Carbon copies, facsimiles and paper invoices have traditionally been the tools used in the procurement process in NHS hospitals. The introduction of electronic commerce (e-commerce) is changing this and is enabling NHS trusts to order the stock they need more efficiently.

This article describes the installation and implementation of e-commerce systems at the Luton and Dunstable Hospital NHS Foundation Trust (L&D). It also describes some recent developments in ordering and invoicing technology and some e-commerce practices that might be used in the future. Principles are explained throughout, with the aim of making this article accessible to all pharmacists and technicians, not just those specialising in procurement.

The past

As part of the traditional procedure for drug procurement at the L&D, staff were typically expected to review an average of 500 suggested order lines each day, manually. The orders, generated by the pharmacy computer system, each required cross-referencing with usage data to produce just a handful of daily orders. An average of 7,500 orders would be generated each year, each of which would be faxed to the supplier, with a paper copy posted as confirmation. Paper invoices were received either with the goods (from wholesalers) or at a later date. They were processed manually, by staff keying in the price of each product before the invoice was passed to the finance department to be paid.

Realising that this was unlikely to be the most efficient way of working, staff at the L&D carried out a review in early 2003. This highlighted a number of problems with our procurement processes, all of which have associated workload, financial and patient care implications. The problems included:

- The provisional orders often contained many items that were not needed, and missed out others that were required
- Faxed orders were not always received by the suppliers
- Heavy carriage charges were being incurred for delivering urgent orders
- Suppliers were querying orders because poor fax printing quality made them illegible
- Incorrect goods resulting from poor quality orders led to us receiving credits that needed to be processed and goods that needed to be returned
- Drug descriptions generated by our pharmacy computer system were not consistent with the supplier’s naming format
- There was no mechanism for confirming that the full quantities of medicines ordered would be supplied
- Multiple invoices from wholesalers for a single daily order were creating extra work

Following this review, two key stages were identified where pharmacy staff could potentially improve the process — generating more accurate provisional orders from the pharmacy computer system and placing orders with suppliers electronically.

First e-commerce steps

Generating provisional orders

Before e-commerce could be initiated, we needed to generate more accurate provisional orders. At the time of the review, the pharmacy computer system had been in place for over 10 years and was not set up to achieve its full potential for order generation, and needed to be reconfigured. Order profiles, based on historical usage data for each drug, were created. These were used, together with data on supplier lead times, to generate an algorithm which was incorporated into the ordering system. This made the process more efficient and saved money, while maintaining a consistent supply of drugs to patients.

Placing orders with suppliers

Options for trading electronically (rather than by facsimile and post) between the trust and the...
and update the EAN codes and electronic supplier catalogues accurately, particularly at the time of contract changeovers. Contracts for medicines purchased by NHS hospitals can be downloaded from the NHS Purchasing and Supply Agency (NHS PASA) website ready for the start of the new contract period. However, since few pharmacy computer systems are able to upload contract data automatically, this is usually done manually. At the L&D, we have partially automated the process by exporting the contracts onto an Excel spreadsheet which contains the product EAN codes. A Windows barcode font and an Excel macro (ie. an automated set of commands) are used to produce a printed copy of the contract together with EAN codes that can be entered into the pharmacy computer system using a simple barcode reader. This speeds up data entry and reduces the risks associated with manual input.

Benefits Implementing an e-commerce system has helped us solve many of the procurement problems highlighted in our review and enabled us to improve our working relationships with wholesalers and individual suppliers with e-commerce capabilities. It has also released over 10 hours of staff time per week from the purchasing process. This has given us time to manage contracts more actively, improve stock profiling, structure savings strategies for our top-expenditure lines and keep up to date with new developments as they emerge.

Pharmacy Messaging Service

In 2003, the eGovernment Interoperability Framework (eGIF) imposed a change in electronic messaging protocols within government bodies that directly impacted on the way that PowerGate sent messages to suppliers. In response, NHS PASA and PowerGate's supplier (then called TecSol) worked on a collaborative project, developing the Pharmacy Messaging Service (PMS). Launched in late 2003, PMS allows trusts to send e-GIF-approved orders to one central exchange, which forwards them to suppliers in the required format. This replaced the more complex "one to many" trading relationships (ie. one trust to many suppliers) with a "one-to-one" relationship with the PMS exchange.

When PMS was first launched, it was mainly only wholesalers who could receive electronic orders directly from it. A number of trusts set up systems to send their orders by automated fax to suppliers who could not receive electronic orders.

Some suppliers had traditional EDI and invoicing capabilities. As the PMS evolved, a number of direct trading relationships were developed using a computer language for sending secure electronic data transactions across the internet, that does not require

Future issues

National strategies to help trusts and suppliers get the most out of the available technology and to encourage those who are not using e-commerce to do so, are also progressing. For example, a project is planned to develop a national toolkit for using both Medecator and PowerGate.

It should be noted that Medecator and PowerGate originally developed from the recognition that existing pharmacy computer systems are not enabling users to move away from paper-based purchasing systems. However, most e-commerce systems operate as external add-on modules with no mechanisms for the main pharmacy computer system to take advantage of the electronic confirmations and data sent by suppliers.

Expected short-term developments in e-commerce systems include tools to address some of the issues related to managing the supply chain. Contract management tools, internet-based supplier catalogues, high-level supply chain analysis and a “green lane” for orders with electronic goods receipt notes (enabling trusts to receive whole deliveries onto their system without having to count each line manually) have all been suggested, with a view to e-commerce systems leading the future in hospital pharmacy procurement.