With the imminent publication of Sir Ian Carruthers’ procurement strategy, the efficiency savings which could be realised if trusts improve performance in this area will once again receive significant attention. Less commonly discussed, however, is what happens to stock post-procurement. Is it always managed effectively? Is it always ordered in the right quantities to avoid waste or shortages? Is it always used before it expires?

For many organisations, the answers to these questions will be no. Procurement may gain many of the headlines but inventory management is often just as big an issue – and often offers a similar potential for cost and efficiency savings.

Ask Kenton Madge why trusts have not grasped this, why they still struggle with effective inventory management, and he takes a moment to think. “Why do healthcare trusts still struggle with it? That’s a very good question,” he reflects. “I really see it coming down to the fact that it’s

Savings from better management of items after they have been bought are often overlooked. By Claire Read

At Stanley Healthcare, safety, security and efficiency are more than just words. Together they represent our mission. We provide a comprehensive suite of solutions to help transform safety, security and operational efficiency. Our portfolio ranges from patient and staff security and protection to supply chain and asset management, patient safety, environmental monitoring, and optimisation of clinical operations and workflow.

Our solutions reach across departments to optimise and monitor assets, supplies, patients, staff and other resources. Stanley Healthcare offers asset management, inventory management and storage solutions to increase staff productivity, reduce inventory and eliminate waste from expired products. We offer a wide variety of storage solutions such as cabinets, racks, trolleys and RFID automated cabinets. We combine smart storage solutions and software to link supplies to physicians, patients, and procedures. Solutions can be customised for different areas of the hospital, maximising usable space and driving efficiency of care.

Stanley Healthcare has a strong heritage. We are part of Fortune 250 company Stanley Black & Decker, have been working with hospitals for 100 years and have carried out more than 15,000 implementations worldwide. We developed the most comprehensive modular system which optimises the flow of supplies from central storage through to the point of use. The Health Technical Memorandum 71 (HTM 71) as published by NHS Estates is based on Stanley Healthcare’s Scan Modul products, introduced in 1972. The system is being continually refined in close cooperation with users, so that our customers benefit from a constantly evolving, innovative range of highly customisable products.

Our inventory management solutions can save hospitals millions of pounds annually through optimised inventory levels and higher caregiver efficiency – 8 to 10 per cent of items expire annually and over 40 per cent of nurses report spending up to an hour per shift searching for equipment.

Using Stanley Healthcare’s asset tracking and management, trusts optimise high value assets such as infusion pumps, specialty beds and crash carts. This solution automates the manual processes most hospitals have for managing and maintaining equipment. In this way, equipment utilisation is increased, while operational and capital expenses are reduced. Tonny Pedersen is senior marketing manager Europe at Stanley Healthcare www.stanleyhealthcare.com
no one’s responsibility. You have strong procurement – everyone’s got a procurement department – but procurement’s specialty is to procure; to make sure they get the best deal for their hospital.

“But the management of that item once it’s procured and put on the shelf is left in the hands of the clinical staff in that department. Now those clinical staff didn’t go to university to learn to care for patients to then come back to a hospital and manage inventory. I don’t think that was a module on nursing courses, but that’s where it falls – it falls to the senior nurses and sisters to take responsibility for it.”

It is an issue which Mr Madge sees regularly. As commercial director for Stanley Healthcare, which offers a range of solutions in supply chain and asset management, he frequently talks to clinical staff struggling to manage inventory alongside managing patients.

“They’ve been given this job and they’ve got no tools to be able to do it,” he explains. “Some people do actually manage it quite well, but it’s taking 50 per cent of their time. You see them using spreadsheets, pen and paper, see people having to do inventory checks every month and doing stock takes.”

Keeping track of the inventory used, and that which needs to be ordered, is challenging enough in a small clinical area. But start to look at a department and the true scale of the issue becomes clear.

“We have probably somewhere in the region of over 1,600 lines active at any point in our cath labs,” explains Glen Sibbick, operational manager for cardiology at University Hospitals of Leicester Trust. “We currently run five labs, so there's a lot of turnover of that stock on a day to day basis, and no single person gets to see all the equipment being used.

“A group of nurses in one room won’t see what’s been used elsewhere – they only get a feeling for what’s being used in their room and not everybody else’s. To manually monitor those 1,600 lines is very difficult.”

Since September 2009, the cath labs at Leicester have therefore been using a software system to automate stock management. SpaceTRAX Point of Use is a web-based system which uses barcodes to precisely track stock. Items are scanned as and when they are used, at which point the software tracks that the inventory has been reduced and judges whether that article needs to be reordered.

“Every item within the system will have what’s called a par level – a par high and a par low,” explains Mr Madge. “As soon as an item hits the par low, you automatically run a reorder report and the system will tell you to reorder to the par high. So you can capture the demand for reordering that item without the need to go to the shelf, look at the items, and say I need to order two more stents, more 10ml syringes, and so on.”

The resulting efficiency benefits and financial savings can be significant: through reducing wastage, decreasing the amount of time clinical staff spend on inventory management, ensuring stock is at the right level at all times, and having detailed data on stock usage, University Hospitals of Leicester reported a 1,103 per cent return on investment within the first year of using SpaceTRAX. And the data the system generates is giving staff the information they need to identify yet more efficiency and cost savings.

“One our systems are embedded they give you very clear statistics of which items you’re using; very clear analytics to show where you’re spending your money,” explains Mr Madge. “That goes right down to patient-level data. In one simple scan of a manufacturer’s barcode, you’ve recorded an item against a procedure. So trusts can compare their tariff cost to what it’s actually costing, and see where they need to make savings.”

“We get an idea of the exact cost per case which can then feed into patient-level information and costing systems (PLICS),” reports Mr Sibbick. “So we can understand exactly where our costs are for each patient episode and, since we can see what we’re using, that gives us better bargaining power with the companies we purchase stock from.”

The benefits seen by organisations such as Leicester are such that Mr Madge argues all trusts should be looking at better inventory management as “a simple win”.

“The NHS needs to adopt, or at least open its mind to, supply chain automation,” he suggests. “It’s about taking the people out of the supply chain and automating what you can automate.

“An efficient supply chain is one that doesn’t really need that much interference from people,” he continues. “When a nurse goes to get her 10ml syringe, there should be one there. And when she later comes back for another one, there should be another one there in its place. And that should be her whole involvement in the supply chain. Because that way she gets back in front of her patient quickly to do her job – and that job is not managing inventory.”

‘Clinical staff didn’t go to university to learn to care for patients to then come back to a hospital and manage inventory’

Extra monitoring: clinical staff often look after stock as well as monitoring patients
University Hospitals of Leicester Trust

Glen Sibbick has a simple way of explaining how inventory management software has improved the situation in cardiology at University Hospitals of Leicester.

“We’re now to the point where we are managing the stock rather than the stock managing us, which is where we were at before,” says the operational manager for cardiology. “I think a lot of other centres are in a similar boat to the one we were in: you’re running around trying to manage stock, and find an item has run out.”

The department has reported significant cost and efficiency savings since introducing Stanley Healthcare’s SpaceTRAX system in September 2009. An important reason for those savings has been less wastage. Through barcodes being scanned when a product is used, SpaceTRAX precisely tracks the use of items and then recommends maximum and minimum levels. Mr Sibbick says that has removed the problem of overstocking.

“We did have a system in place previously that kept an eye on some of the stock but it wasn’t detailed enough to be able to do what SpaceTRAX can do for us now – it constantly monitors lines, looks back, and checks the frequency of us using that stock, and then suggests levels.

“We have five cath labs, and so previously the idea had been that we should have five of everything, because we needed one in every lab,” he continues. “But we can now say, well, actually, we only use this once a month or once every two months, so we don’t need to stock it in every room; we can have a central area for it or just stock it in certain rooms because we know it’s only going to be used in those rooms. You might find an item is being used particularly by one room by one particular operator but not so regularly by another operator in another room. SpaceTRAX auto-adjusts levels to reflect that.”

With computer software monitoring the situation rather than an individual, it is proving much easier to get a precise and timely picture of the labs’ inventory.

“We work on about three weeks’ supply on some of these items,” Mr Sibbick explains. “If we’ve only used one in the last three weeks, SpaceTRAX will reduce the levels whereas if we’d used 10 it would say we need to increase the levels. So it’s far more responsive than any person could be doing this manually – there’s just no way anybody would be able to respond that quickly. I think that’s probably where we’ve made a lot of the gains from; adjusting the minimum and maximum levels so we’re not holding too much or not enough.”

Certainly it is a major reason that the percentage of items expiring has fallen by 52 per cent since the introduction of SpaceTRAX. Important too is the system’s ability to record precisely when an item is due to expire. The initial scan of the barcode when an item comes into stock records expiry information, and it can be easily viewed at any future point. “Most of the products we use in the cath labs have at least a year’s shelf life, and that goes out to four or five years depending on the product. Keeping track of which ones are going out of date is very difficult,” says Mr Sibbick. “If you’ve got no way of seeing the expiry dates on products, you’re working blind all the time.

“But now that I’m able to see what stock is going out of date, we’re able to move it to areas where it’s more likely to be used, or flag it up to make sure that it is used. We also have swap out clauses in the agreements we have with providers, so if we’ve got nine months left on the product and we don’t think we’re going to use it we send it back, and they swap it out for stock that we think we will use. “It’s about us managing stock rather than the other way around.”

Skåne University Hospital

Torbjörn Harlenbäck took an interesting route to the challenges of inventory management in healthcare.

“My background was in international logistics – I’d been with DHL for more than
10 years,” he explains. “I was headhunted back in 2005 to come and see what I could do with the flow of material here at Skåne University Hospital [SUS, a two-site hospital in Sweden]. They knew they had a problem, but they weren’t sure how to solve it and it hadn’t been a prioritised question.”

The exact nature of the problem is one which Mr Harlenbäck says is common to more or less any healthcare provider.

“I’ve looked at a lot of hospitals in Sweden and in other countries as well, and the storage of items is normally as far away from the patient as it could be,” he reports. “There’s no order, they have a lot of material, too much stock and no standardisation. There’s no control whatsoever.”

Introducing that control at SUS meant introducing a new software system and moving all supply and ordering to central management. Wards are no longer responsible for judging how much stock they need and when. Instead a central department uses barcodes and SpaceTRAX software to monitor stock levels, usage, and to order more supplies as and when needed.

The stock level in a standard department has been reduced by 40 per cent: “that 40 per cent was probably thrown away when it got too old to be used, so we were throwing away a lot of money.” Notable too is that the range of articles has been reduced by 25 per cent.

“The normal thing is a department gets a new doctor who tells the staff: ‘I need this item to be able to work’. So they buy it and put it on the shelf. But what we’ve found is that a fourth of everything departments had they actually could do without,” says Mr Harlenbäck.

But the efficiency improvements go beyond those secured through better management of stock. SUS combined the introduction of the SpaceTRAX software with a complete overhaul of stock storage arrangements. Stock is now much closer to the patient, and by definition to the staff member who needs to use those items.

“Three metres from the patient we have the 30 most commonly used items: mostly clothes for the patient, linen for the beds, and so on,” explains Mr Harlenbäck. “And then not more than 20 metres away from the patient, we have main storage – in a standard department that’s about 300 articles. Then we have one other store, which is more than 30 metres away from the patient and there we store the things that are not so commonly used – clothes for very small or very large patients, for instance. That storage is normally shared between departments.”

It means that staff no longer spend time walking long distances back and forth to get hold of the items they need for their patients.

“We save 1.2 full time employees in every department by doing this,” says Mr Harlenbäck. “There was a half time employee who did nothing but unpacking stuff, putting it into storage, handling orders and so on. And the other 0.7 per cent you’re saving is everybody else – all the time they spent running around looking for things.

“So it’s very much easier for clinical staff. It makes their lives a lot less stressful: everything turns into a much calmer environment because they are not running around any more – what they need is right beside them. And if you work in one department one day and then the next day in another department, you will find your way around the storage because it’s standardised. It is a real benefit for a hospital like ours.”

Mr Harlenbäck has encouraging words for any other organisation considering improving their inventory management and addressing storage issues.

“It’s not as hard as it might seem. We implement while the departments are fully up and running – they don’t have to leave or anything like that. We kind of sneak in the system within three weeks and then they are up and running. The return on investment is very fast. We are talking about less than a year in some places.”

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