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# Introducing undergraduates to a career in hospital pharmacy

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Raising awareness of hospital pharmacy among undergraduates is one of the aims of a team of teacher practitioners based at hospitals in the West Midlands. This article describes their work and the responses of students to it



**T**raditionally, pharmacy undergraduates at Aston University, Birmingham have attended local hospitals to gain an appreciation of the various roles of staff within a hospital pharmacy department and to further develop their skills in clinical pharmacy practice. However, these visits usually took place only in the third and fourth years of the undergraduate pharmacy course and the arrangement with local trusts was informal.

We believed that undergraduates were not being exposed to hospital pharmacy early enough in their course and were therefore not considering it as a potential career option. Students were not being given enough opportunities to build on the therapeutic knowledge they learnt at university and to develop professionalism when dealing with patients and other health care professionals.

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In 2003 Birmingham and the Black Country Strategic Health Authority (now NHS West Midlands) allocated funding for six half-time equivalent teacher practitioner posts and one full-time lead post at various West Midlands hospitals. The other half of each post was funded by the employing hospital to maintain a practice component to the role. The main role of the team of teacher practitioners is to provide practice-based clinical pharmacy teaching and to promote hospital pharmacy as a career.

Under the new programme, the topics covered and the number of sessions attended depends on the year of study as described below. Students usually attend sessions in groups of five or six. All sessions are compulsory, although only the third and fourth year sessions are formally assessed.

## First year

Academic staff had noticed that first-year students' knowledge of hospital pharmacy was generally minimal compared with their knowledge of community pharmacy. Exposure to community pharmacists on the high street possibly accounted for this.

A half-day session was therefore devised to introduce first year students to hospital pharmacy. This session comprises the following:

- A guided tour of pharmacy facilities to explain the work carried out

in each sub-department, including the dispensary, pharmacy stores and the medicines information and aseptic preparation areas. Students also learn about the supply of drugs to wards and patients and the different types of prescriptions used

- An introduction to all staff groups working within a pharmacy department. Students can talk to members of each staff group about their role and the qualifications required to do their job
- A guided tour of a ward. Students are shown a typical ward layout. Drug charts, nursing observation charts and medical notes are used to describe the role of the clinical pharmacist

These features are reinforced during university teaching sessions. Students are then prepared to begin their basic clinical training, which takes place in the second year of the course.

## Second year

It had become apparent that third and fourth year students had not had enough opportunity to develop the clinical skills to underpin the teaching in therapeutics they received and, for example, to talk to patients.

Hence, second-year students now study a university-based module on clinical

pharmacy which is supplemented by a half-day hospital-based session, targeting the application of clinical skills. This hospital session is predominantly ward-based, with the following structure:

- In pairs, students take a medication history from two or more patients and obtain relevant information such as allergy status, reason for admission, previous medication history and family history
- Students review each patient's drug chart ensuring that they understand the indication for each medicine and the associated basic monitoring requirements
- Students use the patients' medical notes to retrieve information from the relevant section. This enables the student to cross-reference and supplement information obtained from the patient and drug chart. Furthermore, the student gains experience of interpretation of medical abbreviations and the use of biochemical data
- Throughout the session, students are guided by the accompanying teacher/practitioner to produce a pharmaceutical care plan for patients

These sessions are supported by a series of intranet exercises about interpreting medical abbreviations and using medical notes. On completion of the second year clinical introduction session, students will have been prepared to apply the skills gained to review patients from specific therapeutic areas in the third and fourth years of study.

### Third and fourth years

There are two hospital-based teaching sessions in both the third and fourth years of the undergraduate course, which run in conjunction with the disease and therapeutics topics taught at university. In the third year, the topics are cardiology and respiratory disease. Fourth year students study two topics out of the following: infection, immunology, endocrinology and neurology, depending on when the hospital session is timetabled. Students are assessed by means of written pharmaceutical care plans and by giving group case presentations to their peers. The format of the sessions is identical for both year groups and is as follows:

- Initial teacher/practitioner-led group discussion on the subject area to be covered
- Ward-based patient interviews carried out by students to develop an appreciation of the patient's perspective of their condition and to further practise medication history taking on admission

- Review of drug chart, nursing observations, medical notes and biochemistry reports leading to the development of a pharmaceutical care plan or case presentation

These sessions encourage students to apply their clinical skills to real-life situations. They also allow students to put their more recently acquired therapeutic knowledge in context. The use of patient data and the subsequent assessment structure allows students to develop higher level skills, such as problem solving, which are essential in clinical practice. The aim is to equip students with a firm foundation from which to provide complete pharmaceutical care.

### Benefits

During the academic year 2004-05, third and fourth year undergraduates were asked to evaluate each teaching session by completing a questionnaire. A total of 526 forms were received from 120 sessions. The results of these evaluation forms are set out in Table 1.

As part of the evaluation, third year students were asked about their attitudes to a career in hospital pharmacy before and after each hospital visit. The percentage of students who would "definitely" consider hospital pharmacy as a potential career rose from 27.6 before each session to 36.7 afterwards. Reasons given for considering hospital pharmacy as a career included that:

- It is the most interesting branch of the profession in which to work
- It enables a greater use of clinical skills
- It involves more patient interaction

Recent research has shown that pre-registration trainees and newly qualified pharmacists perceive the skills developed through the hospital-based teaching programme they followed at Aston University to be useful, whether they ultimately enter

either community or hospital practice.<sup>1</sup> Moreover, a previous study has identified participation in clinical pharmacy teaching programmes and work experience as the main factors that influenced the choice of those who decided on hospital pharmacy as a career.<sup>2</sup>

### Conclusion

Students appear to benefit from hospital-based teaching because they learn about the role of pharmacists in this setting. They are given the opportunity to apply their knowledge of clinical pharmacy and therapeutics to real situations. The skills developed are considered to be beneficial whether the student ultimately enters a career in either community or hospital pharmacy. Students are more likely to consider hospital pharmacy as a career choice if they are given the opportunity to participate in practice-based teaching sessions during their degree course.

### Future developments

The aim of the course at Aston University is to increase the level of practice-based teaching that undergraduate pharmacy students undertake. Future plans include the provision of placements in community pharmacy and primary care pharmacy. Furthermore, it is anticipated that sessions will be arranged for students to attend clinics led by other health care professionals, such as GPs and medical consultants. The use of live audio and visual technology is also to be brought into clinical lectures.

### References

1. Jhangeer S, Aston J, Marriott J. The usefulness in practice of skills taught through hospital based teaching. *International Journal of Pharmacy Practice* 2006;14(suppl 2):B96-7.
2. Silverthorn J, Price G, Hanning L, Scanlan J, Cantrill J. Short Report. *Pharmacy Education* 2003;3:161-7.

**Table 1: Responses of third and fourth year undergraduate students in a survey about hospital-based teaching sessions**

Evaluation statement	Strongly disagree	Disagree	Agree	Strongly agree
Pharmacist led the session well	0.8	0.0	15.5	83.7
Visit was interesting	0.8	2.3	23.6	73.3
Improved my confidence with patients	1.9	11.6	50.3	36.2
Improved my communication skills	2.9	18.4	51.7	27.0
Improved my awareness of the roles of other pharmacy staff and health professionals	2.7	18.5	49.4	29.4
Enabled me to visualise pharmacists' roles	1.5	6.9	42.4	49.2
Enabled me to apply knowledge	0.4	3.3	36.5	59.8
Enhanced my clinical knowledge	0.5	2.7	30.7	66.1
The work covered was easy	4.9	50.9	41.7	2.5