Medicines management on the move

The pharmacy department at Gateshead Health NHS Foundation Trust has commissioned a number of initiatives to enhance the medicines management service to patients having surgery. Mark Thomas, Neil Gammack, Lynsey Curry, Angela Hempel, Peter Clarke and Andrea Watt describe this continual service improvement and the introduction of bedside medicines management through a mobile dispensing unit.

The surgical pharmacy team at the Queen Elizabeth Hospital in Gateshead couples a comprehensive medicines supply function with a dynamic clinical role to support a diverse range of surgical specialties. These specialties include gynaecology, obstetrics and gynaecology, trauma, orthopaedics, gastroenterology, vascular disease and urology. It has always been a challenge to meet the demands of these high turnover wards but, over the past few years, a number of ground-breaking initiatives have been implemented at our hospital to support the pharmacy team in offering an effective medicines management service.

Drivers for change included:

- Increased patient throughput from the newly built North East Surgical Centre
- Efficiency initiatives such as lean programmes
- Project proposals from pharmacy team away days
- Workload pressures (e.g. swine flu)
- Feedback from ward staff
- Patient liaison and service user surveys
- National initiatives aimed at reducing the length of hospital stay

A range of measures has been instituted over recent years to ensure a high quality, safe and effective service model. For example, pre-admissions assessment work was undertaken with the nursing team, through a hospital medicines management collaborative project, to facilitate the medicines management process for patients admitted for elective surgery. As a result, a system was developed whereby GPs provided a minimum dataset of information (including drug information) for all elective patients and patients were supplied with a green bag, in which to bring their medicines from home.

The surgical pharmacy team now also aims to assess all patients who are admitted Monday to Friday within 24 hours. As part of the assessment, the pharmacist takes an accurate medication history, reviews inpatient drug charts, and completes a medicines reconciliation process. Patients’ details, including any medicine-related issues that are pertinent to safe and effective care, are recorded on the pharmacy team’s computer database. Pharmacy technicians have also been trained to support this role.

Furthermore, in 2006, the pharmacy team, in conjunction with the nursing team, implemented a nurse-led discharge scheme. This empowers nurses to facilitate the supply of commonly prescribed medicines (e.g., antibiotics, analgesic and laxatives) to patients on discharge from hospital. This process is enabled by a range of patient group directions and trust procedures. By actively engaging the nursing staff we have been able to demonstrate a marked improvement in the efficiency of the discharge process while maintaining a high standard of patient safety.

Mobile dispensing unit

Despite the introduction of the measures mentioned above, there were still a range of restrictions and rate limiting steps within the system. Issues extend from the diverse range of patients on the surgical division — hence their broad medicines management needs — and the unpredictable nature of the medicines management workload demanded of the pharmacy team.

There was also a need to resource the team with a more patient-focused and flexible system that embraced new technology and enabled by a range of patient group directions on discharge from hospital. This process is used to generate dispensing labels. The fundamental benefit of using the MDU is that a thorough medicines management role can be fulfilled, at the patient’s bedside. By engaging in this way, the patient becomes the main focus of the pharmacy service. The MDU also affords several other benefits, such as line-of-sight dispensing and reduced discharge delays.

Line-of-sight dispensing

The MDU is fully mobile and is designed for remote dispensing at a patient’s bedside. Medicines can be dispensed from both the ward stock and the drugs stored on the MDU. Patients are fully engaged in the process and a fast dispensing service is provided while allowing counselling on medication at the point of supply. This system is also flexible enough to be used in conjunction with the nurse-led discharge process.

Efficient use of pharmacists’ time

Using pedometer readings, we have been able to demonstrate a reduction in transit time for pharmacists walking to and from wards and the pharmacy. This has supported a more patient-focused, ward-based service.

From this unit the pharmacy team can remotely access a range of hospital databases, pharmacy dispensing software and medicines information resources (see Panel, p168). Furthermore, a state-of-the-art label printer uses Bluetooth technology to link with the laptop to generate dispensing labels. The fundamental benefit of using the MDU is that a thorough medicines management role can be fulfilled, at the patient’s bedside. By engaging in this way, the patient becomes the main focus of the pharmacy service. The MDU also affords several other benefits, such as line-of-sight dispensing and reduced discharge delays.

Use of a mobile dispensing unit has engaged patients in medicines management

The authors were all part of the clinical pharmacy team at Queen Elizabeth Hospital, Gateshead at the time of writing.

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Reduced delays at point of discharge

Approximately 70 per cent of discharge prescriptions can be processed by the ward pharmacist or nursing staff at a patient's bedside dispensing point of discharge. Delays are minimised by avoiding transit to, and dispensing time in, the main pharmacy, with the dispensing component often taking only a few minutes. In addition, these measures have significantly reduced the workload through the main dispensary from the surgical wards.

Quality and safety

Due to improved access to patient databases and medicines information resources at the point of care, there is a perceived improvement in the quality and safety of the clinical service. This also enables more effective communication among team members.

Use of IT systems

The pharmacy team is resourced with the latest remote access and wireless technology. This project will dovetail with the development of full, trust-wide electronic prescribing in the near future.

Flexibility

One of the main strengths of this initiative is how the service can be tailored and adapted to the unpredictable workload demands of the surgical wards. The pharmacist can use the MDU to respond to the type of service demanded of the team on any given day.

Embracing technology

Mobile technology is the cornerstone of this advancement. Through prudent use of many of the IT resources available, the pharmacy team at Gateshead has been able to harness the potential afforded by these innovations, and proactively apply them to clinical pharmacy and medicines management roles. This has resulted in the full use of a range of original software tools that can be accessed via the MDU. From bedside dispensing and point-of-care access to key hospital databases to medicines information resources and incident reporting software, the full scope of this project is exciting.

An example of the promise of this project can be seen in some of the collaborative work between the pharmacy team and the pathology department staff. This has resulted in the development of a daily report from the pathology laboratory, which is networked to the MDU. A search engine screens for a range of abnormal results, as defined by the pharmacy team, from the laboratory computer system. This is an extremely useful tool because it allows the ward pharmacists to find patients on the ward who may have abnormal renal or liver function or electrolyte derangement, or who require therapeutic drug monitoring. We have yet to progress this screening tool into the core service parameters for the surgical pharmacy team but it has the potential to offer a reliable and efficient way of targeting patients who may require a significant level of pharmacy-led care.

Factors for consideration

As with any initiative, there is a need to ensure that the systems implemented are safe and practical. In defining what could be supplied using the MDU, the decision was made not to dispense Controlled Drugs, liquid preparations and compliance aids. Such prescriptions are clinically checked at ward level by a pharmacist and then sent to the main dispensary for dispensing.

In addition, because the MDU is stored on the ward, and not in the pharmacy, there were no security implications identified in relation to safe storage of medicines and electrical equipment. We have undertaken a risk assessment and have implemented measures to lock, secure and immobilise the unit and associated equipment when not in use. The laptops have been encrypted to prevent unauthorised access and are stored in the main pharmacy when not in use.

Furthermore, we recognise there is a danger in establishing a service solely reliant on technology. Although technology is key to the success of this project, the strength of the wider medicines management service is in the range of initiatives used to support the pharmacy team’s role and engage other frontline staff in patient care.

Developments

The combination of vision and technology

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Reference


Learning & development for February

- You conduct a medicines use review with a man in his 30s who has asthma. He mentions that he is embarrassed because he cannot lift a pint in the pub without his hands shaking. What questions do you ask and what advice do you give? Could the shake be because of his medicines or is it essential tremor? The Journal’s Learning & development pages in the next issue of Pharmacist Professional look at this condition. This CPD article will be available on PJ Online from 25 February 2010.
- Exclusive to PJ Online this month is a CPD article explaining the genetic basis of cancer and its treatments. According to its author Ismail Al-Janabi, targeted therapy is where the future lies and this article aims to give readers a foundation for increasing their knowledge of genetics and the cell cycle at a molecular level. This will help pharmacists understand the latest treatments, to advise patients and to take part in discussions with other healthcare professionals. The article is available now.
- The Journal continues to present clinical case studies from the British National Formulary and the Stockley drug interaction team but new this month is an article from the National Patient Safety Agency, based on safety reports, and focusing on the risks and harms associated with insulin use.