technology to transform observations at night**

### ***Leading trust uses clinically validated digital technology to enable nurses to carry out vital checks on patients with mental health conditions, without disturbing sleep***

Oxford Health NHS Foundation Trust has introduced a new observation protocol for checking the safety of patients with severe mental health conditions at night, after a formal evaluation of technology from Oxehealth.

The change means nurses no longer have to disturb patients up to four times an hour at night if they are being cared for in one of the rooms equipped with the Oxehealth Digital Care Assistant (DCA™), which uses an optical sensor to detect movement, pulse and breathing rate.

In a change to long-standing national practice, nurses on the Vaughan Thomas Ward, a male acute inpatient ward at the Warneford Hospital, now use the DCA in some rooms to observe movement and measure vital signs. Nurses conduct observations more quickly but no less safely, while patients get a better night's sleep and benefit from more privacy and dignity during their stay.

Vanessa Odlin, Oxford Health's joint service director for Oxfordshire, BaNES, Swindon and Wiltshire mental health, said: "We have used nursing observations in mental health care for a long time, and we have always had to see patients in person. Now we do not have to do that.

"The experience of people involved in this project has been absolutely, astoundingly positive. Patients have recognised that this is about getting a better night's sleep and not having nurses disturb them at night by coming into their room or looking through a vision panel in the door.

"Nurses have seen this as a way to improve their relationship with patients and their experience of the ward. The project has also shown staff that problems can be solved. We can be innovative and use technology to deliver real benefits for patients."

Oxford Health started working with Oxehealth after Dr Alvaro Barrera, consultant psychiatrist at the trust, led a study on the importance of sleep to recovery on Vaughan Thomas ward in 2016, backed by the Health Foundation.

With support from the National Institute for Health Research (NIHR) Oxford Health BRC and NIHR CLAHRC, towards the middle of 2018, the trust installed the DCA in its higher acuity corridor (six of the eighteen patient bedrooms) on Vaughan Thomas ward. The rooms were chosen because they are used by the most severely unwell patients who may need to be observed every 15 minutes. After careful evaluation, the new observation protocol was introduced in February 2019 and a service improvement evaluation was carried out to study its impact.

The evaluation revealed that staff can confirm patient safety without disturbing or waking resting patients at night. Between February and April 2019, more than 5,000 observations were taken over 300 patient nights using the new protocol. An in-depth evaluation of 52 observations taken over six patient nights confirmed that the observations taken with support of the DCA were just as safe as those taken without it; and there have been no incidents related to the system.

Professor John Geddes, director of research and development at the trust and head of department of psychiatry for Oxford University, said: "The findings show that introducing the modified protocol essentially removes the need for staff to routinely wake patients to check they are safe. It greatly improves patients' experience at night."

Additionally, a survey found that 86% of patients questioned felt their privacy had improved at night, and 100% said they “felt safer” and “sleep better”.

Carol Gee, the modern matron on Vaughan Thomas ward, said: “We engaged with the nursing team, patients and their families before the sensors were installed. We emphasised that they were not about replacing nursing judgement, but about giving patients a better night’s sleep and enhancing their privacy and dignity.

“Using this technology definitely feels like a step forward. The DCA is not intrusive, and it has had a significant impact on patient care, which is what we are all working to improve. It lets people have a restful night’s sleep, while letting us carry out physical and mental health checks in a more compassionate way.”

Dr Alvaro Barrera, consultant psychiatrist on Vaughan Thomas ward and Oxford University honorary senior clinical lecturer, who is the lead researcher on the project, said: “This system is a real innovation in mental health; while you constantly see developments in physical care a change like this just hasn’t been seen in years. The sensors act as a valuable tool to improve patient experience and also free up nurses for other tasks, so they can dedicate more time to patients who need more intensive care.”

Further work will be undertaken on this finding and on the clinical impact of the DCA. Oxford Health is hoping to extend the DCA to the rest of Vaughan Thomas ward and is looking at expanding its reach to other wards within the trust.

Hugh Lloyd-Jukes, chief executive of Oxehealth, said: “The project has shown that introducing Oxehealth’s Digital Care Assistant improves patients’ experience, saves valuable staff time, and generates vital, previously unavailable data. Many other trusts are already moving in the same direction, with 19% of all the mental health trusts in England choosing to support their brilliant staff with these unique clinically validated digital teammates. We look forward to working with them to deliver similar benefits to their staff and patients.”

## Ends

### Notes

**1 Whitepaper:** *A good night’s sleep: a new standard for night observations in mental health hospitals.* By: Oxford Health NHS Foundation Trust with support from Oxehealth.  
<https://www.oxehealth.com/site-media/oxfordhealth-whitepaper>

2 NIHR Oxford Health BRC stands for the National Institute for Health Research Oxford Health Biomedical Research Centre.

3 NIHR CLAHRC stands for the National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care.

4 The service improvement project is also a part of the Global Digital Exemplar work conducted at Oxford Health NHS Foundation Trust. In 2017, Oxford Health was one of just seven NHS trusts delivering mental healthcare to be named a Global Digital Exemplar for its innovative use of technology to care for people who use mental health services. The DCA is just one of the projects currently under this remit.

### **Oxford Health NHS Foundation Trust**

Oxford Health NHS Foundation Trust (OHFT) provides physical, mental health and social care for people of all ages across Oxfordshire, Buckinghamshire, Swindon, Wiltshire, Bath and North East Somerset. Our services are delivered at community bases, hospitals, clinics and people’s homes. We focus on delivering care as close to home as possible.

As a leading teaching, training and research trust, we have close links to Oxford and Oxford Brookes, Buckinghamshire, Reading and Bath universities. We are part of the Oxford Academic Health Science Centre, working closely with our university colleagues to translate their findings into clinical care as quickly as possible, enabling people using our services to benefit from the latest advances in healthcare.

We host the NIHR Oxford Health Biomedical Research Centre with Oxford University and aim to bring the best science to the complex problems of mental disorders and dementia. We also host the Collaboration for Leadership in Applied Health Research and Care (CLAHRC) Oxford; a partnership between universities, healthcare commissioners and providers, charities and industry targeting health and social care problems in Oxfordshire and the Thames Valley. [www.oxfordhealth.nhs.uk](http://www.oxfordhealth.nhs.uk)

### **About Oxehealth**

Oxehealth was founded by the head of engineering at Oxford University, Professor Lionel Tarassenko in 2012. Since then, it has become a UK tech success story, with financial backing from IP Group Plc and Ora Capital, two major investment trusts committed to supporting UK science for the long-term.

Oxehealth's Digital Care Assistant products are already used by 10 mental health trusts (19% of all the mental health trusts in England), four care home chains in the UK and Sweden and two police forces.

Oxehealth's software solutions act as an assistant for staff when they cannot be present in a room, or do not want to disturb an individual. They enable optical sensors to alert clinicians, carers and carers to high-risk activity, take spot vital sign measurements and review activity & sleep reports. This helps staff to improve the care of the elderly and vulnerable by reducing injuries and enabling staff to spend more time on hands-on care.

A case study has been published about Oxehealth's work at Manor Hospital, part of Coventry and Warwickshire Partnership NHS Foundation Trust, where falls are a major risk. Staff report that the Digital Care Assistant has "become the sixth member of our team on the night shift."

### **About Oxehealth's vital signs measurement software**

Oxehealth uses proprietary signal processing and computer vision to process optical sensor data to measure pulse rate and breathing rate and is intended for the non-invasive spot measurement of these vital signs. It is a Class II(a) medical device in Europe.

It is a fixed-installation device for use within single occupancy rooms covered by a framework that mandates periodic checks by a trained professional to ensure subject safety. See device Instructions for Use for intended use, contraindications, warnings, cautions, usage directions and maintenance.

For further information visit: <https://www.oxehealth.com/> <https://twitter.com/Oxehealth>  
<https://www.linkedin.com/company/Oxehealth/>

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