

Inventory Management System helps QAH rationalise theatre supplies

Government demands for public services to maximise value and reduce waste means inventory management has an important role to play in the financial operating efficiency of NHS Trusts that store thousands of items at any given time. Paul Curran takes stock of how Queen Alexandra Hospital (QAH) in Portsmouth is dealing with the challenge.

The difficulties of managing stock

Since its establishment in 1904 as a military hospital, QAH has undergone many changes, culminating in a recent redevelopment programme to create state-of-the-art facilities. Opened in 2009, this showcase hospital provides a range of acute and specialist services to over half a million patients a year.

Under the redevelopment plans, all stores within the new hospital were due to be centralised in a smaller area of the site. With one store already bulging at the seams, staff were understandably concerned there would be insufficient space within which to accommodate the anticipated increase in stock.

Solent Supplies Team, the purchasing arm of Portsmouth Hospitals NHS Trust, initially considered off-site storage as a solution to these problems and invited Microsoft partner Smart Use to propose a suitable warehouse management system. "We immediately suggested that remote warehousing might not be the most cost-effective solution long-term and, as part of an initial review in July 2009, proposed looking instead at ways of managing stock more efficiently," says Managing Director, Nicola Hall.

The need for a major overhaul

QAH's existing theatre storage area contained many low-value, high turnover items, says Hall. "Each day, clinical staff would visit the stores and pick what they needed, leaving stores staff to re-count everything afterwards and work out what to re-order.

"We calculated that the equivalent of two employees' time was being taken up by clinical staff simply gathering supplies. In short, stock management was rather unsatisfactory, both financially and from an efficiency perspective. Since cost control and efficiency are essential in the Trust's drive to maximise the quality of patient care, a rethink was therefore called for. From a strategic standpoint, Solent Supplies Team needed a system that would enable it to:

- Control remote bulk storage and have the ability to top up locally
- Reduce overall stockholding and any wastage throughout the supply chain
- Create efficiencies through better use of staff time in materials handling
- Enable cost analysis by business unit
- Provide data to suppliers to enable better supply arrangements

Monitor supplier performance

"Our initial review gave Solent Supplies Team and our project team a clearer understanding of the materials management, procurement processes and issues relating to QAH's theatre supplies," says Hall. "This supported our proposal to trial an inventory system based on Microsoft Dynamics ERP technology. High on our list of objectives for this trial was to validate the potential ROI and a demonstrable payback through space and storage savings, stock level optimisation, requisitioning cost reduction and increased efficiency in supply chain management."

The introduction of new procedures

As a first step, Smart Use recommended the introduction of a 'pick and pack' process, whereby clinical staff submit daily orders, leaving the stores team to gather the required supplies via wireless enabled mobile devices,

then deliver them to the theatres. "As a result, we managed to reduce stock by 35-38% in the first eight months and look set to achieve an overall targeted reduction of 61% on the starting levels.

"Having got this phase up and running successfully, we next turned our attention to the orthopaedic stores area where stocks of high value implantable devices were being managed using spreadsheets. We quickly discovered that there was more inventory on the shelves than was thought and recommended that the trial of our proposed system be extended to cover all areas of the theatres."

Hall says the procedures currently being trialled have not only alleviated the theatres' space problem, but also improved service and saved clinicians precious time sourcing supplies. "What's more, by creating interfaces to the existing procurement, catalogue and financial systems, we've eliminated the need for stores staff to repeatedly key in orders," she says. "The system also suggests appropriate levels of Inventory based on activity levels at any given time and suggests re-order points, enabling stores staff to send automatic requisitions to NHS Supply Chain or SBS Oracle procurement system as appropriate."

Benefits all round

Hall views inventory control as core to the supply chain. "By exploiting the manufacturing elements of Microsoft's Dynamics ERP platform and by engaging Materials Management Planning (MRP) techniques, we're able to look holistically at inventory management as part of a demand-led system. For example, rather than simply looking at historical re-ordering points, where appropriate, QAH will now be able to forecast the demand for clinical supplies and other resources well in advance, based on its bookings for elective surgery."

Whilst the Smart Use system is still undergoing a pilot rollout and therefore not yet in full use, Hall says the trial has already enabled QAH to identify many benefits including:

- A clear policy for stock management and significant efficiencies in clinical time
- Reduction in wastage and any clinical risk of out-of-date stock
- Efficiencies due to e-enablement of repeat ordering
- Cost-effective distribution of data via the Web to a large number of staff who need to find items
- Ease of getting to data - the system fits with other familiar Microsoft programs like Excel and Word
- A management tool to reallocate stock to other parts of the hospital that need it
- Promotion of central purchasing to ensure accurate stock holding
- Less manual intervention for products which don't need it

"The trial has highlighted significant recurring time-savings across the theatre complex," says Hall. "Moreover, QAH is well on its way to having a store that's never over-stocked, and a more efficient system that enables supply chain staff to locate items more easily and service more theatres. As individuals, they've also undergone a significant change of process and grown with it in terms of increasing their skill sets."

Meeting longer term aims

Hall believes inventory control brings enormous benefits within the supply chain. "As well as identifying significant potential savings for QAH across its theatre stores estate, the trial system is enabling Solent Supplies Team to monitor supplier performance and how long it takes them to deliver on a product by product basis, rather than relying on the knowledge in employees' heads.

"The Government suggests that hospitals should focus on what they do best. Inventory management helps them to optimise financial performance by combining patient-level costing, service line reporting and changes in tariffs, all of which lead to a better understanding of which services are profitable and which aren't.

"And whilst the focus of our initial report and subsequent trials has been on issues specific to QAH, we anticipate that the ongoing implementation of the system will also prove its use in meeting the wider aims of Solent Supplies Team and Portsmouth Hospitals NHS Trust."

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