



Healthcare providers

Leeds Teaching Hospitals deploy Zebra printers and GS1 standards for positive patient identification

Leeds Teaching Hospitals NHS Trust (LTHT) wanted to adopt barcode technology to use with its patient identification systems to improve patient safety and to comply with GS1 standards as part of the NHS Scan4Safety programme. As part of the implementation, LTHT explored and assessed various technologies, ultimately selecting Zebra Technologies (Zebra) as the most appropriate technology and implementation partner. Results seen have been comprehensive, including cost savings related to both the hardware and ongoing purchase of wristbands, as well as an improved patient experience from the use of more comfortable Z-Band UltraSoft wristbands. The overall percentage of ongoing calls received by LTHT about wristband printer issues has been monitored and has decreased since the deployment of the Zebra solution.

By Vicki Dodsworth, Mark Songhurst and Wayne Miller



About Scan4Safety and LTHT

The Scan4Safety programme was launched in 2016 and is currently being piloted at six demonstrator sites across the UK. These hospitals are using GS1 standards to trace NHS patients and their treatments, manage medical supplies and monitor the effectiveness of equipment. This is enabling staff to quickly and easily track each patient through his/her hospital journey and to enhance the quality of care they can provide. The hospitals are also reducing unnecessary waste and more effectively managing medical stocks. Early results from the six demonstrator sites show that Scan4Safety has the potential to save lives.

Furthermore, it can save up to £1 billion for the NHS over seven years. Zebra has a varying range of solutions deployed in every one of these six demonstrator sites to assist with the implementation of GS1 standards.

One of the demonstrator sites is Leeds Teaching Hospitals NHS Trust, one of the largest trusts in the UK and one of the largest teaching hospitals in Europe. LTHT provides world-class care to the population of Leeds and surrounding areas. It is also the provider of the largest number of regional and national specialist commissioned services in the UK. The trust has approximately 2,000 beds across eight hospitals. The two main hospitals are the Leeds General Infirmary and St James' University Hospital with over 17,000 staff, delivering regional specialist care for up to 5.4 million people.

The positive patient identification challenge

The Department of Health and Social Care (formerly called the Department of Health) has mandated that every service and product procured by an NHS acute trust in England must be GS1 compliant by 2019. GS1 has established standards for identifying, capturing and sharing information, about products, assets, services, people and locations. The goal is to achieve improved patient safety, regulatory compliance and operational efficiencies.

With this in mind, LTHT decided to trial solutions and hardware for positive patient identification (PPID), selecting Zebra Technologies' HC100 printer and Z-Band Ultrasoft Wristbands as the solution to enable the needed positive patient identification throughout the trust.

Programmes were created to take feeds from the LTHT Patient Administration System (PAS) and Accident and Emergency System to reformat patients' wristbands to comply with GS1 standards. Today, this ensures the wristbands are printed with the patient's NHS number, hospital number, name, date of birth and two barcodes—one GS1 linear barcode and a 2D GS1 DataMatrix barcode—for GS1 compliance.

Results: PPID for all patients

The GS1 DataMatrix barcode printed on the patient wristband is scanned at various points of care in the hospital, for example, upon entering an operating theatre or the radiology department. The information encoded in the barcode and captured with each scan allows for the accurate tracking of the patient throughout the journey of care. The use of this data also helps caregivers verify that the right patient is receiving the right treatment and the right procedures.

Following the successful implementation of the new solution, LTHT collaborated with its integration partner, Dakota Healthcare, to enable neonatal and infant wristbands to be

GS1 compliant. The solution incorporated the provision of the wristband printer hardware along with a customised programme to take a feed from the trust's PAS and reformat the data into a compliant wristband layout to meet Information Standards Board (ISB) standards.

As Zebra's Premier Solution Partner in healthcare, Dakota worked closely with the trust and Zebra to provide a fully compliant solution with the trust's iPM PAS System and include a 2D GS1 DataMatrix barcode for ease of scanning to successfully verify patient identification.

Similarly, LTHT has created links with its accident and emergency systems to enable wristbands to be printed for all patients entering the hospitals. The result of this effort is that all patients entering LTHT requiring a wristband will be given a GS1-compliant wristband, enabling PPID, regardless of the route of their admissions.

“ The key to the success of Scan4Safety has been the interaction with our suppliers and technology providers. Working with the market, we have been able to achieve change in a very limited timeline.”

Mark Songhurst, Information Analyst, Leeds Teaching Hospitals NHS Trust

In addition, feedback from users (staff and patients) about the PPID process and technologies has been very positive. This includes the ease of using the wristband printers, comfort of the wristbands, and readability and resistance of the printed data to hand sanitisers.

LTHT is compliant with the Scan4Safety programme with regard to PPID. The trust now produces over 250,000 barcoded wristbands every year, helping to ensure the safety of every patient within its facility.

Read more about Leeds Teaching Hospitals on [page 46](#).

About the Authors



Vicki Dodsworth qualified as a Registered Nurse in 1992 from Leeds Western Health Authority, specialising in Cardio Thoracic Nursing, also gaining experience in Cardiology, Coronary Care and Cardiovascular Research. Following this Vicki spent 10 years working for a Medical Device

manufacturer as a Clinical Advisor / Product Specialist with a particular focus on Intravenous Therapy products. Vicki returned to Leeds in 2010 in the role of Lead Clinical Procurement Specialist within the Supplies and Procurement Department. Today, Vicki is responsible for reviewing the range of medical and surgical supplies and equipment in use and identifying, sampling, trialling and evaluating new and alternative products to ensure and support best practice and value for money, which does not compromise patient care or clinical outcomes and supports patient safety.



Mark Songhurst has been working in the NHS for 18 years, most recently on helping successfully deliver the Scan4Safety programme in the organisation. Having worked for the last 13 years in the Internal Audit department, he has an understanding of governance and process that is

being used to enhance the work undertaken at Leeds. Mark is also an NHS Future-Focused Finance Value Maker and a School of Health and Care Radicals Change Agent. He has a real passion for working with people and understanding how people collaborate across the NHS to make changes that will have a lasting impact on the service provided to patients. His infectious willingness to accept change and try something new is helping drive the Scan4Safety programme forward at Leeds.



Wayne Miller is the lead for Healthcare solutions for Zebra Technologies and works to directly improve patient care, supporting partners and end users by delivering the latest mobile, cloud and IoT solutions that assist hospitals and healthcare organisations to deliver

efficiencies and improve patient care and outcomes. Wayne has worked for Zebra Technologies for 18 years and has a true passion for healthcare, technology and innovation.

About Leeds Teaching Hospitals NHS Trust

Leeds Teaching Hospitals NHS Trust is one of the largest 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 the local hospital for the Leeds community. With a budget in excess of £1 billion, the Trust provides local and specialist services for a population of 770,000 and regional specialist care for up to 5.4 million people, maintaining an international reputation for excellence in specialist care, research and medical training.

www.leedsth.nhs.uk

About Zebra Technologies

Zebra healthcare technology solutions connect medical providers to patient records, caregivers to colleagues and patients to practitioners for better care. Zebra offers a full suite of technologies designed specifically for the unique needs of the healthcare industry, including wristband and label printers, scanners, mobile computers and software that provides visibility and creates efficiencies throughout the care environment. Zebra is a leader in patient identity, mobility and real-time locating and tracking.

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