The Leeds Teaching Hospitals NHS Trust
Leeds Teaching Hospitals NHS Trust is one of the largest and busiest acute hospital trusts in the UK. It is a major employer in the Leeds region with more than 17,000 staff, and as well as supporting the health and well-being of the community it also plays a leading role in research, education and innovation.

The Trust is one of the most prominent teaching hospitals in Europe, a regional and national centre for specialist treatment, a world-renowned biomedical research facility, a leading clinical trials research unit, and also the local hospital for the Leeds community.

**Starting Point – Improve product inventory and patient traceability**

Leeds Teaching Hospitals was one of six demonstrator sites in the UK selected by the Department of Health and Social Care under its Scan4Safety programme. The initial aim for these sites was to demonstrate the benefits of GS1 and PEPPOL standards to enable more efficient eProcurement and Supply Chain practices, using point of care data capture technologies. By changing their workflows and adopting these standards, the Trusts aimed to improve in four key areas:

- **Patient** – improving safety and care;
- **Product** – everything recorded, everything accounted for;
- **Place** – everything trackable, everything traceable;
- **Process** – simplifying processes, releasing time to care.

Leeds Teaching Hospitals NHS Trust started its programme with an initial focus on improving its procurement, supply chain and inventory processes. Using the existing inventory management system, the Trust worked closely with theatre staff to start capturing the details of products that were implanted into the patient at the point of care using dedicated mobile scanners. Following a successful deployment, the Trust ran a series of tests that showed that in the Ophthalmology department alone, the nursing time involved in a product recall using the old system could be over eight hours. By comparison, the inventory time using the new system was just 35 minutes. In terms of cost this is a difference between a minimum of £173 previously and a maximum of £9 using the new system. Having proven the standards and technology, the Trust wanted to align its own inventory management practices with the efficiencies of the retail model and not just for products, but for patients, too.
Vision – Expand ability to scan and capture data across all points of care

The organisation was already using an inventory management solution which included a limited ability to scan barcodes on products, patient wristbands and locations. However, this was running alongside very basic methods of tracking inventory, including handwritten notes. It became clear very quickly that if, under the Scan4Safety programme, the Trust was to capture data across all points of care including medical machinery and equipment and procedural information, this would require a readily available barcode scanning application and technology.

Solution – Enhance electronic patient record with barcode scanning

Another solution already being used by Leeds Teaching Hospitals NHS Trust was the internally developed PPM+, an electronic patient record which captures all details about a patient’s care, replacing traditional paper notes. A decision was taken to integrate a fit-for-purpose scanning solution together with PPM+, and after looking at a variety of software options, the Scandit Barcode Scanner SDK was selected. The Scandit solution is a software-based scanner that leverages the computing power of mobile phones and other smart devices. In addition to being very easy to deploy and use, it delivers extremely high barcode scanning speeds and accuracy. For Leeds NHS Trust, this means that the staff can scan patient wristbands, their assigned bed, and any clinics or operating theatres they are taken to, and the information is updated in real-time to the electronic whiteboard at the nurses’ station for an accurate patient picture. Given that mobile barcode scanning is a relatively new concept compared with the use of dedicated barcode scanners, it was important for the Trust to test the efficiency of the scanning solution, particularly looking at the ease of use and functionality. To do this, the Trust launched a pilot scheme on one of its breast care wards.

About Scandit

Scandit helps business users and consumers to augment the physical world with relevant digital information in real-time through not just barcodes, but images and other visual identifiers. These are captured with smart devices, including smartphone, wearables, drones and robots. Scandit’s platform is built on proprietary computer vision, machine learning and augmented reality. It is used across the world to help companies gain greater insights into their processes and workflows, so they can make more efficient decisions, support their employees to be more effective, lower their costs and benefit their customers and clients.

The Results – Efficient, quick scanning is a win-win for clinicians and nurses

The pilot scheme ran on six mobile devices and because nursing staff were able to carry out an increasing number of scans to capture vital patient, product and location data, they gave very positive feedback. Four weeks after it kicked off, Leeds Teaching Hospitals NHS Trust was convinced that the Scandit-enabled app would provide the efficiency and reliability it needed. One of the features that most impressed was the speed and accuracy with which scanning could be done, which was important in ensuring that busy nurses would incorporate it as part of their patient care routine. The Trust is now planning to use PPM+ including Scandit across all wards for its barcode scanning needs and is working closely with Scandit to incorporate location tracking through GLN (Global Location Number) barcodes, which will make it the first Trust in the Scan4Safety programme to take this step.

“Scan4Safety is a fantastic way of tracking patient movement during their admission and hospital stay. It enables us to have information at a quick glance as to where the patient is at any time. This is useful for planning our work and also assists us with enquiries from relatives. It is very quick and easy to use, and I look forward to seeing how it develops in the future with hopefully more great functions included,” said Jo Robinson, Junior Sister, Breast Unit, Leeds Teaching Hospitals NHS Trust.

Scan4Safety will allow us 24/7 tracking of our patients to allow our endoscopy, radiology and theatre teams to be as efficient as possible. It allows our clinicians to manage their patients more closely and safely, including possible contribution to reduction of never events. Being able to perform patient/product recalls at the touch of a button, with greater reassurance of completeness is a tremendous facility. Reducing unnecessary waste by reducing unnecessary stock, eliminating out of date stock and being able to be open and challenging about unwarranted clinical variation is essential for an efficient hospital of the future. Scan4Safety is a real addition to good clinical practice.

Dr David Berridge
Deputy Chief Medical Officer

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