Scanning for efficiency and safety

Leeds Teaching Hospitals NHS Trust's approach to the implementation of the Scan4Safety eprocurement system

The NHS Improvement/HFMA *NHS efficiency map* is designed to help NHS provider organisations to deliver their savings plans. One way is by sharing experience and good practice.

This case study covers the use of scanning (of products, places and patients) to improve efficiency and safety. It initially arose from a procurement strategy, but has now gone wider than that, addressing the wider NHS issue of having information readily available to make the right decisions.

In 2014 the National eProcurement Strategy mandated that the NHS should use two key standards by 2020. One is GS1 (Global Standards 1), which provides unique numbers for barcodes – now used for almost everything we buy, but there are other uses too. The other is PEPPOL (Pan-European Public Procurement On-Line), which enables electronic communication between businesses, government and public bodies. Both these standards improve supply chain processes.

It soon became clear that the strategy would not be implemented successfully across the NHS unless it could first be shown to work at a few trial sites.

Six trial trusts were chosen, one of them being Leeds Teaching Hospitals NHS Trust. This case study describes

the approach taken by the trust.

Leeds Teaching Hospitals NHS Trust is a large and complex organisation, offering a very wide range of services – from primary up to specialist – across seven sites. It has income of about £1.2bn a year and employs more than 17,500 staff.

Anything that works in an organisation as large and complex as this one ought to work anywhere.

Programme and workstreams

The programme has six workstreams. Three of these can be described as core enablers, each using a GS1 standard, as follows:

- Products, using GTINs (Global Trade Item Numbers)
- Places, using GLNs (Global Location Numbers)
- Patients, using GSRNs (Global Service Relation Numbers) – these

can also be used to identify the person giving the care.

The other three workstreams are primary uses as required in the procurement strategy:

- Inventory management
- The purchase-to-pay process
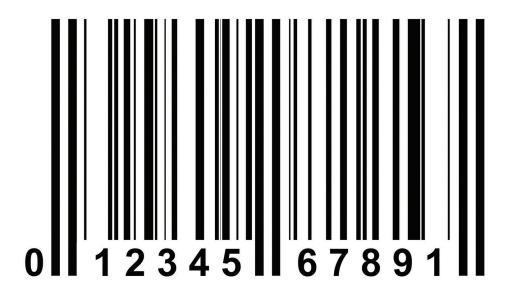- Product safety recall.

Each of these workstreams has challenges. For instance, the coding of products involves cataloguing hundreds of thousands of products from thousands of suppliers. The coding of location has to cover around 25,000 physical locations, as well as some functional ones. The coding of patients (with barcoded wristbands) has to cover patients of varying ages and degrees of illness, admitted in several different ways.

Inventory management is also very complicated, as there are 20 key locations, each requiring hardware, data set-up and staff training before the system could be implemented.

Implementation

The trust started with the advantage of having had experience in eprocurement for many years. It was therefore able to place people with the right experience in charge of each workstream.

The overall project leader, and leaders for four of the workstreams, came from

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the trust's procurement department. The others came from informatics and internal audit, which meant that all programme leads were part of the overall finance directorate.

Project nurses were appointed to support clinical engagement, and local inventory managers to provide hands-on support.

Any trial site meets unexpected problems: that is part of the purpose of the trial. The problems were often overcome by trial and error – for instance, trying various forms of plaques for locations. The trust set up a national group to address PEPPOL adoption.

Internally, it set up Cooperative Operations Groups (COGs) for each deployment, each one led by the local inventory manager and clinical lead.

Changes to practice in the NHS require clinicians to be involved at the outset, and keen to see the project succeed. The trust's chief medical officer was the project sponsor. Before implementation began, a Scan4Safety overview was provided to the senior clinical leadership. Then there was closer engagement with theatre teams.

Although there is a framework for implementation, the detail was developed separately for each implementation. Scan4Safety has shown that it makes better use of clinical time, because the technology provides reliable information much more quickly. This was a great help in ensuring the continuing enthusiasm of clinicians.

Outcomes and savings

These are the key outcomes, with savings where applicable:

- More than 100,000 more items are now catalogued using GTINs. This has improved efficiency and safety in theatres, as a quick scan makes it clear whether you have the right product.
- Estates management is much more straightforward now that every location has a unique GLN. The relevant codes are provided to suppliers, making it easier for them to deliver to the right location.
- All inpatients have a barcoded wristband, enabling consistent tracking within the hospitals. This can be linked to the other codes: GTINs showing what was used and GLNs showing where.
- The most important two-thirds of the 20 relevant areas now use Scan4Safety inventory management. This gave a one-off reduction in inventory values of £0.8m, with some small further savings later, and further ongoing savings of £0.4m by reducing wastage and obsolescence.
- The trust's work on PEPPOL led to a centralised strategic plan for the NHS and a how-to guide for other trusts.
- It is now easy to link episodes of care to other systems. This has helped greatly with product safety recall: products can now be found in minutes, saving clinical staff time. This is still an ongoing development, and the trust expects further benefits.

The future

Once it was clear that the project was proving to be a success, the Leeds trust began to share its knowledge with other trusts, sharing many case studies, running demonstration events for local trusts and taking part in workshops in England and internationally. It is now driving the Scan4Safety programme across West Yorkshire.

The staff involved in implementation were mainly regular employees, who will stay in post, with their existing jobs adapted to Scan4Safety principles.

Where senior roles such as inventory managers were created, they will continue. They can be funded from existing clinical budgets as a result of the efficiency gains now generated. Some of the other staff involved in implementation can be released when it is completed.

On an ongoing basis Scan4Safety is already more or less self-financing, and yet the full benefits are still to be realised. Procurement processes are improved, stock control is better, and some areas of patient care have been made safer.

Yet the benefits of standardisation can go further than that, with more reliable clinical and management information rapidly available. Once all systems speak the same language, patterns start to emerge, and ways of working can be improved in ways which previously could hardly be imagined. ○

• Leeds Teaching Hospitals NHS Trust was shortlisted in the 2017 HFMA Innovation Award for its Scan4Safety initiative

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