

# Pharmacy practice in the first pfi hospital

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In Spring, 1999, the first acute hospital built through the Government's Private Finance Initiative (PFI) opened in Carlisle. In this article, the issues facing senior pharmacists when planning a new pharmacy department in a PFI hospital are outlined. The article also describes the layout of the new department, the services provided and plans for the future

It is eight years since PFI was launched by a Conservative government and it is now strongly supported by both main political parties. Now and in the future, it will be the main source of funding for capital building in the NHS. In a PFI scheme, the capital required is privately funded with a private sector consortium being responsible for financing, designing and building the new hospital.

In the Carlisle situation, the private sector consortium, called Health Management Carlisle (HMC), comprises AMEC, the construction company appointed to build the new hospital, and Building & Property, who, on completion of the new hospital, are responsible for maintaining it and providing non-clinical support services. The trust takes out a lease agreement with HMC for the duration of the contract.

The new Cumberland Infirmary in Carlisle is the first acute PFI hospital to be

built in Britain and much can be learnt from the experiences of staff involved in this project. In planning a new department, such as a pharmacy, the biggest difference between a capital scheme managed by the former regional health authority (RHA) and a PFI scheme is the level of support. In the former, a high level of expertise and experience of hospital building was available, from regional officers; in the PFI, such support is limited, and successful planning and commissioning depends to a large extent on the ability, experience and initiative of the chief pharmacist and his or her staff.

The chief pharmacist was given responsibility for writing a specification for the new department including room sizes, layout and equipment. Identifying the needs of pharmacy at an early stage in the planning of the new hospital, particularly with respect to floor area and location, and ensuring that all details of the specification were correct was of paramount importance as the department would be built according to what had been written. In situations where the specification was not correct or the contractor interpret-

ed it differently from what was intended, it was difficult to achieve changes, largely because of the high cost that the trust could be charged.

## PLANNING

For many years acute hospital services to Carlisle and the surrounding area were provided from three hospitals all within the city of Carlisle: Cumberland Infirmary, City General and the City Maternity hospitals.

A plan to build a new single-site hospital had been conceived more than 30 years ago, but for many years the plan was shelved as other proposed developments were given higher priority. By 1995, it became apparent that the only way Carlisle was to get a new hospital was through PFI and this was recognised by the trust board.

In 1997, the Government agreed to a new hospital to be built on the Cumberland Infirmary site where land was available, and in November of that year building began.

In April, 2000, the new hospital was completed, well ahead of the proposed schedule,

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at a cost of £87m, and the pharmacy was the first department to move in. In June, 2000, the Prime Minister, (Mr Tony Blair), officially opened the new 442-bed Cumberland Infirmary.

During the past three to five years there has been a gradual reduction in the number of beds, largely due to the dramatic increase in the number of day case patients. While the trust is one of the most efficient in the country in its use of beds, problems have been experienced with bed shortages as in other parts of the country.

The new Cumberland Infirmary serves a population of 188,000 with approximately half that population living in Carlisle and the remainder in smaller communities in East Cumbria, such as Brampton, Penrith, Keswick, Alston, Kirby Stephen and Silloth. In addition, a number of specialties serving all North Cumbria (total population 320,000) are based at the Cumberland Infirmary. These include oncology/radiotherapy, head and neck surgery, ear, nose and throat, dermatology, nephrology/renal dialysis and urology. Specialists in head and neck, based in Carlisle, also provide a service to Dumfries and Galloway hospital trust which is situated just over the border in Scotland; discussions are now taking place with that trust to develop further specialties for the "Solway Basin" region, to serve North Cumbria and Dumfries and Galloway — an area that will provide a population approaching 500,000 which is necessary for certain specialties to be viable.

#### THE NEW DEPARTMENT

The new pharmacy department was planned to provide a service not only to Carlisle hospitals NHS trust, which manages services at the Cumberland Infirmary, but to North Lakeland Healthcare NHS trust (320 beds) which provides non-acute services, that is, mental health and community services, to East Cumbria. In addition, pharmaceutical services are provided to Eden Valley hospice (14 beds), Caldew pri-

vate hospital (8 beds), Cumbria Ambulance Service and patients requiring high tech health care at home. In total, the pharmacy serves 784 beds.

**Outline of service** The pharmacy provides a comprehensive pharmaceutical service seven days per week, and is open from 8.30am to 5.30pm on weekdays, from 9.30am to 12.30pm on Saturdays, and 11.00am to 1.00pm on Sundays. Because of patient discharge outside these times, there is increasing pressure to extend the hours of opening. In addition, there is a pharmacy on-call service and an out-of-hours emergency drug cupboard. The chief pharmacist has a departmental budget of £675,000 and responsibility for advising directorates, both in this trust and in North Lakeland Healthcare, on the £2m devolved drug budget. On average, the pharmacy issues 13,350 stock items per month, the sterile production unit prepares 2,500 items per month and 9,244 outpatient/discharge medicine prescriptions are received each month.

**Staffing structure** The department has 48 members of staff or 42.31 whole time equivalents; these include 14 pharmacists, three pre-registration trainees, 15 pharmacy technicians, two pharmacy technician trainees, nine assistant technical officers (ATOs), four clerical staff and one porter.

**General layout** The pharmacy is laid out over 800m<sup>2</sup> of floor space on the lower ground floor, and is located so that it can be visited easily by outpatients, medical and nursing staff. Inpatient and outpatient dispensaries are combined to avoid duplication of staff and stock, and to reduce security risks. The plan of the department allows the five offices, medicines information unit, quality control laboratory, staff room and aseptic dispensing suite to have natural light; the use of glass panels allows internal areas, such as the dispensary and distribution area, to have natural borrowed light.

There is adequate office accommodation for senior pharmacy staff to undertake the many administrative tasks that are now required in a busy pharmacy.

**Purchasing/distribution and stores** The situation of the pharmacy on the lower ground floor provides easy access for lorries delivering goods from wholesalers and manufacturers. Goods are received in the goods reception area and then transferred to one of two storage/distribution areas, one being used mainly for medicine storage and the other for storage of bulk items such as sterile fluids and diet products. The use of mobile shelving and pallet racking has enabled optimum use to be made of the space in the bulk items store.

The stores office is adjacent to the goods reception and main drug store. It is a large

bright room with three computer terminals. From this office, orders are placed and invoices passed for payment. Approximately 60 per cent, by value, of orders are made using the North West Supplies Contract, many of which are delivered through wholesalers.

Stocks of drugs in theatres, radiology and day surgery departments are centralised. Theatres and the day surgery department are visited daily by an ATO and this proves to be an efficient and cost effective method of stock control in these areas of high drug expenditure.

Pharmacy staff have had a significant input identifying storage requirements for drugs at ward level within the new hospital.

#### THE DISPENSARY

The dispensary occupies an area of 150 m<sup>2</sup>. At an early stage of planning it was decided to have five separate work stations located in the middle of the dispensary, each with computer, printer, telephone and storage space underneath for items such as bottles and containers. These units were designed by dispensary staff and specifically built for the pharmacy. This arrangement works well and is much preferred to the layout of the former pharmacy where all dispensing was carried out on two dispensing benches. Adjacent to the work stations are storage units for medicines required for inpatient or outpatient dispensing. Alongside this area are a Controlled Drugs room, a small clean room used for the extemporaneous preparation of products such as mixtures, creams and suppositories and for pre-packing of tablets, and the office of the principal pharmacist responsible for dispensary services.

The pharmacy is registered with the Royal Pharmaceutical Society for selling a limited range of products. These are displayed, along with old pharmacy jars, on a counter which separates the dispensary from the patient reception/waiting area. A patient counselling room is also in this part of the department. The pharmacy is connected to wards through a pneumatic tube system and that has streamlined the delivery of prescription charts and their return with drugs dispensed.

#### THE ASEPTIC UNIT

The aseptic dispensing unit covers an area of 90m<sup>2</sup> and has the following areas: three preparation rooms, one for aseptically prepared products with a horizontal laminar flow cabinet, one with a class 2 safety cabinet for preparing antibiotics and one with an isolator used for preparing cytotoxic drugs; a large assembly/collation area; two changing areas, one for providing entry to the assembly/collation area and a second which provides entry to the aseptic rooms, entry to

the second changing area being from the assembly/collation area; and a container wash room with separate entry from the pharmacy corridor. Entry to the suite is through a two-stage change area which gives access to the assembly/collation area; and access to the isolator room is by means of a door from the assembly collation area.

Problems were experienced during the construction of the unit and as a result it did not open with the rest of the pharmacy. In addition, the cost of construction increased considerably. The trust was fortunate in having two pharmacists, Bill Glendinning (technical services pharmacist) and Graham Rothwell (quality control pharmacist), with wide knowledge of clean room construction, and the successful completion of this unit was largely due to their efforts.

In view of the wide range of products which this unit will be producing, including high tech health care, an application for a licence will be made to the Medicines Control Agency (MCA).

#### ■ MEDICINES INFORMATION

The medicines information unit is light, spacious and occupies 30m<sup>2</sup>. Under the direction of Tim Slaughter, the medicines information service has developed over many years and has good resources in accordance with the Medicines Information Pharmacist Group. Clinical staff use this service widely and it provides support to the clinical pharmacy service. The unit provides an inquiry answering and advisory service as a back-up to all health care professionals involved in prescribing, administration and supply of medicines. It also supports the drugs and therapeutics committees and produces a hospital drug formulary.

#### ■ CLINICAL PHARMACY

The medicines information unit acts as the base for clinical pharmacists. Clinical pharmacy services are well developed at the Cumberland Infirmary with a daily ward pharmacy visiting service. Pharmacists, technicians and ATOs work together in teams to provide the most efficient service to the directorates to which they are attached. This allows for continuity of service when cover is required. Practice research is encouraged, particularly in collaboration with medical staff.

For the past three years at the Cumberland Infirmary, pharmacy staff have pioneered a system of individual patient dispensing (IPD)/use of patients' own medicines/ self-medication with a view to introducing this system to all wards in the new hospital. To that end, all wards in the new hospital have patient medication lockers sited next to the beds. The principle behind this system is that pharmacists and technicians work on wards to ensure that

patients on admission have sufficient medicines, both for their stay in hospital and after discharge.

**Seminar room** The seminar room, containing television, video equipment and an overhead projector, provides a base for training activities and for the weekly journal club. It can seat approximately 20 people, but is also suitable for training small groups or for one-to-one sessions.

Training is highly regarded within the department and is considered to be an essential tool to aid recruitment. Pharmacists are encouraged to undertake postgraduate training and, at the present time, two members of staff are doing the Sunderland clinical pharmacy diploma and one is doing the MSc. Developing the role of the pharmacy technician is also encouraged, and there are currently two technicians undergoing an NVQ Level 4 in technician checking.

#### ■ QUALITY CONTROL

In view of the distance of Carlisle from other centres, it had always been accepted that certain quality control services should be on site at the Cumberland Infirmary while other services would be provided from a regional laboratory. A small quality control laboratory was therefore included in the new pharmacy and some new equipment, for example, an ultra-violet spectrophotometer and high pressure liquid chromatography equipment was purchased. The quality control service will provide quality assurance for products prepared in the pharmacy, and in particular, in the aseptic dispensing suite. Other quality control activities to be undertaken include testing of products purchased, testing of medical gases for this trust and other trusts, testing of surgical dressings for manufacturers in accordance with an agreed contract, and monitoring fluoride levels in water supplies.

#### ■ FUTURE DEVELOPMENTS

Reconfiguration of trusts in North Cumbria will result in Carlisle hospitals NHS trust merging with West Cumbria Healthcare to establish a North Cumbria Acute trust. Other changes in North Cumbria include the establishment of a North Cumbria Mental Health trust and three primary care trusts. These changes provide opportunities to improve medicines management across primary and secondary care. The pharmacy department at the Cumberland Infirmary with its well developed medicines information unit will be well placed to provide a lead in this area. For several years, pharmacy has worked closely with medical and nursing staff to provide a service to patients with colorectal cancer and cystic fibrosis who are being treated at home. This

service, usually called "Hi-Tech Health Care" or "Hospital at Home", involves pharmacy staff preparing sterile solutions for self-administration and advising patients on their use. The contribution that pharmacy makes to this service is highly regarded both by patients and medical and nursing staff. It is also in line with national policy to treat patients in the primary care setting wherever possible. With the expertise that pharmacy staff already have, there are likely to be opportunities to further develop this service in areas such as home total parenteral nutrition, and providing home treatment for such patients as those with chronic obstructive pulmonary disease or AIDS.

#### ■ SUMMARY

The main benefit of the new department is that it is much more compact and provides a pleasant working environment for all staff. The size and layout of the department will enable pharmacy staff to meet likely developments that will occur in the future. Having all acute services on one site has enabled the pharmacy to provide a more efficient service and to meet the ever increasing pressure being put on pharmacy services by increased patient throughput, expansion of services, and new developments in drug therapy.