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How Aintree achieved digital switchover for patient records

Aintree University hospital trust has reduced *C. difficile* infections by 69% and improved patient satisfaction by 20% in just 18 months, after modernising its approach to patient record keeping and information sharing.

The trust worked with one of its technology suppliers, System C, to develop a new patient record keeping system and business intelligence platform that has changed the way staff across capture information on everything from admissions to prescriptions, and provides them with live access to patient data.

“Ultimately we are working towards having full EPR (electronic patient record), but we’re some way short of that,” says Ward Priestman, Aintree’s director of informatics. “But what we have done is provided a consistent way of treating patient information across the trust, and put in place processes so that staff can see information about any patient, in virtual real-time.”

Aintree has replaced dozens of paper-based and manual processes with a single, electronic application that can be used to record details of a patient’s entire journey through the hospital – from admissions to treatment plans, prescriptions, ordering tests, and checking results.



Replacing paper systems with computerised records drives efficiency but also hugely improves patient safety and care, says Jill Byrne, the trust’s director of nursing. “Previously a doctor might have written instructions for pain management but if the handwriting isn’t legible, or if there’s ambiguity in the instruction, then the patient is at risk.”

The new system prompts staff to enter information at every stage of the patient’s journey, and requires them to provide complete information. If a doctor has written a prescription, the system will query inappropriate dosages or clashes, giving nursing staff confidence when they are administering.

The hospital is now redesigning many of its wards to support the new way of working, and provide staff with access to the required technology to use the new processes. For example, wards with eight bed bays are being rearranged with fewer beds to make space for more computers on each ward, and the hospital is buying Cows (carts on wheels) that will allow staff to take the computer directly to a patient’s bedside.

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The second part of the transformation at Aintree is how patient information is now being shared with staff, patients and the public. This has included the purchase of interactive whiteboards, used around the hospital, with each ward using one in place of the old bed management pen and ink whiteboards.

The computerised whiteboards display a patient's name, admission and discharge date, but will also automatically update to flag important information to staff. "For example, we see a purple dot next to every patient who is still waiting for a VTE (venous thromboembolism) risk assessment, and that helps

ensure those are done promptly. Or we might see alerts if a patient is vulnerable, or has specific allergies," explains Byrne.

Some interactive whiteboards are displayed in public areas, allowing patients and their families to see simple charts and information relating to patient satisfaction, safety and infection. "It gives people confidence that when they come on the ward, they can see how we are performing," says Byrne. "It's also very motivating for staff, because they can be very competitive about it."

Increased business intelligence

This type of information sharing is made possible by a new business intelligence application, also jointly developed by the trust with System C. The ABI (Aintree Business Intelligence) platform pulls information entered by hospital staff and analyses it in real-time. Crucially, though, the information can be used and presented in very user-friendly ways.

For example, the trust's nursing team uses ABI to create digital dashboards for each ward that show, at a glance, how the ward is performing against multiple clinical and non-clinical targets including infections, falls, risk

incidents, staff absence and patient experience. If there is a problem with data, that area of the dashboard will flash red, allowing the nursing management team to address this.

"It may be that there's an increase in risk because we have a lot of vulnerable patients on a ward, combined with staff absence, and we can see that very easily with ABI. That means we may be able to offer more support to that ward, or more training, if that's what is required," says Byrne.

Ultimately, computerisation is only a small part of the story, says Priestman: "The technology is very useful but the biggest challenge is definitely change management and getting staff to change the way they approach patients and record information."

The trust has worked with Edge Hill University to develop a series of online training modules designed specifically to help staff understand the new IT systems, and also in aspects of patient care and safety. This training is a crucial part of the overall drive to improve safety, says Priestman. "We're dealing with users who may not have particularly good IT skills to begin with, and who are nervous of using electronic systems. We also have junior doctors arriving who, unless they've had prior training, arrive here unable to do anything useful on the ward."

While training has been time consuming, it does help staff to understand the changes being made. "Once people are confident, their view changes completely," says Priestman. "We had one nurse who wanted a demotion because she was so nervous of using the new systems on the ward, but now she wouldn't switch back for anything, because this allows our staff to do what they most want to do – spend more time with the patient."

by Sally Whittle, Guardian Professional