Getting tech right: 'High acuity nurses should only need to do things once'

Kelly Calvert, chief nursing information officer for North Tees and Hartlepool NHS Foundation Trust, explains why supporting efficient workflows is essential in the deployment of medical devices, especially for busy nurses.

'No-one else has asked for that'. Technology suppliers sometimes say this to me when I tell them what I need.

But before I ask busy nurses and other clinicians to use new technologies in the hospital, I need to ensure it isn't going to create unnecessary work and that it will save staff time. Technology must be deployed in ways so that it helps staff as they deliver safe and effective patient care.

Suppliers must also understand workflow requirements, so we can collaboratively push the boundaries of what their products do. I'm glad to say that there are partners in the medical technology community that do actively support this.

A high-acuity medical device project

At one time, NHS organisations might not have fully considered the intricacies of different workflows across various parts of a busy hospital, when purchasing medical devices. This is evident by some of the siloed legacy devices that still exist today.

Trusts might have been more content if a device feeds into their electronic patient record. And whilst interoperability of data between devices and clinical systems is certainly important, for me, that alone isn't enough to make our device set-up efficient for staff.

We need to make it easy and efficient both to capture data on devices, and to make that data available.

A series of recent projects covering a number of our high-acuity areas illustrate this in practice.

A pandemic push

It started in RSU, a purpose-built respiratory support unit which was opened at the start of the Covid-19 pandemic to allow nurses to care for respiratory patients.

We deployed bedside patient monitoring devices into the unit to capture vital signs and worked with the device supplier Mindray to allow teams to view data acquired from all the devices on big central screens, where clinical teams have easy visibility if someone starts to deteriorate.

Prior to this, though we had deployed similar devices on general wards that integrated with early warning charts on our EPR, our high acuity areas largely relied on paper to carry out observations.

In a very short space of time, this had started to change. RSU staff could capture electronic observations directly from the patient monitor and view it in real time on a Central Monitoring System or CMS.

Going further – so that nurses do things once

This initial work led to further conversations with Mindray. A willingness to listen and to do things differently from both sides, is now allowing us to get even more out of the technology, for nurses.

In RSU, devices have been configured so that nurses are only required to enter information in one place. Typically, the patient monitoring device has a standard set of menu options. But for

respiratory observations we needed to capture additional information – such as whether the patient is on non-invasive ventilation, the oxygen level, and other specific information.

The ventilators we use aren't capable of sharing this information. But I didn't want to put nurses in a position where they would capture a standard set of vital signs observations on the patient monitor, only to then find themselves running around to find a tablet or separate mobile device, in order to enter another set of information on ventilation.

Working with Mindray, new menu options were created on the patient monitor, so that all this information: their blood pressure, heart rate, sats, consciousness level, the patient's pain score and other bespoke departmental measurements, could be entered by nurses in one place.

All of that information is then transmitted directly from the device into our electronic patient record.

The approach to deployment is proving important for our nurses; it means you are doing the job once.

Beyond RSU – to the emergency department and intensive therapy unit

Learnings are now being translated to other high-acuity areas, with similar approaches to efficient workflows in our emergency department and intensive therapy unit.

The emergency department will be the next to benefit from central monitoring, and from a tailored approach to capturing standard four-hourly observations and continuous observations on the same patient monitoring device, which we first developed for RSU.

Our Mindray high acuity patient monitors are typically set up for patients who require continuous observations. But by working with Mindray, we have now enabled a situation where standard four-hourly observations can also be entered into the same device.

And in ITU, the patient monitoring devices will be configured so that staff are alerted by the device with an event, if blood pressure drops for example. Nurses can comment on the event and write notes into the monitoring device. This is quite revolutionary and helps to keep patients safe.

For patients being stepped down from ITU to a ward, and therefore from more detailed continuous observations to four-hourly observations, relevant National Early Warning Score parameters will be automatically extracted for the early warning chart. This means that people on the ward can see a complete observations history, relevant for the care they are providing.

Both continuous observations flow sheets and early warning charts will be automatically updated in the EPR, removing a process for the nurse. We are also removing data entry risks, as a result of reduced manual data entry, and with nurses being required to log into monitoring devices. Patients will also be scanned into the device before observations are taken, ensuring data is stored for the right person.

The human side of nursing

Work here is a significant step forward from nurses having to write down scores or enter data manually into the EPR.

None of this replaces the human side of nursing. One to one contact with patients and being able to spot what we call the 'soft signs', which can tell a nurse something isn't right, remain crucial.

But at a time of pressure, our approach to technology is about freeing up nurses' time, so they can spend more time with each patient.

We want to make things quicker, easier and simpler. Nurses are telling me that this is already making a difference.