



Case study

Inventory management Portsmouth Hospitals NHS Trust



Portsmouth Hospitals NHS Trust's vision is to be recognised as a world-class hospital – leading the field through innovative healthcare solutions, focusing on the best outcome for patients, delivered in a safe, caring and inspiring environment.

To help achieve this, the Trust recognised the need for a good inventory management system. Knowing what stock is available at all times across the entire Trust, not only reduces waste and saves money, but is essential for improved patient care. The ultimate goal is to track all products from suppliers to the point-of-use, at patient level.

To achieve this, the Trust know they need to implement the use of GS1 standards. This means they will comply with the Department of Health's GS1 and PEPPOL adoption strategy, which mandated the use of GS1 standards for the identification of all products that are supplied to acute NHS Trusts in England. But more importantly, it will enable them to drive down costs and increase patient safety.

The problem of inefficient inventory management

Back in 2012, Jackie Pomroy, Head of Supply Chain at the Trust, recognised there was a problem with their internal and external supply chains. She started looking at how they were managed, initially looking at inventory in theatres and cardiology. What she discovered was problem after problem.

For starters, clinical staff were often informally managing inventory themselves. They would place and approve orders, not going through Jackie's department. Sometimes they even did supermarket-style sweeps through the store rooms, scooping up what they thought they needed. Of course they were doing this with the right intention: to ensure they had products available on-hand. But they were also doing it because of poor advanced planning and even poorer stock management – and their actions only made the problem worse:

“GS1 standards are a no brainer. They save data capture time, help ensure compliance, reduce cancellations due to stock issues, enable traceability and ultimately improve patient safety.”

Barrie Dekker,
Clinical Director in Theatres,
Portsmouth Hospitals NHS Trust



Queen Alexandra Hospital, Cosham

- Wastage increased – and because much of the wastage wasn't being seen, it couldn't even be properly measured
- Stock levels would sometimes be too low – below agreed minimum levels – putting patients at risk
- At other times stock levels would be far too high, causing yet more wastage
- Inventory value was often declared incorrectly – understating what was held in stock and causing budgeting and accounting discrepancies

Jackie found that knowledge of stock levels and processes was held by individuals, not systems. This all came about from poor inventory data – no one really knew what stock was held where, how much was needed, when more was arriving and so on. No single inventory management system was in place, and no formal processes or procedures were used to manage inventory across the Trust. There was little base data to start from – just the certainty from Jackie and her team that wastage was enormous. And there were cultural issues to address – end user resistance to change.

To increase the problems yet further, three hospitals within the Trust had been merged to one site – Queen Alexandra Hospital in Cosham. This put further pressures on the team, as they inherited varying processes, bad custom and practice, and even a struggle to manage with less storage space.

In cardiology for example, they needed to scan all products at the point of use – and to do this without a single, unified system would have been a thankless task. It would have been inefficient and prone to error.

The solution, a new inventory management system, uncovers more problems

So a new inventory management system was planned, starting with theatres then cardiology. But during this planning phase, a new problem emerged. Jackie's team soon discovered that products were not identified with a uniform system. As many as 13 different types of barcodes were found. Different suppliers, manufacturers and distributors often used the same codes for different products.

The challenges

- Cultural and user resistance to change
- No use of barcodes from some suppliers
- The variation of barcodes and identifiers used by other suppliers
- Barcodes on outer packaging but not inner packaging
- Poor quality and partially obscured barcodes
- Lack of data from suppliers

“We even found two different types of clinical products in the theatre store room, from two different manufacturers, that shared the same barcode and identifier,” comments Jackie. “This set alarm bells ringing. There wasn't a barcode standard applied across the NHS. This highlighted how suppliers to the healthcare market were years behind other industries.”

This made the inventory data problem even worse. Jackie, and the Trust, realised that before they could introduce a new inventory management system they would have to sort out the fundamental problem of uniquely and consistently identifying each and every product.

Tackling the underlying problems: uniform identification of places and products

In 2012 the Trust started to use GS1 standards to uniquely identify products. Many suppliers of products used in cardiology were already using GS1 standards – a GTIN (Global Trade Item Number) to uniquely identify their products. In cardiology, the majority of products used must also have batch or lot numbers, and often expiry dates. Increasingly, products must also be serialised – uniquely identifying each individual instance of the product.

Because of this complexity, Jackie contacted GS1 UK for help. Working with Jackie's team, we found out that the Trust's suppliers were frequently changing the GTIN – the number that identifies the type of product – often on a weekly basis. This caused numerous problems for ordering and inventory management. The solution was simple: to use GTINs consistently and correctly and to identify batch, lot and serial numbers with additional GS1 codes.

To do this, the suppliers needed to be educated. So the first task was to contact the top 30 key suppliers who supplied the majority of the products, asking them how their GS1 implementation programme was progressing. Where they had problems, or had not even started on an implementation programme, we helped them, through support and training.

“Between January 2014 and May 2015 the correct use of GS1 standards by these suppliers increased from 37% to 65%,” says Jackie. “Good, but of course, the target must be 100% implementation, which we will achieve in the near future.”

Encouragingly during this period, more suppliers – outside the top 30 – began to use GTINs to identify their products. The message was getting out there – driven of course by the Department of Health's eProcurement strategy that mandated the use of GS1 standards to identify all products supplied to acute NHS Trusts in England.

The first benefits in cardiology

As more and more products were identified with GTINs, the Trust was able to streamline its ordering and inventory processes. Knowing that a standard GS1 barcode would contain the GTIN, the batch, lot or serial number and the expiry date meant that the required information could be scanned and captured at the point of use – quickly and easily. An immediate benefit of this was that they could use the products with the shortest life remaining first, meaning less wastage of expired products. Also, by scanning the batch or lot numbers they could easily prevent the use of recalled products, improving efficiency and, most importantly, patient safety.

The full implementation in cardiology and theatres

The full implementation of GTINs in cardiology and theatres was undertaken as part of a new inventory management system, supplied by accredited GS1 UK Industry Partner Ingenica Solutions. Jackie's team initially had to scan each and every product into the system, to build the full product catalogue. This included both inner and outer packaging, as different GTINs are required to identify each packaging level.

Now they can receive products by simply scanning the outer packaging barcodes – pulling through all the serial, batch, lot numbers in one scan, as well as expiry dates. The individual product is only scanned at the point of use. This has resulted in inventory data being accurate – and visible to everyone across the Trust.

“We've now implemented our inventory management system across a 27 theatre complex with 40 supporting locations, cardiology, audiology and six wards to date, reducing stock by 20% and waste to less than 1%,” comments Jackie. “Clinical staff now trust our data and processes and they no longer take or order stock themselves. This is a significant and positive change.”

Benefits have also been seen in the way recalls are managed – with products easily identified and removed from use, or tracked to patients.

Sharing the knowledge



“The Southern Regional Forum was set up to promote the adoption and use of GS1 standards, share experiences and lessons learnt. We had our first meeting in 2013. The group, which now has 20 Trusts attending, is chaired by me, together with experts from GS1 UK and the MHRA (Medicines and Healthcare Products Regulatory Agency). We have shared the data we captured during our initial exploratory work with the other Trusts – to save them from repeating the exercise.”

Jackie Pomroy,
Head of Supply Chain,
South of England Procurement Services

Contracting out the benefits

The Trust's contracting team now request suppliers to provide GTINs with all other required product information at the outset of a contract – and at any point when they have negotiations with existing suppliers. This is helping



Watch Jackie demonstrating how they benefitted from GS1 standards at www.gs1uk.org/between-the-lines

the Trust to build a rich database of accurate and up-to-date information, which feeds directly into the inventory management system. All tendering documentation now states that suppliers bidding for a contract will be scored on their ability to provide evidence that they are a GS1 member, using GS1 standards and specifically, identifying their products with GTINs.

“Our processes, clean data and clear audit trail have also helped us achieve CIPS Certification (Chartered Institute for Procurement and Supply)”, says Jackie. “This wouldn’t have been achieved without the use of GS1 standards to help automate our processes and standardise our data.”

The benefits

- The return on investment was calculated as 8.5:1
- Stock was reduced by 20%
- Waste was reduced to less than 1%
- Recalls were handled quickly and more efficiently
- Inventory data was more accurate and visible across the whole Trust

Next steps – beyond theatre and cardiology

The Trust is currently scanning all products with barcodes into and out of store rooms. They are striving to get 100% of products barcoded – as the number of barcoded products increase, so does the overall efficiency.

The next step is to scan products at the point of use with all patients – and to identify all patients with wristbands using GS1 standards too. This means the Trust will be able to track all products to the patient – enabling patient level costing by measuring the specific resources used by each patient. Patient outcomes will be measured more effectively too – as the Trust can understand more about what works best for each patient.

To achieve this, the Trust has formed a cross-functional GS1 steering group, headed by the Director of Strategy and leaders from pharmacy, estates, procurement, IT, information governance, finance, clinical and HR. This will ensure a Trust-wide perspective is taken and GS1 standards are adopted in a joined-up way and to the benefit of all departments.

GLNs will be implemented across the Trust, and the estate’s department has started its procurement process for a GS1 compliant facilities management system to enable efficient space management. Once this is in place, a GS1 compliant asset management system will also be implemented.

Implementing the eProcurement strategy – the three core enablers

Implementing GS1 standards beyond theatre and cardiology and across the entire Trust is now part of the Trust’s strategy, in line with the Department of Health’s GS1 and PEPPOL adoption strategy. This states that Trusts should implement three ‘core enablers’:

- Identifying all locations across the Trust with GLNs
- Identifying all patients using wristbands – which use GS1 DataMatrix barcodes to encode a unique patient identifier and other required information
- Identifying all products with GTINs and using the planned national NHS product catalogue

Benefitting the NHS

The Trust is fully supporting the eProcurement strategy. As Jackie says: “Full adoption of GS1 standards across the NHS will enable us to increase patient safety, take cost out of the supply chain and provide patient level costing.”

“Furthermore, adoption of GS1 standards will also enable organisations like the MHRA to have access to information that can improve incident reporting, better targeting of recalls, reduce medical errors and help in fighting against counterfeit devices.”

Importantly, the Trust sees benefits for suppliers too. Jackie says: “The adoption of common global standards by all NHS providers and their suppliers – throughout internal and external supply chains – will create efficiency and quality benefits for all parties.”

“GS1 standards are a no-brainer. They save data capture time, help ensure compliance, reduce cancellations due to stock issues, enable traceability and ultimately improve patient safety” says Barrie Dekker, Clinical Director in Theatres, Portsmouth Hospitals NHS Trust.

Contact us

GS1 UK

T +44 (0)20 7092 3500 | E support@gs1uk.org

Service Team (Freefone) 0808 178 8799

www.gs1uk.org

Connect with us



GS1 UK is a company limited by guarantee and registered in England and Wales under company number 1256140.

Registered office Staple Court, 11 Staple Inn Buildings, London, WC1V 7QH. VAT number GB287940215.