



Case study

Patient identification for blood transfusion

University Hospitals Coventry and Warwickshire NHS Trust



University Hospitals Coventry and Warwickshire NHS Trust (UHCW) is one of the UK's largest NHS Trusts, managing two major hospitals that care for over one million people. The Trust combines a number of key roles, serving as a district general hospital at the Hospital of St. Cross in Rugby as well as a specialist centre for Coventry and Warwickshire at University Hospital in Coventry.

The Trust was first established in 1992 and now employs over 9,500 staff. Every year, they provide more than 800,000 episodes of care to patients. University Hospital is one of the most modern healthcare sites in Europe, with over 1,000 beds and 26 operating theatres. The facility in Rugby has 110 beds and six operating theatres, including one mobile theatre.

The Trust's vision is to be a national and international leader in healthcare. Its focus is on providing and improving quality of care, while embracing innovation to provide leading-edge clinical services.

Compliance with ISB 1077 Patient Identification

As a regional major trauma centre and tertiary centre for cancer and neurosurgery, the Trust is a very high user of blood products for transfusions. The Trust implemented a blood tracking system to comply with two EU Directives (2002/98/EC and 2004/33/EC) that were transposed into UK law through the Blood Safety and Quality Regulations 2005 Act. The blood tracking system was first introduced in 2006 and was followed by a further upgrade in 2012, which included the use of patient wristbands.

In 2014 the Department of Health announced its eProcurement Strategy and a requirement of this was to adopt GS1 barcoding on the patient wristband complying with ISB 1077 Patient Identification standard, while also complying with existing EU regulations. At this time, the Trust found that its existing blood tracking system was not compliant with the ISB 1077 standard.

“The giving of ABO incompatible blood is classified as a ‘never event’. With the introduction of the GS1 DataMatrix wristband and blood transfusion personal digital assistants, patients have reported feeling reassured when we scan their wristband and then scan the bag of blood. They know that if there is any error with either the blood or the wristband the error will be detected. This is a crucial step in reducing risk with blood transfusion.”

Janine Beddow, Modern Matron for Blood Transfusion, University Hospitals Coventry and Warwickshire NHS Trust

Upgrading the blood tracking system using GS1 standards for patient identification

The Trust decided to upgrade its blood tracking system with additional functionality ensuring compliance with the ISB 1077 regulations. This meant implementing the use of 2D barcodes on patient wristbands allowing for greater positive patient identification.

The ISB 1077 standard defines how to encode the NHS approved patient identifiers for wristbands into a two dimensional barcode: the GS1 DataMatrix. This standard covers production, verification and printing rules for the barcode and uses GS1 standards for code numbering and barcoding and ISB 0099 - Patient Identifiers for Identity Bands for the required data items.

UHCW worked together with Rivendale, who have provided software solutions in the UK and Ireland since 1994. One of Rivendale's solutions is PrintAnywhere; a GS1 certified product for printing patient wristbands and other documents. It assists systems that cannot properly handle laser and inkjet printers in producing high quality documents with NHS approved barcodes. All the patient wristbands are printed on standard A4 stationery, so the solution is simple and cost-effective.

The benefits of the new system

Since the implementation of the blood tracking system, blood wastage has been reduced to 4.1% and blood stock management has been enhanced.

The implementation of the GS1 DataMatrix wristband ensures positive patient identification throughout the transfusion process, which is essential to the provision of safe and effective care to patients. Prior to implementation, compliance with patients wearing wristbands was approximately 83%. Compliance since implementation has been 100%. Additionally, the use of GS1 DataMatrix wristband scanning will in the future allow *one-nurse checking* to be introduced.

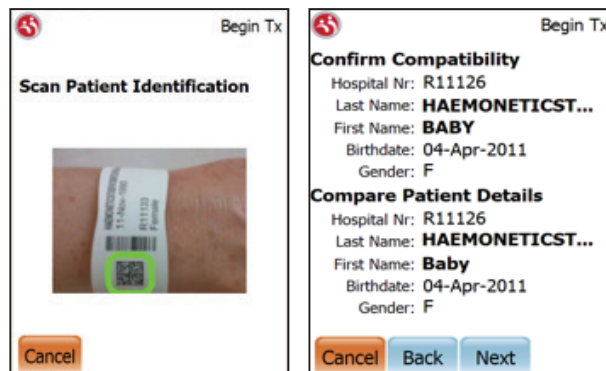
The new system is currently used by 2,800 staff across the Trust. An average of 700 blood transfusions are performed a week, all scanning the patient's wristband. Patients often want reassurance that the right blood is being given. This system provides this as it allows positive patient identification at the bedside.

Planning for the future

Encouraged by the success of the improved patient identification system, UHCW is expanding the identification solution to other areas of the organisation. The Path Collect system, an electronic system of labelling

blood sample tubes, has already been piloted by a group of phlebotomists. The next step is to implement the system and rollout to all Phlebotomists in 2016.

There are plans to scan the patient wristband to positively identify the patient for use by upgraded Electrocardiogram (ECG) machines. There is also a planned refresh of the patient observations monitoring equipment, which will make use of the barcode to positively identify the patient. The Electronic Patient Record (EPR) programme is currently in the planning stages, and compatibility with the GS1 standards for positive patient identification is a stated requirement.



The screen shots are from BloodTrack Tx™, which is part of the Haemonetics Blood Tracking System.

“Patient misidentification is increasingly recognised as a widespread problem within healthcare organisations and failure to correctly identify individuals is one of the most serious risks to patient safety. We transfuse more than 100 units of blood every day and the electronic system has improved our efficiency and standards for patient safety as it enables us to quickly verify a patient’s details and ensure they are matched to their treatment. The introduction of new technology, together with the GS1 barcoded patient wristbands, really has made a difference to our way of working.”

Richard Peacock, ICT Programme Manager,
Technology Centre, University Hospitals Coventry and Warwickshire NHS Trust

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