

a new pharmacy department

Leighton Hospital, Crewe

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When new electrical wiring was needed at Leighton Hospital, Crewe, the time seemed opportune to also give the pharmacy department a major refit

Leighton hospital needed new electrical wiring throughout and the pharmacy had become in need of substantial upgrading. Furthermore, following a service review, other improvements were recommended at the time of rewiring. In the end, some £310,000 was allocated to upgrade the aseptic unit to fulfil its contribution to the regional strategy and to meet the hospital's needs; £66,000 was negotiated from trust funds to improve the remainder of the pharmacy. A number of service changes formed the background to pharmacy developments, including almost doubling the number of consultants over a short period, a dramatic fall in length of patient stay, implementing the Calman-Hine cancer service framework and expanding the intensive care and high dependency units. These, coupled with the regional strategies for non-sterile production and aseptic services, provided the ideal opportunity to expand and redevelop the pharmacy department. The main compo-

nents of the upgraded facilities included new waiting areas, a counselling room, double-sided lockers for staff collection of medicines, a complete redesign and refit of the dispensary, and an enlarged area for medicines information and clinical trials supplies. The new aseptic unit, new store and distribution accommodation, with a goods receipt area, completed the changes.

■ SERVICE AND STAFFING

Leighton hospital, the district general hospital providing the majority of services to the Mid Cheshire Hospitals NHS Trust, serves a population of about 280,000. It has 700 beds, and 180,000 outpatient attendances a year. The annual drug budget is £2.8m and this is devolved across the 13 directorates. The pharmacy provides a service seven days a week, together with an emergency duty arrangement. Currently, it dispenses about 140,000 patient items annually. The ward distribution area supplies 120,000 items per year. Approximately 130 queries are answered by medicines information staff each month, including about 20 from local GPs. There are 54 staff members equivalent to 40 whole-time staff, including 16 pharmacists, three senior technicians, 15 medical technical officers (MTO2s) and

nine assistant technical officers (ATOs). The department also has three student technicians and two pre-registration students, together with appropriate clerical and ancillary staff.

■ STORES AND DISTRIBUTION

The department has its own goods delivery and reception area where goods are checked in and entered into stock on a computer system which specifies the room, bay, and shelf number to assist rapid transfer to the stores. There are three separate areas — one to store intravenous and large volume solutions, one for enteral feeds and finally, the main dry store.

The store supplies 15 clinics, three peripheral hospitals (one of which is private), the wards and the dispensary. Generally, wards and departments receive a weekly top-up service carried out by technical staff. Requirements from the bar-coded ward stock lists are entered into hand-held terminals. These data are then fed into the computer system that produces a picking list in bay order. Recently, a cross-checking system has been introduced to check electronically the manufacturers' bar codes on packs against the picking list to confirm appropriate selection. The emergency drug

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store, to which designated nursing staff have after-hours access, is adjacent to the store/distribution area.

The department has been on electronic data interchange (EDI) to its main wholesaler for some years, but plans to extend this to all its main suppliers by the end of the year. The computer effects stock control which gives a current average turnover time of three weeks.

— THE DISPENSARY

The dispensary is really a suite of rooms designed to ensure good workflow. A priority was to separate the outpatient and inpatient work and their reception areas.

For outpatients there is a large patient waiting area with a counselling room, which has reduced lighting and is now being used increasingly.

At staff reception there is a letterbox through which prescription charts can be posted. Outside the reception bench is a series of double-entrance lockers for ward staff to collect medicines required prior to the next delivery time or during the evening when the department is closed.

Inpatient prescriptions are logged into a computer system on arrival so that turn round times can be monitored, work done in priority order and workload patterns staffed accordingly. The hospital operates a "red spot" system for prescriptions needing rapid processing, and wards may request to be phoned when the prescription is completed.

On receipt, all prescriptions receive a "clinical" check to identify problem items and prioritise work. Prescriptions then pass to computer terminals for label production and completion by technical staff. The main dispensary has windows down one side giving light bright working conditions, ideal for accurate working. A long bench under these windows is where most of the dispensing and checking is carried out, working from right to left along the bench. The checked prescriptions are collected from the bench by an ATO, sealed into delivery bags and placed into the double-entrance lockers

for collection by the pharmacy porter or ward staff.

Products are either stored on island shelving units, wall shelves or within a "continental drawer" unit. These comprise 48 deep, fully extendable continental drawers, each of which is accessible from both sides and carries dividers to separate products. The shelving and bench units are white melamine with blue working surfaces which give a smart appearance to match the staff uniforms.

One section of the dispensary is reserved for outpatient work and carries supplies of commonly used items. A pharmacist and a technician are designated to work in this area each day.

Leading off from the main dispensary is a quieter room where the Controlled Drug cupboards are located. Technicians work in this room to prepare Controlled Drug orders ready for checking, to assemble cardiac arrest boxes, and to dispense and monitor clozapine therapy using a dedicated computer terminal.

At the end of the dispensary is a small room for extemporaneous dispensing. It has a Monair 15 (Astec microflow) filtration fume cupboard for handling toxic materials and for the preparation of antibiotic mixtures. Finally, there is an office for the dispensary manager and senior technician adjacent to the main dispensary.

— MEDICINES INFORMATION

Medicines information operates from a large office accommodation to allow expansion for information technology (IT) and access to the internet. A computerised database of past queries has recently been established, in addition to the previous CD-ROM databases. The section is also the base for the formulary pharmacist who provides support for the drug and therapeutics committee, and quarterly reports on drug usage for the directorates, a clerical officer and clinical pharmacists whose work is co-ordinated within the medicines information centre. The section also serves as a meeting area for lunchtime clinical meetings and evening seminars such as those accredited by the College of Pharmacy Practice, that form the basis of clinical and continuing professional development.

— THE ASEPTIC UNIT

This completely new unit was designed in conjunction with Medical Air Technology (MAT) which built the whole unit under contract. When fully operative, it will produce about 80,000 pre-filled syringes per annum as part of the central intravenous additive service (CIVAS) strategy. It is hoped that about half of these will become available for other trusts to purchase in a co-operative arrangement, which is to be implemented

across the North West Region. In addition, the unit supplies about 1,600 adult and neonatal total parenteral nutrition bags per annum and 3,000 cytotoxic products.

Connected to the assembly room via a pass-through hatch is the aseptic goods store where bulk items are stored.

The operator enters the assembly room after passing through a changing room, to put on overshoes and dedicated clothing. This room has excellent lines of sight into the preparation and isolator rooms aiding the general overview and personnel safety.

Leading from the assembly room is a dispatch room for completed products and a walk-in cold store used for relevant prepared products or ingredients.

Personnel enter the preparation and isolator rooms through a second changing room. Operators currently put on a disposable paper suit, over-shoes, a cap to enclose the hair and sterile gloves. However, a contract to provide clean-room clothing is under consideration. Inside the preparation room, worktrays containing the necessary materials, for example, syringes filters, are prepared for each product.

There are three isolator rooms connected to the preparation room by horizontally-divided hatches, the lower to transfer goods outwards and the upper for inward transfer. The new positive pressure four-glove isolator has entry and exit inner hatch doors controlled by foot pedals. The two positive pressure cabinets, one a MAT and one an Envair unit have four glove ports for two operators to work as a team. There is also a negative four-glove isolator reserved for cytotoxic work.

Full monitoring in line with guidance operates throughout the unit, which will apply for a "specials" licence in the near future.

— SUMMARY

In summary, the new pharmacy has improved the working environment, enabled the department to respond to trust developments and to meet higher standards and numbers of aseptically prepared products in line with regional planning. The design will allow implementation of developments in the pipeline.

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