

MPharm Interim Visit

University of Hertfordshire

February 3-4 2016

Master of Pharmacy degree course (MPharm) interim visit

University of Hertfordshire

Report of an interim visit, 3-4 February 2016

Introduction

The General Pharmaceutical Council (GPhC) is the statutory regulator for pharmacists and pharmacy technicians and is the accrediting body for pharmacy education in Great Britain. The GPhC is responsible for setting standards and approving education and training courses which form part of the pathway towards registration for pharmacists. The UK qualification required as part of the pathway to registration as a pharmacist is a GPhC-accredited Master of Pharmacy degree course (MPharm). The GPhC's right to check the standards of pharmacy qualifications leading to annotation and registration as a pharmacist is the *Pharmacy Order 2010*.

The Pharmacy Order 2010 requires that the 'nature, content and quality' of education and training provision is reported to the GPhC by its accreditation panel. As such the GPhC has incorporated interim visits within its accreditation methodology to provide suitable opportunities for the accreditation panel to review MPharm course provision in this way. The GPhC carried out a series of pilot interim visits in the early part of the 2013-14 academic year to help inform the development of the structure and content of the interim visits to ensure that they would be fit for purpose. Five schools of pharmacy took part in the pilot phase.

The purpose of an interim visit is to allow an accreditation team to:

- Monitor progress of delivery of the accredited MPharm degree since the accreditation or reaccreditation to the *GPhC Standards for initial education and training of pharmacists*.
- Evaluate a selection of the educational activities on the accredited course in conjunction with information provided at the main accreditation visit. The accreditation team will wish to satisfy itself of the quality, particularly of the practice opportunities available, and to ensure that they continue to meet the *GPhC Standards for initial education and training of pharmacists*. In particular, the accreditation team will be evaluating how well the accredited MPharm degree meets standard 5.6, which states:
The MPharm/OSPAP curriculum must include practical experience of working with patients, carers and other healthcare professionals. We are not suggesting that off-site placement visits are the only way to achieve this. Schools should articulate their strategy for meeting this criterion, which may include off-site placement visits, using patients, carers and other healthcare professionals' in-class, and simulation.
- Evaluate these practice activities in relation to the student's ability to demonstrate the relevant outcomes in Standard 10.

Interim visits take place three years after a main successful accreditation or reaccreditation visit and the report of the visit forms an appendix to the main accreditation report. Prior to the visit, a School is provided with the document 'MPharm degree interim visits: guidance for providers' and asked to submit the necessary documentation and to describe, and give dates for, a range of student activities that will be taking place both on-site at the university as well as off-site. The visit date is selected so that there are suitable opportunities for the accreditation team to observe activities that had been timetabled to take place that day, without the need to make special arrangements. Prior to the visit, a number of satellite visits are arranged to allow one or more members of the accreditation team to observe the off-site activities. Findings from the satellite visit, as well as information and observations gleaned on the day of the visit, help to inform the accreditation team's overall view on developments since the last visit as well as the quality of education and training being delivered.

This document summarises the visit activities and accreditation team's conclusions following the interim visit to the School of Pharmacy at the University of Hertfordshire.

Background

The MPharm programme at the University of Hertfordshire was reaccredited for six years in June 2013 with no conditions or recommendations. Prior to the interim visit the University submitted documentation to the GPhC and a pre-visit meeting took place by teleconference on 2 February 2016. The purpose of a pre-visit meeting is to help the School of Pharmacy to prepare for the visit, allow for the GPhC and School to ask any questions or seek clarification, and to finalise arrangements for the visit.

Satellite visit

In advance of the interim visit three satellite visits took place on 2 November, 18 November and 7 December 2015 to allow team members to observe off-site activities in advance of the main visit.

The interim visit

The interim visit itself took place on site at the University of Hertfordshire on 3-4 February 2016, and comprised a series of meetings with staff and students of the university, along with observations of a number of teaching and learning activities.

Meeting number	Meeting	Time
<i>Day 1 February 3 2016</i>		
1.	Private meeting of accreditation team and GPhC representatives	13:00 – 15:30
2.	Meeting with academic staff	15:30 – 17:00
<i>Day 2 February 4 2016</i>		
3.	Private meeting of accreditation team and GPhC representatives	08:45 – 09:00
4.	Observation of activities 2, 7, 8	09:00 – 12:00
5.	Private meeting of accreditation team and GPhC representatives	12:00 – 13:00
6.	Meeting with students	13:00 – 14:00
7.	Meeting with senior staff	15:00 – 15:30
8.	Private meeting of accreditation team and GPhC representatives	15:30 – 16:15
9.	Feedback to representatives of the University of Hertfordshire	16:15 – 16:30

Accreditation team

The GPhC's accreditation team ('the team') comprised:

Name	Designation at the time of accreditation event	Workshop observed (meeting 4)
Professor Terry Healey	(Team Leader) Emeritus Professor of Pharmacy, Robert Gordon University	Activity 7
Dr Katie Maddock	(Team member – Academic) Senior Lecturer in Clinical Pharmacy, Keele University	Activities 2, 8
Professor Larry Gifford	(Team member – Academic) Emeritus Professor, Keele University School of Pharmacy	Activity 7
Mr Scott Downham	(Team member – Pharmacist recently registered), Clinical pharmacist	Activities 2, 8

along with:

Name	Designation at the time of visit	Workshop observed (meeting 4)
Ms Joanne Martin *	Quality Assurance Manager (Education), General Pharmaceutical Council	Activity 8
Professor Brian Furman	(Rapporteur) Emeritus Professor of Pharmacology, University of Strathclyde	Activities 2, 7
Ms Jenny Clapham	(Observer), Quality Assurance Officer, General Pharmaceutical Council	Activities 2, 7
Mr Damian Day	(Observer), Head of Education, General Pharmaceutical Council (3 February only)	

* participated in the pre-visit meeting by teleconference on 20 January 2016

Additionally, one satellite visit (Activity 1 – see section 8) was undertaken by Ms Sandra Hall, Head of Pharmacy Practice, the Leicester School of Pharmacy, De Montfort University, a member of the Accreditation Panel. Two other satellite visits (activities 3, 4, 5 and 6 – see section 8) were undertaken by Mr Scott Downham.

Course provider

Representatives of the University of Hertfordshire School of Pharmacy. The team met with the following:

Name	Designation at the time of accreditation event	Meetings attended
Benham, Dr Chris	Head of Pharmacology	2
Fergus, Dr Suzanne	Learning and teaching lead and Principal lecturer in Pharmaceutical Chemistry	2, 7
Hutter, Dr Victoria	Senior lecturer in Clinical Pharmaceutics	2
Kaur-Bring Miss Narinder	Senior lecturer in Clinical Pharmacy	2
Kirton, Dr Stewart	Head of Pharmaceutical Chemistry	2, 7
Kravitz, Mrs Laura	MPharm Programme tutor and Principal lecturer in Clinical Pharmacy	2, 7
Lefteri, Mrs Kelly*	Head of Pharmacy Practice	2, 7
Lou, Dr Fang	Year 3 lead and Senior lecturer in Pharmaceutics	2
McAuley, Dr Liam	Head of Pharmaceutics	2, 7
Rial, Mrs Marianne	Senior lecturer in Clinical Pharmacy Practice	2
Traynor, Dr Matt*	Head of Department of Pharmacy Pharmacology and Postgraduate Medicine	2, 7
Walker, Ms Nina	Student experience lead and Principal lecturer in Pharmacy Practice	2

* participated in the pre-visit meeting by teleconference on 2 February 2016

The accreditation team also met with a group 18 students, comprising five from year 1, four from year 2, three from year 3 and six from the final year. These students had been selected by the staff.

The visit

In meeting 2, a presentation by senior members of staff built on the information provided in the submission and gave an update on progress since the last visit in 2013. As described below, this provided an overview of the programme and covered changes made since the 2013 reaccreditation, as well as aspects of patient facing activities and inter-professional learning. Points raised in the presentation, as well as other matters, were discussed with the staff (meeting 2), with the senior staff (meeting 7) and with students (meeting 6) and the following narrative incorporates those discussions.

1. Changes in management structure and recent developments in the University (standards 2, 8, 9)

The team learned (meeting 2) that rather than faculties, the University had been reorganized into strategic business units, with 'pharmacy' now coming under the Department of Pharmacy, Pharmacology and Postgraduate Medicine, one of three departments within the School of Life and Medical Sciences. This department had been formed in 2015 by the merger of three individual departments (the departments of Pharmacy, Pharmacology and Postgraduate Medicine). The Head of Department is a member of the Senior Executive Group of the School of Life and Medical Sciences, headed by the Dean. The management of the Department of Pharmacy, Pharmacology and Postgraduate Medicine includes the subject heads (Pharmacy Practice, Pharmaceutical Chemistry, Pharmaceutics, Pharmacology), as well as the Head of Research. In addition to the MPharm programme, the Department offers a degree in Pharmaceutical Sciences, as well as postgraduate medical qualifications at diploma and master's level; there is also a new four-year optometry programme. The documentation and the presentation described the University's investment (£52M) in a new science building, which is due for completion in April 2016 and which will be in use for teaching from October 2016. The team was told that existing teaching rooms would be retained in the timetable as a contingency against the failure of the new building to be ready for teaching for the 2016-17 academic year. Having noted issues from student feedback relating to timetabling problems, such as inconvenient classrooms and long days including evening lectures, the team was concerned about the timetabling consequences of delays in the completion of the new building. In response to these concerns, the staff (meeting 2) provided reassurance that the timetable was not dependent on the new building. However, the new timetabling system was complex; the department had struggled to manage and was just catching up. Timetabling, although not perfect, was improving, reducing the number of long days, and there is now only one class occurring after 6.00 p.m., so that students are not now overloaded. Management of some issues had been achieved by splitting long sessions into smaller blocks. The new building will double the simulation facilities. The students (meeting 6) told the team that the new timetabling system had been problematic, with no break between lectures, problems of timetabling workshops and laboratory classes, and resulting in people being in the wrong places at the wrong times. A back-up system had been implemented but students needed to check and some problems remained. However, problems reported to staff members by e-mail are now sorted out and there are no longer many evening lectures, with longer breaks between lectures and a significant amount of time for private study. There is a School timetable and an individual timetable is provided for each module. It is also now very rare that members of staff miss lectures. The team had noted that some workshops (see section 8, activities 7 and 8) had been held in tiered lecture rooms but was told (meeting 6) that workshops are frequently held in smaller, flat rooms with tables, although some are in lecture rooms; it depended on the nature of the workshop.

2. Financial matters (standard 9)

The documentation and the presentation (meeting 2) summarised the business plan for the Department, showing the teaching income, non-teaching income (from short courses, research and the campus pharmacy) against expenditure (for example, staff salaries, agency fees, equipment) for the academic years 2015/6 to 2018/9. The team was told that the apparent decrease in expenditure on staff salaries between 2015/6 and 2017/8 was explained by the hike in National Insurance contributions occurring in 2015/6. The Department was required to contribute a percentage of its income (32% in the current year) to the School, although the team was told that this percentage could be negotiated depending on income and expenditure. The staff/student ratio is currently 1:15-1:16, which is planned to be maintained, with some pharmacy staff teaching into the optometry programme. Noting that the MPharm numbers are predicted to decrease over the next few years, the team enquired about the recruitment strategy and progress with recruitment for the next academic year. The staff explained that the structure of the recruitment day has been changed, with a selection day running from 1.00 to 5.00 p.m. and comprising interviews and tours, with the aim to recruit 115 students; the department was confident in meeting this target, although it will be necessary to go into clearing. A significant reduction in pharmacy student intake was planned from 2018/19.

3. Overview of MPharm and changes since the reaccreditation (standard 5)

The presentation and the documentation described the roll-out of the MPharm since the reaccreditation. This had commenced in September 2013 with the new first year provision along with the revised final year, followed by the revised second and third years in September 2014 and 2015 respectively. In addition to new modules, critical 'must pass' elements had been introduced; these included certain OSCE stations in the second, third and final years, as well as a numeracy competency assessment in the third year. In the last context, when asked how they were developing numeracy skills, the students (meeting 6) told the team that there was a diagnostic assessment in the first few days of starting the course and that the first year Professional Development Skills module included a section on numeracy, where they gained a lot of practice until they learned to perform calculations; a great deal of support was provided. Each year includes a diagnostic, formative and summative numeracy assessment with a pass mark of 70%, with students being required to attend a subsequent workshop if they fail; those students who have done well may also attend these workshops. Fourth year must pass a numeracy test. While, MCQs were used for numeracy assessments in the first two years, third and fourth year students were expected to find the answer for themselves. There are many numeracy worksheets, which are available online, and support is available from student numeracy champions who also teach their juniors. The numeracy assessments have been changed to reflect the GPhC registration examination.

A further review of the course in response to, for example, the consistently poor performance of Hertfordshire pharmacy graduates in the GPhC's registration examination (see section 7 below) had led to the implementation of several changes to the new programme, based on what had worked well (such as integration of module teams and assessments, better contextualisation of chemistry, and the years 3 and 4 Professional Development Skills modules), and what had worked less well. The rationale for this review of a new course that was still being rolled out was explored further in meeting 7, where the Head explained that this had been undertaken on the basis of the wish to produce good graduates who will not fail the registration assessment. There had been an awareness of problems with the ethos of the Department, including staff performance issues that had not been addressed, such as members of staff who were not teaching appropriate material and who had not instigated changes in assessment in line with policy. The changes implemented in the current and next academic years were not major but will ensure the right level of clinical exposure. There is now a greater focus on pharmacology which is now delivered within the Department, rather than as service teaching, with the ways of working between pharmacologists and others having changed as result of this; previously, pharmacologists had not been involved in the programme design but had simply been asked to come along to teach their material without integrating it into the course, resulting in students being unable to go back to basics. Now, pharmacologists are leading modules and are closely involved in their development, overcoming previous problems of integration, achieving the correct depth and avoiding gaps in learning. Pharmacologists and pharmacists, rather than working completely independently as before, are now 'buddied' and collaborate in delivering sessions and writing assessments. This approach also overcomes the problem of pharmacologists being unaware of current first line therapies, for example, in treating schizophrenia. The original version of the new course had also not prioritised areas, giving equal weighting to all therapeutic areas, whereas, in the view of the staff, priority should be given to drugs covered in the first five chapters of the BNF. Although the GPhC's syllabus is simply indicative, its use had identified that students had been missing key material. When asked how they saw integration working within the programme, the students (meeting 6) referred to progressive integration through the years from the first year, which deals with normal anatomy and physiology of body systems, leading to second year covering pathology and disease and an understanding of why medicines are prescribed, progressing to clinical issues relating to prescribing. They saw the links between science and practice and understood the need to learn chemistry and other sciences; the students illustrated this with reference to a consideration of routes of administration in year 3 linking into dispensing and a discussion of inhalers, where they had to address issues of particle size, as well as aspects of patient counselling. Cases and clinical simulation were used to integrate knowledge; much of this focussed on pharmacology but brought in ethical dilemmas and the rationale for medication. The students referred to the value of team work and communication with

each other. Integration builds on previous knowledge and the students told the team of the need to retain and use knowledge from earlier years. (see section 7 below for a further discussion of integration).

The changes in 2016/17 will be the replacement of the year 3 'Research Methods' module by a new module entitled 'Applied Pharmacotherapeutics'. In response to the team's wish to know how students would now be prepared for their research projects, the staff (meeting 2) explained that key elements of the 'Research Methods' module had been redistributed among other modules, eliminating unnecessary duplication of material, such as presentation skills; ethics will be retained in year 3 and clinical audit will be covered elsewhere. The project has also been redesigned to embed important material in the project module, utilising a 'dead day' to deliver specific, important, relevant material. Moreover, writing the research proposal in the Research Methods' module has been undertaken previously almost a year before undertaking the final year project; this had been problematic as the nature/direction of the supervisor's research had frequently changed over this time period and the supervisor may have left. Projects will now be allocated towards the end of year 3, a year later than previously. In meeting 7, the staff told the team that the current year was the first in which the material from the 'Research Methods' module had been delivered in an integrated way and replaced by the 'Applied Pharmacotherapeutics' module. The staff will look at the end measures, one of which is the registration assessment, to evaluate the approach.

The department had also formed the view that there had been an over-reliance on problem-based and case-based learning in years 3 and 4, with students failing to engage sufficiently with these activities. This view had led to a change in emphasis to include more didactic teaching and appropriate assessments to ensure the coverage of the indicative syllabus, while continuing to use problem-based and case-based learning, along with clinical simulation to enable students to apply their knowledge in the second half of the programme. Integration had been facilitated and improved; for example, students had been introduced to evidence-based medicine initially through didactic teaching, this being followed up and applied in workshops. In response to the team's concern about an increased use of didactic teaching and how this squared with the need to develop students as independent learners, the staff (meeting 2) emphasised that the subsequent use of cases in workshops will enable the students to adapt and apply their knowledge, for example, of NICE guidelines, to situations other than those simply presented in lectures. The staff agreed that the acquisition of independent learning skills was essential but students needed to understand the material first and apply their knowledge on top of a solid foundation; the previous approach had moved too far to problem-based and case-based learning, resulting in students being introduced too soon to material that was too complex, with some students failing to discover new knowledge for themselves through these approaches. The team was told that lectures were valuable for the transmission of information; the staff had not moved completely from workshops but had added a block of lectures. In meeting 7 the staff acknowledged that the use of the term 'didactic' in the description of the recently introduced lectures had been misleading; the lectures are actually interactive, revisiting earlier material for revision and making use of case-based discussions and electronic voting systems. The students (meeting 6) regarded the use of the electronic voting system with 'clickers' in quizzes as an innovative aspect of teaching; these were used extensively in year 1, to some extent in year 2 and not much in the final year. In response to the team's wish to understand how students' ability to learn independently was assessed, the staff (meeting 2) explained that this would be achieved through the application of knowledge to different cases in the workshops and would be picked up in OSCEs; assessments will be based on case studies to demonstrate that students can apply their knowledge to new situations. The Professional Development Skills (PDS) modules have an important role, with tutor meetings being used to explore learning. There is an emphasis on understanding principles; different ways of learning are facilitated by appropriate support mechanisms. In response to the team's further probing of how the programme achieves the development of independent learning skills, the senior staff (meeting 7) acknowledged that over the years the department had taken the wrong approach with too much 'hand-holding' and that revision sessions had been too orientated towards examinations; the strategy had changed and support was now directed towards the encouragement of independent learning. Now, on day one of the induction week, students meet the Student Experience Officer, who explains that the staff is not there to spoon-feed them but to develop them as independent learners; they can approach members of staff for help but will be directed to appropriate

resources and reading material. In meeting 6, the students confirmed the approachability of the staff, who can be contacted by e-mail or by simply going to their offices and who are willing to answer questions during lectures. In response to the team's wish to understand how they learned to become critical thinkers and independent learners, the students explained that the first year was a big jump from school but they become increasingly independent throughout the course, and have learned critical analysis step by step by year 3, where they go over earlier material. From the first year, where they look at different perspectives, they are taught to read material and question everything, including what they are told in lectures. In year 2, they are required to read a paper and write an abstract. They realised that rote learning was not useful. Fourth year students come into discuss material with students in earlier years. There is a lot of information online and students are given references and pre-reading.

Professionalism (Standards 1 and 5.3)

When asked how, in general, the course was instilling professionalism as part of the culture and was helping them to develop as professionals, the students (meeting 6) told the team that they were constantly reminded of professional practice, including manners and etiquette, and also of the Code of Conduct which they sign in the first year, learning that behaviour such as talking during lectures or turning up late showed a lack of professionalism; they were reminded that they will be pharmacists and ambassadors for the University. This was also achieved through the Professional Development Skills modules, where they considered ethical scenarios. In meetings with their personal tutors, they go through the criteria for a good healthcare professional. The students were aware of the mechanisms for reporting unprofessional behaviour through reporting to the programme tutor and knew about fitness to practise. The students told the team that they were introduced to reflective learning through the Professional Development Skills modules. For example, following OSCEs they complete reflections on the feedback that they have received and consider how they could improve their performance. They meet with their personal tutors and the rest of group, with whom they go over the feedback and also see the feedback from students in senior years. The team was told that the personal tutor system was effective, with tutors providing feedback and readily responding to students' problems.

4. Assessment and feedback (Standard 5.8)

Asked about the range and number of assessments, the students (meeting 6) told the team that they were assessed using a balance of examinations and coursework, with coursework setting the bar for what they were required to do and forcing the students to develop skills. The dispensing classes provided critical preparation for the final year, allowing the students to adapt to different scenarios. Some coursework was online; for example, students were required to write an account of an exercise involving the manufacture of a batch of tablets to BP standards. Other coursework assessments included laboratory classes and essays. The students told the team that they were provided with plenty of time for completion of coursework. OSCEs formed an important component of the assessments, with OSCEs in every year. First year OSCEs, comprising 6 stations, were simply formative and the students received immediate, individual feedback. In other years, there were both formative and summative OSCEs, with two in each year, comprising 14 stations, two of which were 'rest stations'. The stations covered various elements such as patient counselling, paediatric prescriptions and legal matters, some being unmanned stations on calculations; the OSCEs included 'critical fail' elements. Formative OSCEs were treated exactly the same as summative ones.

In response to the team's wish to learn about the feedback that students receive, including its timeliness and thoroughness, the students (meeting 6) stated that they always get feedback and can question this if uncertain, with feedback sometimes being good. Feedback was provided when critical summative assessments had been failed. Students were provided with the marking schemes and were told into which mark band they fell. Feedback on coursework was very useful preparation for examinations; documents were handed back with comments and general feedback was provided to show where they had gone wrong. Any general problems were addressed.

The team was told (meeting 6) that the students know their student representatives on the Programme Committee; they are approachable and take forward any problems to the staff. Although students did not receive specific feedback on the actions taken, they were aware of changes resulting from these actions, such as changes to the timetable.

5. Inter-professional education (IPE) (standard 5.6)

The documentation and the presentation (meeting 2) described how the IPE strategy had been revised to address the lack of IPE in years 2 and 4, as noted by the accreditation team in 2013. Additionally, revision of the IPE strategy had been necessary, because the original IPE modules had become increasingly centred on the needs of nursing students, with a move to a distance learning model and a consequent reduction in contact time and interactive group work. The team was told that the revised approach to IPE would allow students to further develop standard 10 learning outcomes 10.1.h, 10.2.1.e, 10.2.3.a and 10.2.5.a. There will now be IPE in all four years, with year 1 focussing on activities mostly with optometry students, including addressing ethical and professional dilemmas and communication issues. The year 2 activities deal with dispensing issues, such as incorrect doses, and include simulated ward rounds and a discussion with a dentist. Year 3 involves interaction with students of nursing and radiography, as well as paramedic and postgraduate medical students; activities include in-depth case studies, discussions on personal beliefs, dignity and communication issues, and a consideration of why things go wrong. Year 4 includes a range of workshops delivered by a multi-professional team (including dietitians, optometrists, and renal disease specialists), simulated ward rounds where students are required to act as pharmacists alongside other health care professionals, and an exploration of inter-professional relationships. For 2016/17 the final year will include small-group, multidisciplinary teaching sessions in general medical practice alongside nursing students, medical students and GP trainees; this is being trialled in the current academic year. The students (meeting 6) told the team that they see many other healthcare professional students from the first year onwards and develop understanding and knowledge of what others bring to the holistic treatment of patients; while pharmacists have knowledge of drugs, nurses know about caring. In the first year, they work with optometry students in the simulation suite on scenarios dealing with consent, communication and ethics; here, working together, they make videos on which there is assessment and feedback. There was not much inter-professional learning in the second year but there was problem-based, self-directed learning involving group work, where they learned as part of a team. There had been a workshop on professionalism and ethical dilemmas with students of nursing, optometry and physiotherapy. Third year students worked with students of nursing and optometry, as well as paramedic students on group presentations, and used many media platforms to learn how all healthcare professionals work together, seeing both good and bad examples. The students remarked on the extensive experience of nursing students, who spend a great deal of time on placements. In the final year, there are clinical simulations, building on lectures, where students learn how to interact with prescribers, based on scenarios such as a patient who is constipated while receiving morphine and a patient treated with Gaviscon where there are concerns about sodium loading.

6. Placements and patient engagement (standards 2 and 5.6)

The team was told (meeting 2) that students encounter patients in all years with progressively increasing exposure. Patients are used in OSCEs throughout and there are visits/placements in each year, these being two day visits in year 3 and three-day visits in year 4. The Casualties Union will be used in years 3 and 4. In meeting 2, the team sought further information on the Department's strategy for placement and practice activities and an understanding of what the department was trying to achieve through these activities. The staff explained that the approach was to start with simple observational activities in year 1, gradually increasing students' involvement and participation, so that by years 3 and 4, students will be undertaking tasks in both community and hospital pharmacy, putting their learning into practice. In year 3, activities will be based on workbooks and students will be required to take a drug history under supervision and build it into a care plan. Students also look at simulated care plans, where they are required to use the evidence base to determine what is wrong with them. Simulations (one, three-hour simulation) of both community and hospital pharmacy are used in year 4, as well as actual placements, where the aim is for students to spend three days in hospital and one day in community pharmacy. During these placements, students have specific tasks, including interacting with another healthcare professional who is not a pharmacist, reviewing a prescription having at least five medicines and considering interactions and benefits, as well as making over-the-counter recommendations for both adults and children. During their Professional Development Skills modules, students meet with their tutors on four to five occasions, where they are required to hand in their reflections on placements and other matters, such as how laboratory classes link with professionalism. In relation to what the Department is trying to achieve through the placement activities, the team was told that the intention is to instil students with critical thinking and build their confidence, ensuring that students can apply their knowledge. The programme starts with minor ailments, dealing with use of WWHAM questions. The students (meeting 6) confirmed the introduction to minor ailments and over-the-counter medicines in year 1, where they undertake a project followed by a presentation; this is followed up in the second year in the clinical simulation suite, building on knowledge acquired in the first year. Once confident with simple tasks, they progress to more complex activities, where their decisions, which may also relate to scientific aspects, must be evidence-based and rational. Confidence is built through exposure to and meeting patients in year 3 and dealing with more complex patients in year 4. There is a progressive increase critical thinking, increase in the use of evidence based medicine, and increasing exposure to role models, as well as an increase in confidence. The third and fourth year students (meeting 6) confirmed this progressive increase in confidence, with the final year students telling the team that the development of confidence needs the prior acquisition of knowledge. The students (meeting 6) confirmed and amplified the placement-based activities and patient-related activities across the years and told the team that they are also encouraged to gain experience through jobs and summer placements. The team was told that although patients do not come into the University, they meet patients while out on placement. As well as a one day placement in year 1, students interview patients using prepared questions. Year 2 includes a one day placement, which could be either in industry or community, and students also participate in ward-based simulations of clinical scenarios. In year 3, there is a lot of patient contact, where, working in groups of five, students question five different patients, with the groups rotating round the different patients in an OSCE-like manner. This exercise requires students to prepare using patient drug histories. Additionally, students undertake a two-day hospital placement, where they take drug histories and prepare care plans. There is a formative OSCE session where, although patients are played by actors, the students take this seriously and learn through the exercise; actors are involved in the OSCEs which are held in each year. In years 3 and 4, they spend respectively two and three days in hospital, as well as, in year 4, having a patient simulation workshop and undertaking inter-professional education based on patients. The team was told that the final year includes an optional patient module, where the pharmacist is also a patient.

Concerning the quality assurance of placements, the team was told of established quality assurance procedures, which had been the responsibility of a member of staff dedicated to that activity. There is a web-based platform onto which interested pharmacies can log. Potential premises are visited using the QAA checklist, for example, to ensure that mentoring will be available. Only pharmacies with permanent pharmacists are used, excluding those that are run by locums. Criteria include the

appropriateness of the size of the premises, how busy the pharmacy is, and the variety of services offered by the pharmacy. The registration of the premises is scrutinised, along with a history of any problems. The Department has stopped using some community pharmacies, and, similarly, adverse CQC reports have resulted in removal of hospitals from the list of premises used. Premises are visited every three years, and feedback is obtained from students. As the Department pays for placements, it is in a position to make mandatory the requirement for training, which comprises both face-to-face and online activities, as well as annual updates. In meeting 6, the students expressed satisfaction with the level of supervision on placements. The contact person was always present and the students were handed over to, for example, a pre-registration trainee or another person. The teacher-practitioners had a good understanding and there was always a range of patients to see.

7. The departmental response to the poor performance of Hertfordshire graduates in the GPhC registration assessment (standards 4 and 5)

The senior staff reassured the team (meetings 2 and 7) that the department was looking at all factors contributing to the poor performance in the registration assessment and was aware of the need for change, although performance at the second attempt is better. Acknowledging the link between the quality of the pre-registration training placement and success in the registration assessment, the staff told the team that while Hertfordshire graduates do obtain competitive pre-registration placements in top hospitals as well as split industrial placements, most do not apply for these and seek places in the closest pharmacies to where they live, sometimes turning down very good hospital placements; many are from minority backgrounds and are the first in their families to attend university. Another factor is the holding of resit examinations in June, which means that weak students were not ready for these and used the system strategically to pick off examinations across the main and resit diets. In addition to changes in the programme that commenced in 2013 and other changes made more recently, other remedial actions include encouraging students to take vacation employment in hospitals, even if this is unpaid, as well as helping students to complete their CVs and cover letters. Moreover, as discussed in section 3, the staff team had changed. In meeting 7, the staff reiterated that reflections on the poor performance in the registration assessment was an important factor in the changes made to the programme, along with the recognition that some aspects were inappropriate. The concern was the adequacy of clinical application and knowledge of pharmacology, with the main aim being to produce graduates who could apply what they had learned, linking everything to clinical excellence and patient safety. The introduction of the large 'Pharmacotherapeutics' modules in year 2 and the new module in year 3 with an emphasis on clinical pharmacology, provided the grounding, allowing further development in years 3 and 4; years 1 and 2 covering anatomy, physiology, pharmacology and therapeutics formed a strong basis upon which to build. Previously, the new programme had jumped to a too high level with problem-based and case-based learning. The mode of delivery had not changed overall, although the blend was now different. A big difference from the old programme was the change from science modules and practice modules to a delivery in which students will not now differentiate between science and practice; integration is now considered to be good (as discussed in section 3 above). All modules are now delivered by teams comprising a mixture of pharmacy registrants and non-registrants, with modules linked by the use of themes in each year. For example, in year 1 paracetamol cuts across modules, while in years 2, 3 and 4, the cross-cutting themes are, respectively, antimicrobial agents, controlled drugs and chronic diseases such as diabetes. Practising pharmacists in teams provide realistic scenarios and practical examples, such as aseptic manufacture, where students must integrate science and practice. Moreover, staff members work on more than one module team, with people getting together over the summer as year groups; there is responsibility within module teams and group responsibility across the year, with an overview being needed to develop the assessments.

Acknowledging the possible contribution of the quality of the intake to ultimate performance in the registration assessment, and in response to the team's wish to learn if entry standards had been raised, the senior staff (meeting 7) explained that while entry requirements had been increased, the department had initially gone too far in demanding 360 points, as candidates with such qualifications would seek places at competitor institutions; consequently, the requirement had been reduced to 320 points. Noting that many students achieve entry through 'Access' programmes and the Science Foundation Year, the team sought information on the comparability of

these qualifications and was told that the requirements had been standardised in terms of credits and levels, and that the progress of students admitted through these routes was monitored; students with these qualifications were succeeding as judged by the standards and numbers of resits, although BTEC qualifications remained problematic, as it was too easy to attain 360 points. For the current year, the intake profile has changed with, for example, a lower average age but 'Access' routes were still being considered. The University has a widening access agenda which can result in conflict in terms of trying to achieve the appropriate entry standards. The team was told that the Department was wise to students exploiting the widening access agenda to obtaining a place and investigated the background to applicants' qualifications. Internal transfers from the Foundation Science year are accepted, but requirements have been increased, with, for example, a minimum of 70% in chemistry being demanded. Members of staff are external examiners for the 'Access' course and entry standards are examined closely. The Department wished to accept applicants who wanted to be pharmacists and who stood a good chance of graduating. In response to the team's comment that the current first year included a pharmacy graduate from another UK university, the staff explained that this was a student who had run out of time for registering after graduation.

When asked about the support they received in preparation for pre-registration placements and in obtaining these placements, the students (meeting 6) told the team that they received a great deal of support, with the modules covering all relevant material, such as 'responding to symptoms' and they were continually reminded of what they needed to do as pre-registration trainees. Third year students were told to take applying for pre-registration places very seriously; they were advised that students who undertook pre-registration training in hospitals did better and that they should not take the easy option. There was also a lot of support for obtaining placements, with open days, pre-registration posts being displayed via StudyNet, and final year students coming along to provide an account of their experiences. Several seminars were held to help with applications and students were advised about summer placements. Information was provided by the Boots teacher practitioner, whom they meet during workshops, and who emphasised the necessity to obtain a summer placement with Boots, as well as helping with their applications. Successful applicants to Boots undertake a preparatory session with the company.

The team counselled the senior staff (meeting 7) to focus on the Hertfordshire graduate profile and develop their own assessment strategy, rather than being driven by the registration assessment. The temptation to tinker with a programme that was still being rolled out and with its outcomes yet unknown should be resisted. The staff stated that the programme was now about right and that support mechanisms had also been improved.

Separately from responding to the interim visit report, the Department would be asked to send to the GPhC a formal document articulating its strategy for addressing the problems made evident by the performance of graduates in the registration assessment.

8. Observation of student activities (standards 5 and 10):

The following summarises comments made by those team members who observed the activities.

Activity 1: Inter-professional simulation workshop – year 1

This first year inter-professional session involved students of pharmacy and optometry and focussed on patient safety and multidisciplinary team working. It was designed to build on lecture material and previous sessions to develop particular skills and competencies, such as working effectively with others, using interpersonal and communication skills to clarify tasks and identify issues in a range of inter-professional contexts, and identifying and explaining the benefits of inter-professional practice in health and social care delivery. The students worked in groups to consider various scenarios and engaged well in the activity. Overall, the observer concluded

that this was an adequate session, which partially or fully addressed the learning outcomes. The session was adequate for the introduction of IPE but the School should be encouraged to involve more healthcare professionals in the future. The School should also be encouraged to further develop sessions which allow the demonstration of good inter-professional working leading to improved patient care.

Activity 2: Dispensing Case Study Workshop - 'Legal Checks of Prescriptions'

The aim of this session, which was the second in a series of first year dispensing workshops, was to examine prescription interpretation and dispensing using NHS prescription forms and focussed specifically on their legality. The learning outcomes included interpreting and legally checking prescriptions, retrieving information from the BNF for cautionary and advisory labels, retrieving appropriate counselling information from the BNF, and applying theoretical knowledge for dispensing to a practical situation. The session was organised in room which included a simulated dispensary and rows of low benches at which students could sit in front of a computer. There were three members of staff, including two teacher practitioners working with 33 students. The students were given a number of tasks, including performing some calculations without a calculator, deciding on whether particular prescription details were legal or professional requirements, and picking the correct medicine to dispense a prescription. The students, who all wore white coats but were not otherwise dressed professionally, engaged diligently with the tasks and participated in the group discussions which were held on completion of each task with a member of staff. While the students were engaged with their first task, the staff members marked the homework from the previous session. Overall, the observers agreed that the session was well conducted and met the learning outcomes.

Activity 3: Clinical Simulation

The objectives of this session, which covered a number of standard 10 learning outcomes, included understanding aspects of pharmacodynamics, pharmacokinetics, and drug interactions, as well as developing team-working skills, with patient safety as the main learning outcome. Within the session, the students undertook role play in groups of around eight looking at one of six different clinical scenarios. After each scenario, the group discussed the case, giving students the opportunity to participate. The session was preceded by an introduction that covered IV fluids and an introduction to SimMan. Within each group, students were given the opportunity to integrate learning from other areas of the programme. The assessment, which contributed 10% of the module mark, included peer marking against a set of criteria which stipulated different skills and the level of participation to give an overall score, based on knowledge and teamwork. Overall, the observer was very impressed with the session and the value of introducing students to a simulated ward environment; student feedback was very positive and the observer agreed that the educational objectives had been met. However, the benefit would have been greater if there had been more discussion of situations in which students had administered incorrect therapies. It was also unclear how assessment of individual student participation was undertaken.

Activity 4: Dispensing Case Workshop

This session was the first in a series of dispensing case workshop classes run in year 2 with a focus on prescription interpretation and dispensing relating to the gastrointestinal system and interactions, and incorporated knowledge from physiology, pharmacology, therapeutics, chemistry, drug design, responding to symptoms and pharmaceuticals. Students worked individually as well as in small groups in considering three prescriptions. The session allowed students to fully engage by asking questions and discussing how to choose an alternative drug using the BNF.

Activity 5: Evidence Based Workshop on Epilepsy

In this session, third year students reviewed material on the treatment of epilepsy and evidence based medicine and applied critical appraisal checklists to a range of published studies in order to better understand the hierarchy of evidence involved in publishing clinical guidance and technology appraisals. Students were split into 4 groups, and used CASP (Critical Appraisal Skills Programme) tools to critically appraise an array of papers/case studies. They each presented their findings and peers acted as a 'NICE panel', giving them an appreciation of the process used to formulate guidelines based on evidence. The observer agreed that the educational objectives of the session were met.

Activity 6: Practice Visit to hospital site

The session comprised a one day observational visit for second year students to an NHS Trust. There was an introductory session (held in the tea room, due to lack of space) setting the scene for the hospital and the visit, and covering aspects such as health and safety, confidentiality, and infection control. Following the introduction, there was further discussion of various hospital activities such as medicines reconciliation and discharge medicines. This was followed by an observation session on the use of EPMA and then by visits either to a paediatric ward or to an acute medical admissions ward, where the students, in pairs, were accompanied by a junior pharmacist. After the ward visits, the students visited the dispensary, where they watched the pharmacist in outpatients, checking and handing out prescriptions, as well as observing a technician. The whole visit concluded with a one and a half-hour discussion covering near misses, risks in the dispensary, the roles and responsibilities of the pharmacist, differences between hospital and community pharmacy and a discussion on the CQC. Student engagement was good and the observer's overall view was that although the whole visit met the objectives, the introductory and concluding sessions could have taken place outside the hospital environment and occupied a disproportionate amount of time. Moreover, there were missed opportunities for clinical education and one of the junior pharmacists displayed poor knowledge in response to students' questions.

Activity 7 Drug discovery and design workshop

The aim of the workshop was to contextualise the process of drug discovery and medicine development, in this case an anti-obesity agent, from laboratory to patient, particularly considering how issues such as patent law and clinical data could influence this process at different stages. The learning outcomes were for students to be able to explain the general process of drug discovery and medicine development from laboratory to patient, critically evaluate scientific data in order to objectively make a decision regarding the development or rejection of potential clinical candidates, identify potential pitfalls in the development of a medicine, and establish contingencies as part of the process to minimise the risks. This activity involved a group of 44 students split into groups of five to six and took place in a tiered lecture theatre with two members of staff. Although designed as a three hour workshop, timetabling constraints meant that it had to be split into three one hour sessions. After a brief introduction, the groups had to first understand the hypothesis which was concerned with agents acting at cannabinoid receptors. Following this, the students were provided with pharmacological and 'Lipinski' data on 12 agents, from which they had to select up to six to take forward for development; their decisions were made on the pharmacological selectivity of the agents, their profiles at cannabinoid receptors and their matching to Lipinski's rules. The students engaged well with the tasks during the session but some had clearly not undertaken the necessary preparation. Moreover, at various stages during the session, the students had to answer questions posed by the lecturer, the answers being made using an electronic voting system; this did not work because fewer than half of the students present had remembered to bring along their handsets.

Activity 8 Responding to Symptoms workshop

The aim of this final year session was to consolidate all responding to symptoms material from previous years of the course, using complex patients with co-morbidities, or communication issues, experiencing adverse drug reactions and/or who have particular faiths or beliefs which may affect treatment choice. The learning outcomes included professional and effective communication with patients having complex health needs, effective use of a suitable questioning technique to ensure recommendation of appropriate treatment, prevention of patient harm, and application of the principles of differential diagnosis and evidence based medicine in responding to symptoms at the pharmacy counter. The observer saw two case scenarios, one comprising a patient on lithium and an NSAID (interaction), the other being a patient presenting to the pharmacy with a rash. The students were highly engaged with the activity, with each role playing a pharmacist, patient and observer, with feedback provided by the lecturers after each scenario. It was clear that the students struggled at times with linking the clinical information to previous years' work; for example, some had not understood the importance of lithium interacting with NSAIDs. The team thought that the cases presented were basic for the final year. However, these students were on the old MPharm programme.

Conclusions

The accreditation team advised the School that the team's conclusions from this visit were based on what team members had been told, what they had observed, and documents that they had read over the course of the visit and the satellite visits. The purpose of this interim visit was to monitor the progress made with delivering the MPharm degree since the 2013 reaccreditation, and to observe a range of educational activities that related to practice and the standard 10 outcomes. Interim visits cover selected topics and not all standards are discussed; thus, standards 1, 3, 6 and 7 were not addressed at this visit. The range of activities observed had given the team an insight into opportunities available to the University of Hertfordshire students to develop their skills. These activities, which included coverage of legal and ethical issues, as well as clinical scenarios, allowed team members to interact with students, and showed how students developed their critical thinking skills and developed some aspects of independent learning. It was clear that students were benefitting from the approaches used, for example, to managing symptoms in the pharmacy, and they explained how much they helped them to develop; however, they were in agreement that earlier exposure to these clinical scenarios would have given them more confidence. The team members welcomed the opportunity to observe students on hospital placements. They thought the range of activities undertaken by the students were appropriate, but there was a recognition that the students could have been challenged further with more meaningful clinical activities and outcomes.

The team recognised that the curriculum was integrated and this was confirmed by the students. Although having some initial doubts about the changes made, the team was satisfied that the programme was developing and that it remained integrated. The assessment strategy also appeared robust. The team would encourage the staff to keep monitoring progress and working together to ensure that the programme is fit for purpose.

With regard to the inter-professional education (IPE), the team heard a lot of 'learning about' but very little of 'learning with' and 'learning from'; the CAIPE definition of inter-professional education is "learning with, from and about". The team's view was that although there were examples of IPE in the curriculum, it was not consistent and did not increase year on year. The level of patient engagement was limited and inconsistent, particularly the reliance of the placement provision for this patient exposure. There was evidence that the students clearly benefitted from this patient engagement to develop their confidence.

Therefore, it will be a **condition** of this interim visit that the University must develop and articulate an IPE and patient engagement strategy. This is to meet standard 5.6. The deadline for meeting this condition is before the start of the next cohort in autumn 2016. This strategy must be sent to the GPhC for review and approval.

The team was pleased to meet the students, who came across as intelligent, articulate and mature in their engagement with the team. They clearly appreciated the support that they received from members of staff at Hertfordshire, who were enthusiastic and acted as good role models.

Following the above interim visit, the Registrar of the General Pharmaceutical Council agreed with the accreditation team's recommendation that a condition be imposed. The condition must be met before the intake of students at the start of the 2016-17 academic year.