

Developing a decentralised patient-focused pharmacy service

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In May 2001, a new 633-bed hospital was opened at Wishaw in Lanarkshire. It was equipped with a network of nine pharmacy workstations and two aseptic facilities, designed to offer decentralised pharmacy services



The main entrance to Wishaw General Hospital, Lanarkshire

Wishaw General Hospital (WGH), Lanarkshire, is a Private Finance Initiative (PFI) hospital built to serve the population previously served by two hospitals (Law Hospital and Bellshill Maternity Hospital). During the planning and design phase, Lanarkshire Acute Hospitals NHS Trust took the opportunity to redesign service delivery around the patient. Pharmacy staff were closely involved in this process to ensure that key services were

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planned, co-ordinated and integrated, based on patients' requirements. There has been substantial modernisation of acute hospital services within Lanarkshire, and wards and departments at WGH were reconfigured to deliver patient-focused services.

In addition to the decentralised pharmacy service, another important innovation was a 36-bed emergency admissions unit, which replaced the former medical and surgical admissions wards.

Nine pharmacy workstations, each comprising medicines storage facilities, a dispensing area and computer workstations, and two aseptic facilities, had been built to serve 27 wards, 12 theatres and three critical care areas. However, there was no pharmacy

store or goods receiving area and no central pharmacy office. Moreover, there was no operational plan for the pharmacy service. At this stage, it was not possible to obtain additional pharmacy premises and it was necessary to develop a solution that would be sustainable to ensure that a guaranteed and appropriate pharmacy service could be provided.

CHALLENGES

The main challenge was to ensure that a full pharmacy service was operational from the day of opening, within the available resources (budget, staffing and premises) and without any disruption of supply to the

wards. The staffing budget was fixed and no additional resources were available, but staff were motivated by the prospect of working in a new building and worked to meet the challenge.

The pharmacy needed to provide an efficient system of medicines procurement and distribution together with appropriate clinical and medicines management services. Given that a new model of service had to be developed in order to fit in with the decentralised concept, good communication with the staff, both within the pharmacy and upon the wards, was essential. In particular, it was important to impress upon the ward staff that there was no back-up supply of products in a pharmacy store.

FINDING A SUPPLIER

Several options were considered for the supply of medicines, including supply from a neighbouring PFI hospital (Hairmyres Hospital) and Advanced Order Assembly (AOA) from a wholesaler. The absence of a pharmacy store increased the need for a reliable medicines supply system. Practical difficulties ruled out the option of a full-line supply from Hairmyres Hospital and, therefore, the AOA option was selected, with AAH as the wholesaler partner. To supplement this model, a small number of lines were sourced either directly from manufacturers or from Hairmyres Hospital. At WGH, the case was argued for a separate pharmacy goods receiving area. In response to this, a receiving bay and a lockable, alarmed room of 60m² was obtained. Additional space was required for procurement staff and this was achieved by converting one of the pharmacy workstations.

It was evident that new procurement software would be needed to support the AOA development. The significant increase in purchase order lines associated with the AOA model would require this process to be firmly based on electronic rather than manual processing.

During a two-month period before transfer to the new hospital at Wishaw, customised ward profiles were generated in-house and used in conjunction with AAH e-Mediate software to purchase the medicines required for individual wards electronically. Having proven the viability of the electronic purchasing process within e-Mediate, the next stage was to interface with the hospital pharmacy computer system.

The JAC Pharmacy Stock Control System was implemented across Lanarkshire NHS and this system offered the option of automatically converting a ward requisition into a purchase order. The flexibility of this process has enabled ward requisition items to be directed electronically to the wholesaler partner, to a manufacturer, or to Hairmyres Hospital, as necessary. Future developments of the e-Mediate/JAC inter-

Table 1: Staffing establishment (pharmacists, technicians [MTOs] and assistant technical officers [ATOs])

Pharmacists		MTOs/ATOs		
Work base	Grade	Clinical responsibilities	Position	Number
Medical				
Medical team leader	E	Medical high dependency, coronary care, respiratory	MTO3	1
Dispensary and clinical trials	D	Endocrinology	MTO2	3
Dispensary	C (0.3)	Endocrinology	ATO	1
Dispensary	B (2)	Gastroenterology		
Aseptic/cytotoxic workstation				
Senior aseptic services	E	Haematology, oncology	MTO3	1
Aseptic services	D	Haematology, oncology	MTO2	1
			ATO	0.5
Surgical				
Clinical team leader (and head of department)	F	Adult critical care	MTO3	1
Dispensary	D	Orthopaedics, general surgery	MTO2	4
Women and children	D	Neonates, paediatrics, maternity	MTO1	1
Dispensary	B	Surgery	ATO	1
Emergency care				
Medical admissions	C	Medical admissions, cardiology	MTO2	1
Surgical admissions	C	Surgical admissions, general surgery		
Total: 12.3 whole-time equivalent pharmacists			Total: 13 whole-time equivalent MTOs and 2.5 ATOs	

face will further improve this procurement process. On the transfer date, wards were fully stocked and, thereafter, they were topped-up twice a week by dedicated pharmacy technicians. The completed top-up lists were passed to clerical staff for keying in and transmission to AAH. All goods are now received in the pharmacy goods receiving area and, after being checked against the original order by pharmacy staff, they are immediately dispatched to the wards.

OUT-OF-HOURS SUPPLIES

The original plan, drafted before the hospital opened, had called for open access to the pharmacy workstations. However, it was quickly realised that this would give rise to problems with security and tracking of stock movements and, therefore, this plan was dismissed. As an alternative, an emergency medicines cupboard was established in a pharmacy office area that was centrally located within the new hospital.

CLINICAL SERVICES

Clinical services had to be organised without the focal point of a centralised pharmacy. Clinical services were divided into four key areas — medical, aseptic services, surgical and emergency care. The pharmacy staffing establishment is shown in Table 1. Mental health and paediatric pharmacy services were provided by three pharmacists and a technician (for the top-up service) from the primary care trust. Each of the clinical services operated from a separate pharmacy workstation. Since no provision had been made for a medicines information office, one of the pharmacy workstations was converted into a clinical resource area.

EVALUATION OF SERVICE

With regard to procurement, figures were analysed in detail at six months and the findings from that provided an estimated projection for 12 months. As time has

Table 2: Analysis of orders (figures projected to 12 months)

Supply source	Purchase order lines [Products]	Value
Wholesaler	92,718 [1,812] (89%)	£1,700,000 (59%)
Manufacturers	8,482 [371] (8%)	£233,000 (31%)
Hairmyres Hospital	2,706 [90] (3%)	£280,000 (10%)

passed, this projection has been borne out. The percentage split for the source of supplier is shown in Table 2. The bulk of the orders (89 per cent) were placed through the wholesaler partner. The error rate associated with wholesaler orders was found to be less than 1 per cent.

As part of the transition to a "no-store" system, the pharmacy department took control of the supply of medicines to wards via a technician top-up scheme for stock items. Non-stock items are issued from the satellite dispensaries. The proportion of calls to the pharmacist for advice rather than supply of medicines has increased with the implementation of the decentralised service.

The biggest change in the clinical pharmacy service was the introduction of a service to the emergency admissions unit. The number of accident and emergency visits increased by 40 per cent, with the move to WGH, and the number of medical emergency admissions increased by 11 per cent. (The emergency admissions unit receives 80 per cent of all emergency admissions to the hospital.) These changes created a new demand for pharmacy services.

A service specification was drawn up for the emergency admissions unit that required each patient to be interviewed by a pharmacist on admission to obtain an accurate medication history. As part of this process, multidisciplinary documentation was designed to record details of pharmaceutical interventions, eg, therapeutic drug monitoring and issue of compliance aids. Patients are counselled upon their medication by a pharmacist on discharge, and all dispensing for the emergency admissions unit is handled by a technician (MTO2).

PROBLEMS

The following are the problems encountered with the decentralised pharmacy service.

Product shortages If there is a shortage of an item or a failure to supply, there is no buffer stock in the system and, therefore, problems arise immediately. Part of the redesign of staff duties has meant that there is no one member of staff with dedi-

cated responsibility for procurement and stock management, as there would be in a traditional pharmacy store. Therefore, when there is a problem with stock, there is no single focus for co-ordinating the response.

Anxiety among ward staff Staff in the wards and departments were aware that the pharmacy was undergoing a total change. This caused considerable anxiety, with staff seeking constant reassurance that the required level of service would be provided under the new arrangements. The entire pharmacy service is reliant on effective communication, be this between pharmacy staff themselves, pharmacy staff and suppliers, or pharmacy staff, wards and departments.

Time needed to adjust The change was substantial. Not only did pharmacy undergo a major redesign of service provision, but so did the rest of the hospital and its patients. This meant there was no constant or baseline for pharmacy staff to measure themselves against or return to in order to gain a feeling of security. Such was the pace of change that the implementation of the new dispensary computer system was delayed in order to give staff more time to adjust to the operational aspects of the new way of working. Pharmacy staff were supported throughout this process by extensive training. In particular, the three MTO3s received training for their new managerial roles and junior pharmacists received training to increase their clinical skills.

MAJOR BENEFIT

One major benefit of the move has been the raised profile of pharmacy services. Pharmacists now spend the majority of their time in clinical areas and effective working relationships with nursing and medical staff have been built as a result.

STAFFING REQUIREMENTS

At present, the pharmacy service operates from 9am until 5pm on weekdays and from 9.30am until 12.30pm on Saturdays. An emergency on-call service is available at

all other times. Approximately 60 per cent of the required clinical pharmacy services can be met within the current resources. To operate a wholly devolved structure requires teams of staff based within specific disciplines. WGH has focused pharmacy staff within specific clinical areas (acute medicine, acute surgery and emergency care/admissions). A small team is now being developed to work within the neonatal unit and paediatrics. Attempts are also being made to secure staff to operate within the care of the elderly unit.

FUTURE PLANS

In order to refine the services at WGH, several critical steps now need to be taken.

Use of patients' own drugs (PODs) and self-administration of medicines The original strategy, proposed before the hospital was built, was that PODs would be used during an inpatient stay and patients would be encouraged to self-administer their medicines. The use of PODs was piloted within the orthopaedic department of the old hospital, but it had not been extended beyond that unit. A multidisciplinary project team has been identified to start moving this project forward. Acute medical and surgical wards have been fitted with bedside medicine cabinets, which will allow PODs to be stored by the bedside.

Training senior technicians (MTO3s) The role of the senior technicians is vital to the success of the pharmacy service and training is now under way to allow them to check dispensed prescriptions for accuracy. This will liberate additional pharmacist time for more clinical duties.

Implementing audit The pharmacy service has recently been subject to a review by the trust's internal audit department. The purpose of this review is to ascertain the systems in operation in respect of ordering, receipt, storage and issue of goods, and to determine if there is an adequate control structure in place. Early indications suggest that the supply system will be accepted by the audit department.

CONCLUSION

The transition to a decentralised hospital pharmacy has been successful and could serve as a model for other trusts to follow. AOA is an essential element of the pharmacy operational strategy and it has permitted more effective use of the available resources in developing pharmacy services in line with the patient-centred ethos of the new hospital.