Are you thinking about expanding virtual wards in your ICS?

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The expansion of virtual wards has been made a key priority for the NHS over the next two years, with significant funding to support their implementation and expansion. However, if this is going to become an increasingly important part of care delivery, are the NHS equipped to navigate such unknown territory?

This white paper aims to detail the current landscape and to share insights into the reality of delivering and scaling virtual wards across ICSs.

By sharing best practice we hope to support the NHS in achieving the national targets set out in the 2022/23 Priorities & Operational Planning Guidance and provide a clearer picture of the best route to take.

What is a tech-enabled virtual ward?

Traditional virtual wards have been used in the NHS for many years with nurses phoning or visiting patients physically to capture clinical readings. A tech-enabled virtual ward is a safe and efficient alternative that uses technological solutions to greatly expand the scope of the ward whilst also allowing clinicians to monitor more patients with a greater degree of accuracy through a much larger data set. They support patients who would otherwise be in hospital to receive acute care, monitoring and treatment in the comfort of their own home. This includes both preventing avoidable admissions into hospital and supporting early discharge from hospital (NHS England & Improvement 2022a).

NHSX published guidance at the end of 2021 that highlighted the need for virtual wards to be technology-enabled; maximising the opportunity they offer for patients, carers and staff. Tech-enabled refers to the management of patients via a digital platform where patients measure agreed vital signs and enter data into a mobile app or website. Patients may also wear devices that continuously monitor and report vital signs (NHSX 2021).

The current landscape

Amanda Pritchard announced in the 2022/23 'Priorities & operational planning guidance' that all integrated care systems (ICSs) are required to extend or introduce virtual wards. They have been tasked with delivering capacity equivalent to 40-50 virtual ward beds per 100,000 population by December 2023. Thereby creating additional bed capacity as a result of efficient and productive use of resources and management of patients.

The virtual ward services should be developed across systems and provider collaboratives, as opposed to individual institutions. The virtual ward model should create synergy by linking up secondary, community and primary care services as well as forming partnerships with the independent sector. It will be the initial test of ICSs, as they are formed, to deliver a new multi-agency approach to provide care for people in their own homes or place of residence. (NHS England & Improvement 2022a).

£200 million of funding is available from the Service Development Fund (SDF) in 2022/23, which is the major contribution to setting up and developing

virtual wards. A further contribution of £250 million is available in 2023/24 on a match funded basis, with no recurrent national funding available in 2024/25. Therefore, it is vital that organisations ensure virtual wards are built into long term strategies and expenditure plans (NHS England & Improvement 2022b).

What does the literature say?

There is growing evidence that virtual wards deliver patient, system and public benefits, along with wide-spread clinical support (Vindrola-Padros et al. 2021).

Feedback from patients is overwhelmingly positive and data suggests that virtual wards support improved patient choice and personalised care, allowing patients to be treated comfortably at home (Nunan et al. 2020). Virtual wards deployed during the COVID-19 pandemic have demonstrated the ease and speed with which they can be set up (Thornton 2020).

NHS England & NHS Improvement analysis from hospital admission data demonstrates that a virtual ward of 50 beds can deliver the equivalent of 31 additional secondary care beds through an improved utilisation of hospital staff. Importantly, these results depend on the management of admission to, and discharge from, the virtual ward against clear

Figure 1. Length of stay for the two virtual ward models (KSS Insights, 2022)

criteria. Admission avoidance models can have the potential to provide greater benefits in regards to the amount of bed days saved versus early discharge (NHS England & Improvement 2022b).

A recent study by KSS, funded by the NHSX National Innovation Collaborative, has looked into how a traditional virtual ward model compares with a new tech-enabled virtual ward provided by Doccla. The report found that the average length of stay (LOS) was reduced by 47% and that nurses were able to monitor more patients when using the Doccla solution (Figure 1). Patient compliance for the tech-virtual ward was also at an impressive 98.9%. In terms of health economic outcomes, there was a 3:1 impact cost ratio. Meaning that for every £1 invested in tech-enabled virtual wards, a return of £3.10 can be expected when compared to the traditional model (KSS Insights 2022).

The challenges

The biggest challenge facing the expansion of virtual wards is staffing pressures within the NHS. It has been reported that NHS hospitals, mental health services and community providers have shortages of nearly 94,000 FTE. Of which 39,000 are in nursing - that is 1 in 10 posts (Figure 2).

Figure 2. Staff shortages within the NHS (The King's Fund, 2022)

When virtual wards are first introduced to a healthcare organisation, it is tantamount to creating two parallel structures: one monitoring patients on the physical wards and another monitoring the patients remotely via a clinical dashboard. This is the reality when virtual wards are in their infancy and patient throughput is low, as you are unable to achieve the improved patient-to-nurse ratio that remote patient monitoring can provide when scaled.

Secondly, the clinical monitoring aspect is only one part of delivering a virtual ward. There is a significant amount of work required to check patient compliance (i.e. are the patients submitting readings?), onboarding/offboarding patients, device logistics and integrations with electronic health records.

NHS EI also anticipates a need to fund extra workforce and this is reflected in the supporting guidance published in April (NHS England & Improvement 2022b). They expect approximately

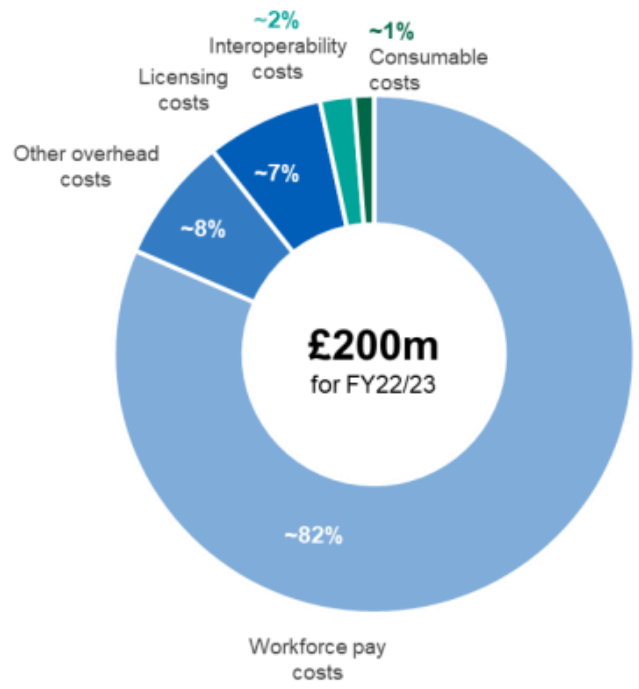

Figure 3. Indicative breakdown of virtual wards costs (NHS EI, 2022)

82% of the funding to be used on staffing in the areas of clinical, operational, administrative, and programme delivery (Figure 3).

There are a number of stakeholders, both clinical and non-clinical, within healthcare organisations that can be a limiting factor in the success of virtual wards. Although the initial guidance is for respiratory and frailty pathways, the reality is that there are many clinical pathways already set up across the UK. The clinical team responsible for discharging respiratory patients will be different from the pre/post-op orthopaedic surgery teams and it therefore requires a significant amount of work to achieve buy-in from all the parties involved. Without it clinicians will be reluctant to discharge patients onto the virtual ward and it will be challenging to achieve the patient numbers expected.

Starting small and identifying a clinical champion for each pathway is key to successful implementation. An effective clinical lead will drive engagement and overcome systematic inertia that would otherwise impede progress. A non-clinical champion is also vital to ensure administrative efficiency and expediency. The work required to bring a virtual ward from conception to deployment should not be underestimated. Particularly the volume of tasks related to data protection, clinical safety, information governance, drafting of SOPs, and clinician training that need completing before a single patient can be onboarded.

Patient compliance is a challenge for not only the healthcare provider but also the supplier of virtual wards. It is one of the best measures of how efficient a virtual ward service is and a clear indicator of patient engagement. You could have overcome all the challenges highlighted previously, spent lots of money on high-tech remote monitoring devices, but if the patient's readings are not being captured then the whole project will fail.

Picking the right supplier

Remote patient monitoring is not a new development within healthcare, with a few suppliers having been around for over a decade. However, COVID-19 saw the rapid expansion in this space, leading to further research and pilot schemes launching across the UK. This has resulted in a crowded market, with suppliers offering different approaches and vying for limited opportunities across the NHS.

A recent study that explored COVID-19 remote patient monitoring services found huge variance in services across England, particularly on who leads

the service (community/secondary), type of monitoring (tech-enabled or traditional) and patient throughput (Nuffield Trust 2021).

Clearly there are considerable differences in how services are delivered by suppliers. These differences may influence the success of a virtual ward and can pose challenges when trying to meet the NHS's expansion ambitions.

Clinical Capacity

One of the biggest challenges in scaling virtual wards is the availability of nursing staff to monitor patients. To address this, certain suppliers have extended their virtual ward services to include the

Figure 4. CQC monitors, regulated and inspects healthcare organisations (CQC, 2016)

provision of nursing capacity, by becoming registered with the CQC (figure 4). This means virtual wards can be implemented far more effectively, and with fewer resource constraints, since a supplier's clinicians can staff the wards-in full or in part- on a healthcare organisation's behalf.

Compliance Monitoring & Support

All the leading device technology and ergonomic software is wasted if patients don't engage with the service. However, ensuring patient compliance is not a clinical task and should not burden an already overstretched healthcare workforce. A supplier should be chosen that offers an extensive service layer; including monitoring patient compliance and providing patients with support to ensure clinicians have access to patient data when they need it.

In addition, some suppliers utilise language interpretation and translation services to better communicate with patients. This is vital to ensure equality of access to the service.

Integration with Electronic Health Records (EHR)

Along with the expansion of virtual wards, the NHS have also made interoperability a top priority. Priorities & operational planning guidance 2022/23 states 'a digital, interoperable and connected health and care system is a key enabler of delivering more effective, integrated care'. It is therefore vital that all data can flow between the chosen systems within ICSs and specifically that a virtual ward's patient readings are automatically written onto their EHR.

NEWS2

Recent guidance by the NHS (NHS England & Improvement 2022c) suggested 'must have' requirements for successful delivery of a technology virtual ward platform. The primary need being the ability to capture multiple readings and deliver a National Early Warning Score (NEWS)2. This is a tool developed by the Royal College of Physicians that improves the detection and response to clinical deterioration in adult patients and is a key component in monitoring patient safety and improving outcomes (NHS 2017). As a result any virtual ward solution has to be able to monitor continuously or use a hybrid model (continuous and intermittent). The standard measurements are: respiration rate, oxygen saturation, blood pressure, pulse, consciousness and temperature.

Device flexibility

Technology is ever evolving and what appears to be a leading device one year can quickly be out-of-date the following year. Therefore suppliers should have an open approach that allows new devices to be

readily integrated. The decision on what devices are required for a specific pathway must be clinician lead and a scenario where the supplier is trying to sell a bundled set of predetermined products should be avoided.

End-end service

Finding a supplier that can take care of all non-clinical tasks and leave the clinicians to get on with the critical work of caring for the patients can add significant value. Much time goes into the implementation stages when setting up a virtual ward and having a supplier that will actively work with you on all the information governance, clinical safety and data protection documentation is of real benefit. Secondly, having direct support when patients are being onboarded, checking they are comfortable with the software/devices not only has a real impact on the patient experience but also improves compliance levels.

Proven track record

Understanding how successful a virtual ward provider has been when implementing their solution across current/previous clients is very important. Suppliers should be proactive in providing both clinical and non-clinical references from their clients to support their claims. Also, verified data in the form of case studies across different clinical pathways should be readily available.

Conclusion

In the coming years the NHS is likely to experience mounting pressures to reduce costs in tandem with a greater strain on services that are already stretched thin. The data shows that virtual wards can enable early discharge and reduce unnecessary admissions to meet the demands of both primary and secondary providers and alleviate the demand for care. Virtual wards are proven to be very safe, have high patient and staff satisfaction, and health economic analysis demonstrates that they provide significant financial benefits.

Procuring virtual wards across many healthcare systems and creating synergy between primary, community and secondary care is a real challenge. It will require crucial research into the clinical needs and what solutions each supplier can offer - as they can vary considerably.

The key areas to focus on when appraising virtual solutions have been highlighted in this white paper with the intention of aiding in the procurement process and helping healthcare organisations to meet the NHS's ambitions over the coming years.

If you would like to learn more about virtual wards or have any questions about this article and its subjects, please visit www.doccla.com or email alex@doccla.com.

References:

CQC. 2016. “Using CQC's promotional graphics: A guide for registered providers if you are rated good or outstanding.” Care Quality Commission. https://www.cqc.org.uk/sites/default/files/CQC_Brand_Toolkit_Guidelines.pdf.

The King's Fund. 2022. “NHS workforce: our position.” The King's Fund. https://www.kingsfund.org.uk/projects/positions/nhs-workforce.

The King's Fund. 2022. “NHS workforce: our position.” The King's Fund. https://www.kingsfund.org.uk/projects/positions/nhs-workforce.

KSS Insights. 2022. “Northamptonshire Virtual Wards: Rapid Evaluation.” FutureNHS. https://future.nhs.uk/system/login?nextURL=%2Fconnect%2Eti%2FInnovationCollaborative%2Fview%3FobjectId%3D32532400.

NHS England. 2022. “2022/23 priorities and operational planning guidance.” NHS England. https://www.england.nhs.uk/wp-content/uploads/2022/02/20211223-B1160-2022-23-priorities-and-operational-planning-guidance-v3.2.pdf.

NHS England & Improvement. 2022b. “Supporting information: Virtual ward including Hospital at Home.” NHS England. https://www.england.nhs.uk/wp-content/uploads/2021/12/B1478-supporting-guidance-virtual-ward-including-hospital-at-home-march-2022-update.pdf.

NHS England & Improvement. 2022c. “Technology-enabled virtual ward Guidance on selecting and procuring a technology platform.” (B1383 edition), March 21, 2022c.

NHS England & Improvement. 2022a. “Supporting information for ICS leads: Enablers for success: virtual wards including hospital at home.” NHS England. https://www.england.nhs.uk/wp-content/uploads/2022/04/B1382_supporting-information-for-integrated-care-system-leads_enablers-for-success_virtual-wards-including-hos.pdf.

NHSX. 2021. “A guide to setting up technology-enabled virtual wards.” NHSX. https://www.nhsx.nhs.uk/key-tools-and-info/a-guide-to-setting-up-technology-enabled-virtual-wards/.

Nuffield Trust. 2021. “Evaluation of remote monitoring models during the Covid-19 pandemic in the UK: overview and Phase 2.” The Nuffield Trust. https://www.nuffieldtrust.org.uk/project/evaluation-of-covid-oximetry-at-home-models-during-the-covid-19-pandemic-in-the-uk-overview-and-phase-2.

Nunan, J., D. Clarke, A. Malakouti, D. Tannetta, A. Calthrop, XH Xu, NB Chan, R. Khalil, W. Li, and A. Walden. 2020. “Triage Into the Community for COVID-19 (TICC-19) Patients Pathway - Service evaluation of the virtual monitoring of patients with COVID pneumonia.” *Acute Med* 19, no. 4 (November): 183-191. 33215171.

Thornton, Jacqui. 2020. “The “virtual wards” supporting patients with covid-19 in the community.” *BMJ* 369, no. 2119 (June): 1-2. https://doi.org/10.1136/bmj.m2119.

Vindrola-Padros, Cecilia, Kelly E. Singh, Manbinder S. Sidhu, Theo Georghiou, Chris Sherlaw-Johnson, and Sonila M. Tomini. 2021. “Remote home monitoring (virtual wards) for confirmed or suspected COVID-19 patients: a rapid systematic review.” *eClinicalMedicine* 37, no. 100965 (June): 1-8. https://doi.org/10.1016/j.eclinm.2021.100965.