



Pioneering Patient Care: Clinical Networks and Digital Health Solutions

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IMPROVING integrated healthcare across the country with the aid of digital innovation was a focus of the 9th annual Global Innovation and New Technology (GIANT) Health Event, which featured the UK National Integrated Care System (ICS) Congress, held on December 7th 2022 in London, UK. A session chaired by Debashish Das, St Bartholomew's Hospital, Barts Health NHS Trust, London, UK, detailed the deployment of a virtual ward platform for patients awaiting elective cardiac surgery across seven cardiac surgery centres and one tertiary advanced cardiology centre in London. This session provided hope for the future of digital health solutions in healthcare.

IDENTIFYING THE PROBLEM

Alongside the immediate impact that the COVID-19 pandemic had on patients and healthcare systems, it also highlighted challenges with healthcare protocols. A significant residual impact is the backlog in waiting lists for elective surgical procedures. This, in turn, has resulted in increased wait times for patients, posing the risk of patient deterioration in the community. In addition, the disparity in equitable access to services was exacerbated by the pandemic.

Das and colleagues discussed the aftermath of the pandemic on elective cardiac surgery in London. Martin Yates, Cardiothoracic Surgeon at St Bartholomew's Hospital, discussed how service provision to this cohort of patients was limited throughout the COVID-19 pandemic due to reduced capacity and limited intensive care beds. The session spotlighted that amongst the North and South London Cardiac Networks, post-pandemic increased wait times for elective cardiac surgery, plus the increasingly evident disparity in access, were a

cause for concern. This, coupled with the lack of touchpoints patients have whilst awaiting surgery, prompted the network to consider alternative digital health solutions to ensure safety by remotely monitoring patients. They also concluded that moving forward, access to services should be based on priority of clinical need, rather than geographical location.

THE SOLUTION

Virtual wards and remote digital monitoring provide a solution to this problem, enabling healthcare professionals to remotely monitor patients; increase the number of patient touchpoints; and provide a platform for giving patients information about their condition, upcoming procedures, or post-procedure advice.

Gary McCallister, Chief Technology Officer, NHS London, UK, discussed how clinical networks provide a roadway to working towards disease- or pathway-specific service provision. McCallister further commented that, unlike electronic patient records, digital health

GIANT 2022



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solutions such as virtual ward platforms are configurable, and can be tailored to specific conditions.

Whilst considering virtual ward platforms as an option to tackle the concerns regarding elective wait lists for cardiac surgery, McCallister highlighted that platforms used for remote monitoring need to be secure and open, with accessible data that can be used for crucial research.

Yates delivered an overview of the pioneering work that took place over the previous 18 months to procure and roll out a virtual ward platform for patients awaiting elective cardiac surgery in London. The procurement process involved reviewing digital monitoring tools to ascertain which platform would best serve patients and healthcare professionals. The Ortus iHealth virtual

ward platform, developed by Das, was selected and rolled out across each of the centres. This formulated a unified operating protocol, ensuring that all patients awaiting elective cardiac surgery could be safely monitored in an outpatient capacity, and importantly had equitable access to care.

WHAT ARE THE CONCERNS WHEN IMPLEMENTING VIRTUAL WARD PLATFORMS?

Yates highlighted concerns regarding usability for patients and the exclusion of certain subgroups within the patient cohort. To minimise this, work was done prior to rollout to ensure patients would be adequately supported in using the platform. The impact is reflected in the high activation rates and engagement the network has seen with the platform.

Workload is a vital consideration, given the difficulties experienced by many healthcare systems at present. Das commented: "A digital front door is a new front door for patients to come through," and, as such, demand on a service will increase. Das spoke on the importance of complete buy-

in and strong clinical leadership as requirements for implementation of such systems, especially when it impacts the volume of work to staff. Cathy Walters, Transformation Lead, Heart, Lung and Critical Care Clinical Group, Guy's & St Thomas' NHS Foundation Trust, London, UK, discussed the impact of virtual ward platforms on staff workload, reflecting that this was the biggest challenge to plan for when strategising roll-out.

Walters further explained how one of the solutions to a potential uncontrolled influx of workload was to utilise a feature of the platform itself. By channelling patient responses and messages to come in on certain days of the week, healthcare professionals have been able to schedule time for 'clinics' dedicated to triaging and responding to messages and flags on the system. Yates added that they performed real-time analyses of the workload as it came in and, whilst it has added to the workload, it is anticipated that over time this will be reduced by streamlining other pathways further.

WHAT ARE THE BENEFITS OF VIRTUAL WARD PLATFORMS?

In addition to the obvious benefits, virtual ward platforms provide in terms of remote outpatient monitoring through input of vital sign recordings. These platforms offer a communication stream between patients and healthcare professionals that has not been available before, as historically, patients had limited contact with their secondary care team between decision for elective surgery and the surgery itself.

Yates highlighted how patients often experience difficulty in accessing the right person in the right team at the time they need to. Virtual ward platforms provide this line of communication, as patients can not only receive information from their healthcare professional, but can also send messages to ask for advice or express concerns. This ensures that the appropriate teams are aware when patients are deteriorating, and provides an opportunity to reprioritise surgery lists and intervene earlier, ultimately benefitting patients and improving outcomes. It also acts



as an interface for patients to be more informed about their condition, and offers reassurance that they can contact the appropriate team in a timely manner. Walters commented: "Patients are telling us that they really like being able to communicate with clinical teams in a way that they just haven't been able to [before]," highlighting the positive effect of this open communication stream.

Since deployment, the platform has had a greater than 75% activation rate, showing that patients are engaging. Moreover, Yates discussed that through the input of vital signs and review of weekly symptom questionnaires patients receive, the virtual ward platform has successfully flagged and identified patients deteriorating in the community, who have subsequently had their surgery expedited. This spotlights an example of how effective outpatient monitoring can be with the right leadership, the right technology, and a collaborative approach to healthcare.

McCallister added that leveraging the benefits and lessons learned from the procurement process presented in the session could help with developing services for other pathway-specific conditions in different therapeutic areas. This poignant point leads into ways in which virtual ward platforms and other digital health solutions can be implemented to improve other aspects of healthcare.

FUTURE VISIONS

In the concluding question and answer segment, Yates detailed how, thus far, patients have been able to receive

treatment in their own trust; however, if the need arose, co-ordinating access across other trusts would be feasible with the new uniform operating protocols used by each centre in the network.

McCallister commented that improvement in sharing digital success stories within the organisation is needed. Given that the use of virtual wards could potentially provide solutions to hospital bed crises, because they could be used not only to facilitate pathway-specific illness coordination, but also safe early discharge, freeing up important inpatient hospital beds. A focus on sharing knowledge of effective technology and strategies may be a key factor in aiding overwhelmed hospitals, and could also improve patient experience.

To conclude, implementing digital health solutions, such as remote monitoring and virtual wards, can be successful in ensuring patient safety, appropriately prioritising care based on clinical need, and ensuring equitable access to healthcare services, if performed in the right setting with total buy-in, strong clinical leadership, and a robust platform that meets the need of both patients and healthcare providers. The setting to employ these strategies, as highlighted by Das and McCallister, is chronic, long-term conditions and early discharge. This can help to achieve earlier intervention for patients deteriorating in the community, provide a mechanism for sharing disease-specific information, preventing admissions, and prioritising patients on waiting lists based on clinical need. ●

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