

Reaccreditation of a Master of Pharmacy degree course (MPharm)

University of Reading

Report of a reaccreditation event, 26-28 March 2014

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*. It requires the GPhC to 'approve' courses by appointing 'visitors' (accreditors) to report to the GPhC's Council on the 'nature, content and quality' of education as well as 'any other matters' the Council may require.

This reaccreditation event was carried out in accordance with the GPhC's 2011 MPharm Accreditation Methodology and the course was reviewed against the GPhC's 2011 education standards 'Future Pharmacists: Standards for the initial education and training of pharmacists'.

Background

The MPharm programme at the University of Reading is delivered by the School of Pharmacy (RSOP), which is a department within the joint School of Chemistry, Food and Pharmacy (SCFP). In 2009, the MPharm programme at Reading completed parts 1 and 2 step 7 of the accreditation process for a new MPharm degree. At that time, the team recommended to the Royal Pharmaceutical Society of Great Britain, the then accrediting body, that the degree should be accredited for a full five year period subject to two conditions; the team also made two recommendations.

Conditions

- i. The Society must be provided with an agreed Operating Plan (Business Plan) for pharmacy which should include the impact of funding consequent upon the result of RAE 2008.

- ii. The Society be provided with the routine Annual Report of the MPharm for the 2009-2010 academic year, which should include a critical evaluation of the OSCEs, placement provision, Research Methods and Research Project modules, and of the accuracy of hours devoted to teaching, learning and assessment.

Both conditions were met through the provision of the relevant documents according to the required timescale.

Recommendations

- i. The accreditation team recommended that the School discuss the current funding model for placements with the university in order to secure additional funding for the current provision, to place it on a firmer financial and organisational footing. Accordingly, the School has worked with the University's contract officer to ensure that all placements are now subject to contractual agreements that are signed by the University's contract officer, and the appropriate lead at the placement site. As part of this procedure, the School has also reviewed the financial arrangement for placements and has secured, through the 3 Year Planning Process, an additional annual vote to the Department of £25k, to support placement provision. Additional administrative support for the arrangement and monitoring of placements has also been secured from University central funds.
- ii. The accreditation team also recommended that the School discuss the allocation for books in the University library, which appears extremely low in the context of sector norms. In response, the School explained that the library currently maintains a collection of over 400 Pharmacy-specific texts offering most as multiple print copies and electronic versions. In addition to Pharmacy-specialist texts, RSOP students also make much use of other subject collections (i.e. Chemistry (analytical and organic chemistry), Biological and life sciences (physiology, biochemistry, microbiology, medicinal plants), Medicinal sciences (medical microbiology, endocrinology and nursing)). There is a wide-range of Pharmacy-specific print and electronic titles in the Library's reference collections; these include essential resources such as the British Pharmacopeia and Medicines Complete. A Pharmacy Course Collection is also maintained to ensure that Pharmacy titles that are heavily in demand are shared quickly and efficiently between students. The use of key texts is monitored daily by Pharmacy's Liaison Librarian and additional copies of heavily used texts are ordered as required. The Library aims to offer at least one copy of each essential title for every 10 students enrolled on a course (i.e. 10-15 copies for a typical Pharmacy module). All new purchases are also purchased as e-books (when available) to maximise student access. There is an expectation that RSOP students will use primary research journal articles in their studies, especially in Part 3 and Part 4. The vast majority of pharmacy-related journals are supported by the Central Library or e-resource budgets and are purchased as part of various subscriptions, bundles or publishers' packages (i.e. the University subscribes to Science Direct). The Pharmacy departmental library budget supports subscriptions for an additional 20 journals or publishing packages; the costs of several of these subscriptions are shared with other Schools or Departments (i.e. Psychology, Food and Nutritional Sciences, Chemistry, Biological Sciences). From 2011, the subscription to Science Direct was absorbed by the Central Library funding.

The Reading School of Pharmacy has also been invited to develop a UK School of Pharmacy on the University's Malaysian campus (University of Reading Malaysia) and is pursuing accreditation of a '2+2' MPharm course, with students following the first two years of the course in Malaysia and the first cohort joining the UK campus in 2017. However, while some references are made to this proposed activity in the context of its potential impact on the course delivered in the UK, the present report relates only to the reaccreditation of the MPharm programme delivered in the UK.

Documentation

The provider submitted submission documentation to the GPhC in line with agreed timescales and a pre-visit took place at the University of Reading on 3 March 2014. During the pre-visit the schedule of meetings and timings for the reaccreditation event were confirmed.

The event

The event began with a private meeting of the accreditation team and GPhC representatives on 26 March 2014. The remainder of the event took place on site at the University of Reading on 27-28 March 2014, and comprised a series of meetings with staff of the University and included a tour of some of the University facilities. The team also met a group of students/former students comprising three from year 1, four from year 2, four from year 3, six from year 4 and three alumnae. These students were volunteers who had responded to an e-mail asking for student availability on the dates of the visit.

Accreditation team

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

Name	Designation at the time of accreditation event
Dr Andy Husband*	Team leader, Dean of Pharmacy, Durham University
Professor Brenda Costall	Team member (Academic), Professor of Neuropharmacology, former Head of School of Pharmacy, University of Bradford
Mrs Karen Pitchford	Team member (Academic), Principal Lecturer in Pharmacy Practice, De Montfort University
Mr Peter Curphey	Team member (Pharmacist), Community Pharmacy Consultant
Mrs Gail Fleming	Team member (Pharmacist), Head of Pharmacy, Health Education Kent Surrey, Sussex
Mr Mark Brennan	Team member (Academic), Executive Director, and Senior Lecturer Pharmacy Law, Ethics and Practice, Keele University
Mr Scott Downham	Team member –(Recently Registered Pharmacist) Clinical Pharmacist, Guys and St Thomas' NHS Foundation Trust
Mrs Leonie Milliner	Accreditation team member (Lay), Chief Executive, Association for Nutrition

along with:

Name	Designation at the time of visit
Ms Joanne Martin *	Quality Assurance Manager (Education), General Pharmaceutical Council
Professor Brian Furman	Rapporteur, Emeritus Professor of Pharmacology, University of Strathclyde
Miss Rosaline Kennedy	Observer, (new accreditation team member) Clinical Pharmacist, Worthing Hospital
Ms Samantha Quaye	(Observer) Council member, General Pharmaceutical Council

*attended pre-visit meeting on 3 March 2014

Declaration of potential conflicts of interest

No potential conflicts of interest were declared.

Meeting the accreditation standards

Accreditation team's commentary	
<p>Standard 1 – Patient and public safety</p> <p>There must be clear procedures to address concerns about patient safety arising from initial pharmacy education and training. Concerns must be addressed immediately.</p>	<p>The documentation stated that the GPhC Student Code of Conduct with its patient safety focus is emphasised to students during the introductory talks each year, along with Fitness to Practise; the GPhC Standards of conduct, ethics and performance are introduced in year 3 and discussed in workshops. Students on placement are always supervised and never given responsibility for any decision that might jeopardise patient safety. Feedback on placements is monitored and any breaches are investigated using established University Fitness to Practise procedures. Throughout the course, it is made clear to students that they must not carry out tasks for which they are not competent. Behaviour and attendance in class is monitored and unacceptable behaviour is dealt with appropriately. All students undertake an enhanced Disclosure and Barring Service (DBS) check, and are required to re-confirm their fitness to practise each year, online, upon enrolment.</p> <p>This standard was met.</p>
<p>Standard 2 – Monitoring, review and evaluation of initial education and training</p> <p>The quality of pharmacy education and training must be monitored, reviewed and evaluated in a systematic way.</p>	<p>The Department follows University guidelines in defining roles and responsibilities for key teaching and learning leadership positions, which were described in the documentation, along with the management of the Department of Pharmacy through its committee structure. The documentation included a description of the processes for quality assurance of teaching learning and assessment for the MPharm programme and these were clarified in meetings between the team and University of Reading representatives. These processes, which incorporate student feedback, are based on module reviews feeding into an Annual Programme report; this report is scrutinised at Faculty and University level. The University conducts periodic reviews of its Schools and Departments every 6 years, and the Reading School of Pharmacy underwent its first periodic review in May 2012. Evidence was presented in the documentation relating to the quality assurance mechanisms for hospital and community-based placements; these are based upon contractual arrangements, as well as feedback from both students and placement providers. While these were sufficient to meet the standard, the team wished to see a more structured approach to the quality assurance of placements.</p> <p>This standard was met.</p>

<p>Standard 3 – Equality, diversity and opportunity</p> <p>Initial pharmacy education and training must be based on principles of equality, diversity and fairness. It must meet the requirements of all relevant legislation.</p>	<p>The documentation described the University’s commitment to equality and diversity and included a report which contains the equality-related data that have been gathered during 2011-2012, as well as an assessment of the progress made and challenges faced in achieving the University’s equality and diversity objectives and recommendations for future action. The documentation described the mandatory training in equality and diversity for new and established members of staff, as well as ongoing opportunities for learning in this area.</p> <p>This standard was met.</p>
<p>Standard 4 – Selection of students and trainees</p> <p>Selection processes must be open, fair and comply with relevant legislation. Processes must ensure students and trainees are fit to practise at the point of selection. Selection includes recruitment and admissions.</p>	<p>The documentation described how the admission of students is managed at University and Departmental level and showed how details of academic entry requirements, how to apply, information about the University and the course and about pharmacy careers, and information about the code of conduct and health/good character checks are disseminated to prospective students. The selection criteria are explicit and all students are interviewed using a standardised interview form, including tests in basic pharmaceutical calculations and chemistry. Applicants overseas are interviewed by video-link or telephone, depending on local internet capacity. The selection criteria relating to academic and professional entry requirements were presented in the documentation and the documentation described how the admissions policy complies with relevant legislation and is consistent with the QAA Code of Practice on Recruitment and Admissions. The University provides clear guidance on equality and diversity issues and the University’s Admissions Policy puts this into the context of student recruitment. Fair treatment is ensured by the use of a standard admissions procedure, and all policies and procedures are regularly reviewed and updated. Admission decisions are based on transparent academic criteria and all staff members receive training on the interview process.</p> <p>This standard was met.</p>
<p>Standard 5 – Curriculum delivery</p> <p>The curriculum for MPharm degrees and the pre-registration scheme must deliver the outcomes in Standard 10. Most importantly, curricula must ensure students and trainees practise safely and effectively.</p>	<p>The documentation, together with presentations from the Department and meetings with members of staff during the event, described a new MPharm programme to be introduced in 2014/15, showing progressively higher levels of integration from part 1 to part 4. Part 1 introduces key concepts and is taught in broad discipline themes made up of three modules, providing students with core science and practice concepts and skills through integrated teaching and assessment activities, supported by discipline focused activities. Modules are interlinked through activities related to the students’ Personal and Academic Development (PAD) Portfolios, and through cross-module topics, such as calculations, dispensing skills, and development of skills in responding to symptoms. The curriculum is informed by research, and deals progressively with issues with increasing complexity in terms of knowledge, skills, and application of knowledge across the four years of the programme. The teaching, learning and assessment strategies have been designed to produce safe and effective practitioners and to enable students to become independent learners, with extensive use of problem-based learning. The programme provides students with time to reflect on their experiences, as well as the feedback needed for them to monitor their own development and seek assistance where necessary. The course balances theory and practice and incorporates a variety of professional experiences through inter-professional learning activities, public and patient involvement and placements in community and in hospital pharmacy.</p>

	<p>Although the documentation had described rather few current opportunities for learning alongside other healthcare professionals, the team was encouraged to see plans involving future activities with, for example, student nurses, medical students, and students of speech and language therapy and looked forward to seeing the implementation of these plans during the practice visit in three years. Similarly, the team would encourage the School to increase the number of placement-based activities.</p> <p>The team was confident that this standard will be met.</p>
<p>Standard 6 – Support and development for students and trainees</p> <p>Students and trainees must be supported to develop as learners and professionals during their initial education and training.</p>	<p>As described in the submission and discussed with staff and students during the event, students are provided with learning and pastoral support, both of which are provided by the University centrally and within the School. Each student has a personal tutor and there are scheduled meetings, in addition to meetings arranged at the students' request. Tutors may refer students to a range of central support services and play a key role in year 3 by providing support and advice on students' pre-registration applications. Central academic support covers, for example, numeracy, essay writing, careers management skills, time management, statistics, study skills and IT training. Within the School, students are provided with additional learning support through tutorials, workshops, practical classes and problem-based learning sessions. Students are supported in self-development and career management skills through engagement with their Personal and Academic Development portfolios, which is closely linked to all modules and all personal tutor meetings. The portfolio covers career development, self-development, clinical knowledge, research and enquiry skills, and reflection on feedback and assessment. All pharmacy students also have access to a Continuing Professional Development (CPD) recording system, which resembles the GPhC template for recording CPD. There is a buddy system to help students integrate into the Department. The School makes extensive use of the Blackboard virtual learning environment to provide a variety of support resources such as lecture notes, podcasts, videos, quizzes, and discussion fora.</p> <p>This standard was met.</p>
<p>Standard 7 – Support and development for academic staff and pre-registration tutors</p> <p>Anyone delivering initial education and training should be supported to develop in their professional roles.</p>	<p>The support mechanisms available for members of staff include a Staff Development Review process, during which workload and training needs are discussed. As part of this process, the Department's workload model allows the Head of Department to ensure that staff members are given appropriate opportunities to develop in their role. Day to day support for staff members is provided by their line managers and members of their cognate area team; this is further enhanced through a buddy team. Staff members who are on probation also benefit from support from their mentors, with whom they meet regularly. The team was informed that the Staff Development Review is changing to become a Performance Development Review. All staff members are alerted to training programmes, and regular training and discussion meetings are arranged in-house. Development of teaching and assessment roles is further enhanced through peer review of teaching, which is undertaken regularly for all staff using both formal and informal mechanisms. The induction processes for members of staff were described in the documentation. This includes a formal one day central University induction programme which provides the essential guide to working at the University, as well as local induction covering information on matters such as health and safety, equality and diversity and professional development. The local induction process also involves meetings with key</p>

	<p>members of staff to discuss the roles and expectations of the new staff member's post. All new members of academic staff (including part-time staff) without extensive experience in teaching and assessment are required to attend and pass the Postgraduate Certificate in Academic Practice, or the Teaching and Learning Support Programme, as considered appropriate by the Head of Department. All non-pharmacist members of staff, as well as those pharmacists who do not currently undertake clinical practice, are required to familiarise themselves with the role of the pharmacist in community and hospital through, for example, discussions with clinical pharmacists within the Department. The team was told how the University's promotion criteria had been changed to recognise a broad range of distinguished contributions in addition to research (<i>Also relevant to criterion 9.1.c</i>).</p> <p>This standard was met.</p>
<p>Standard 8 – Management of initial education and training</p> <p>Education and training must be planned and maintained through transparent processes which must show who is responsible for what at each stage</p>	<p>The roles and responsibilities associated with the key teaching/learning and leadership positions were described in the documentation along with the quality assurance procedures and committees associated with the MPharm at departmental, faculty and university level. The documentation also described the structures and processes for managing the delivery of the MPharm, along with the facilities available for the programme.</p> <p>This standard was met.</p>
<p>Standard 9- Resources and capacity</p> <p>Resources and capacity are sufficient to deliver outcomes.</p>	<p>The mechanisms for requesting and allocating resources for delivering the MPharm were described in the documentation and the team was told that the University of Reading was in a strong financial position, enabling the support of strategic initiatives. The staffing of the School was clearly sufficient to support the programme and the team was informed of new appointments that had been made. The team's concern about the potential impact of the initiative to establish a 2+2 MPharm with the University's Malaysian campus on staffing and other resource was allayed by the strong support for this project from both the School and the University. There were clearly sufficient physical resources available to support the MPharm programme, including the library, student academic support facilities, as well as IT resources such as computing facilities and the virtual learning environment, Blackboard, which is used to support learning activities through lecture notes, podcasts, videos, quizzes, module handbooks, links to further reading, and discussion fora for the various modules. The School housed appropriately-equipped laboratories for teaching chemistry, pharmaceuticals, pharmacology and therapeutics, microbiology and aseptic techniques, along with a pharmacy practice laboratory equipped with 60 computers running relevant software; this included consulting rooms equipped with video recording facilities for role play, counselling sessions, and OSCEs and the team was told of the University's £1M investment to develop a new clinical skills area.</p> <p>This standard was met.</p>

Standard 10 - Outcomes	<p>The team scrutinised the learning outcomes by discussions with the teaching staff in two parallel subgroup sessions exploring integration and outcomes. Rather than examining each of the 58 outcomes in these sessions, a selection of eight outcomes was chosen for detailed discussion. The University staff members were unaware of the outcomes to be discussed before the meeting. For each of the eight outcomes scrutinised in detail, the evidence provided by the discussions with the staff, along with other evidence provided with the documentation, gave the teams confidence that these outcomes would be met at the required level. As this selection represented approximately 14% of the total outcomes, the team was confident that all other outcomes would be similarly met. This view was supported by the documented material for each of the other outcomes, which had also been scrutinised by the team.</p> <p>The team was confident that standard 10 will be met.</p>
Indicative Syllabus	<p>The team was content with the School's use of the Indicative Syllabus to inform its curriculum.</p> <p>The team agreed that the MPharm degree met the requirements of Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualifications for the initial education and training of pharmacists.</p>

Summary and conclusions

The accreditation team agreed to recommend to the Registrar of the General Pharmaceutical Council that the University of Reading should be reaccredited to provide an MPharm degree for a further period of six years, with a practice visit to take place in three years. There are no conditions or recommendations.

Standing condition of accreditation:

These are the conditions which will apply in all circumstances of degree accreditation:

1. The school or department of pharmacy always seeks approval from the General Pharmaceutical Council for curriculum amendments and always at least informs the General Pharmaceutical Council of significant changes to pharmacy undergraduate student numbers or resources for their teaching, learning support and assessment, including any change from internal to teaching, learning and assessment from outside the school or department;
2. The school or department of pharmacy produces and submits to the General Pharmaceutical Council annually requested data on student numbers and progression and degree awards;
3. The school or department of pharmacy produces and submits to the General Pharmaceutical Council annually requested information about the extent of human and physical resources it enjoys for the delivery and support of the degree course;
4. The school or department of pharmacy or the university makes students and potential students aware of the existence and Internet address where they can view the General Pharmaceutical Council's summary reports of degree accreditation exercises, main after- actions therefrom and of the timetable for future accreditation exercises.

The *Pharmacy Order 2010* states:

Part 5 Education, training and acquisition of experience and continuing professional development, Information to be given by institutions or other providers, 46. ...

(3) Whenever required to do so by the Council, any institution or other provider to which this article applies must give to the Council such information and assistance as the Council may reasonably require in connection with the exercise of its functions under this Order.

(4) Where an institution or other provider refuses any reasonable request for information made by the Council under this article, the Council may, in accordance with article 47 ('Refusal or withdrawal of approval of courses, qualifications and institutions'), refuse to approve or withdraw approval from, any course of education or training, qualification, test or institution or other provider to which the information relates.

It is a requirement of accreditation that institutions or other providers provide the GPhC proactively and in a timely manner with any information which is, or has the potential to be, material to the delivery of an accredited course. This includes, but is not limited to: changes in staffing, changes in funding, and/or substantial changes in curriculum or delivery.

Reference: <http://www.legislation.gov.uk/ukSI/2010/231/contents/made>

Caution: Preregistration and employment as a pharmacist:

- In respect of all students, successful completion of an accredited course is not a guarantee of a placement for a pre-registration year or of future employment as a pharmacist.

Following the above reaccreditation event, the Registrar of the General Pharmaceutical Council agreed with the accreditation team's recommendation and approved the University of Reading MPharm degree for reaccreditation a further period of 6 years. Reaccreditation will take place in six academic years' time; with an interim visit in three academic years' time (2016/17).

Appendix 1 – Standards for the initial education and training of pharmacists

Standard 1 – Patient and public safety

- 1. There must be clear procedures to address concerns about patient safety arising from pharmacy education and training. Concerns must be addressed immediately.**
- 1.1.** There must be effective systems in place to ensure that students *and trainees*:
 - 1.1.a** do not jeopardise patient safety;
 - 1.1.b** only do tasks for which they are competent, sometimes under supervision;
 - 1.1.c** are monitored and assessed to ensure they always practise safely. Causes for concern should be addressed immediately;
 - 1.1.d** have access to support for health, conduct and academic issues;
 - 1.1.e** must not be awarded an accredited degree *or pass pre-registration training* if they might pose a risk to patients or the public;
 - 1.1.f** understand what is and what is not professional behaviour and are familiar with the GPhC's *Code of Conduct for Pharmacy Students (2010) Standards of conduct, ethics and performance (2010)*;
 - 1.1.g** understand what fitness to practise mechanisms apply to them. All schools of pharmacy must have fitness to practise procedures to deal with student causes for concern;
 - 1.1.h** undergo required health and good character checks;
 - 1.1.i** understand that it is an offence to impersonate a pharmacist. Pharmacists are registrants of the GPhC.

Standard 2 – Monitoring, review and evaluation of initial education and training

2. The quality of pharmacy education and training must be monitored, reviewed and evaluated in a systematic and developmental way.

2.1 There must be systems and policies in place covering :

2.1.a information about roles & responsibilities and lines of accountability;

2.1.b university information on:

2.1.b.i entry requirements;

2.1.b.ii the quality of teaching, learning and assessment;

2.1.b.iii the quality of placements and other practice learning opportunities;

2.1.b.iv appraisal and feedback systems for students and trainees;

2.1.b.v supervision requirements;

2.1.b.vi educational resources and capacity;

These must be monitored, reviewed and evaluated systematically. When an issue is identified it must be documented and dealt with promptly;

2.1.c *pre-registration tutors evaluating trainees. To do this, tutors must have access to reliable evidence about a trainee's performance. Tutors must be competent to assess the performance of trainees;*

2.1.d *the quality and development of pre-registration tutors.*

Standard 3 – Equality, diversity and fairness

3. Initial pharmacy education and training must be based on principles of equality, diversity and fairness. It must meet the requirements of all relevant legislation.

3.1 systems and policies for capturing equality and diversity data. Concerns should be documented, addressed and disseminated;

3.2 strategies for staff training in equality and diversity

Standard 4 – Selection of students *and trainees*

- 4. Selection processes must be open, fair and comply with relevant legislation. Processes must ensure students *and trainees* are fit to practise at the point of selection. Selection includes recruitment and admissions.**
- 4.1** Selection process must give applicants the information they need to make an informed application.
- 4.2** Selection criteria must be explicit. They should include:
- 4.2.a** meeting academic and professional entry requirements;
 - 4.2.b** meeting English language requirements appropriate to MPharm degree study. Guidelines issued by English language testing bodies should be followed to ensure that admissions language requirements are appropriate;
 - 4.2.c** meeting numeracy requirements;
 - 4.2.d** taking account of good character checks, such as Criminal Records Bureau (CRB)/Disclosure Scotland checks;
 - 4.2.e** passing health checks (subject to reasonable adjustments being made). Health checks could include self-evaluations and/or evaluations by healthcare professionals;
 - 4.2.f** recognising prior learning, where that is appropriate
- 4.3** Selectors should apply selection criteria fairly. They should be trained to do this. Training should include equality and diversity matters

Standard 5 – Curriculum delivery and the student experience

- 5. The curriculum for MPharm degrees *and the pre-registration scheme* must deliver the outcomes in Standard 10. Most importantly, curricula must ensure students *and trainees* practise safely and effectively. To ensure this, pass criteria must describe safe and effective practice.**
- 5.1** Curricula must be integrated.
- 5.2** Curricula must be progressive, dealing with issues in an increasing more complex way until the right level of understanding is reached.
- 5.3** An MPharm must be delivered in an environment which places study in a professional and academic context and requires students to conduct themselves professionally. *Pre-registration training must be delivered in a professional environment which requires trainees to conduct themselves professionally.*
- 5.4** An MPharm must be delivered in an environment informed by research. This means that whether or not all staff are engaged in research, their teaching must be informed by research.
- 5.5** An MPharm degree teaching and learning strategy must set out how students will achieve the outcomes in Standard 10. Learning opportunities must be structured to provide:

- 5.5.a** an integrated experience of relevant science and pharmacy practice;
 - 5.5.b** a balance of theory and practice;
 - 5.5.c** independent learning skills.
- 5.6** The MPharm degree curriculum must include practical experience of working with patients, carers and other healthcare professionals. Practical experience should increase year on year.
- 5.7** There must be a clear assessment strategy for the MPharm degree. Assessment methods must measure the outcomes in Standard 10.
- 5.8** The MPharm degree assessment strategy should include:
- 5.8.a** diagnostic assessments;
 - 5.8.b** formative assessments;
 - 5.8.c** summative assessments;
 - 5.8.d** timely feedback.
- 5.9** Academic regulations must be appropriate for a degree that is both academic and professional and may lead to further professional training. As a general principle, all assessments must be passed. This means that condonation, compensation, trailing, extended re-sit opportunities and other remedial measures should be extremely limited, if they are permitted at all. MPharm degree academic regulations may be more stringent than university norms. This may include higher than usual pass marks for assessments demonstrating knowledge and skills essential to safe and effective pharmacy practice.
- 5.10** Marking criteria must be used for all assessments and all pass criteria must reflect safe and effective practice.
- 5.11** Patient safety must be paramount in assessments: any evidence of an assessment demonstrating unsafe practise must result in failure.
- 5.12** A pre-registration training plan must describe how the learning outcomes for pre-registration will be delivered.
- 5.13** A pre-registration training plan must describe all assessments, including tutor evaluations and tutor sign-offs.

Standard 6 – Support and development for students *and trainees*

6. Students *and trainees* must be supported to develop as learners and professionals during their initial education and training.

- 6.1.** A range of mechanisms must be in place to support students *and trainees* to develop as learners and professionals.

Standard 7 – Support and development for academic staff *and pre-registration tutors*

7. Anyone delivering initial education and training should be supported to develop in their professional roles.

- 7.1. There must be a range of mechanisms in place to support anyone delivering initial education and training to develop in their role.
- 7.2. Induction programmes are provided *for tutors* and university staff as appropriate. This should include induction programmes for non-pharmacists working on MPharm degrees.
- 7.3. Everyone involved in delivering the curriculum should have:
 - 7.3.a effective supervision;
 - 7.3.b an appropriate and realistic workload;
 - 7.3.c effective personal support;
 - 7.3.d mentoring;
 - 7.3.e time to learn;
 - 7.3.f continuing professional development opportunities.
- 7.4. *Tutors have an identified source of peer support.*

Standard 8 – Management of initial education and training

8. Initial pharmacist education and training must be planned and maintained through transparent processes which must show who is responsible for what at each stage

- 8.1. All education and training will be supported by a defined management plan with:
 - 8.1.a a schedule of responsibilities
 - 8.1.b defined structures and processes to manage the delivery of education and training

Standard 9 – Resources and capacity

9. Resources and capacity are sufficient to deliver outcomes.

9.1 There must be:

9.1.a robust and transparent mechanisms for securing an appropriate level of resource for delivering an accreditable MPharm degree;

9.1.b sufficient staff from relevant disciplines to deliver the curriculum to students *and trainees*. Staff must be appropriately qualified and experienced. The staffing profile must include:

9.1.b.i sufficient numbers of pharmacists – registrants of the GPhC – with experience of teaching in higher education to ensure that an MPharm degree can produce students equipped to enter pharmacist pre-registration training in Great Britain.

9.1.b.ii sufficient numbers of pharmacists to act as tutors and professional mentors at university *and in pre-registration*. Not all personal tutors must be pharmacists.

9.1.b.iii pharmacists who are leaders in the profession and in their university, who can influence university policy relevant to pharmacy

9.1.b.iv non-pharmacist academics who can influence school and university policy relevant to pharmacy

9.1.b.v staff who are sufficiently experienced to supervise research. It would be unusual for anyone to supervise research at a particular level unless they had researched to that level or beyond. New research supervisors must be mentored and signed off as being fit to supervise after a period of mentoring

9.1.b.vi science academics who understand the relevance of their discipline to pharmacy and deliver their area of expertise in a pharmaceutical context

9.1.b.vii academic pharmacists and other experienced MPharm degree staff who are able to act as mentors to non-pharmacist colleagues

9.1.c pre-registration tutors who meet the GPhC's standards for pre-registration tutors.

9.1.d career pathways in universities for all staff teaching on MPharm degrees, including pathways for practice staff

9.1.e clear lines of authority and responsibility for the strategic organisation and day-to-day management of placements

9.1.f training and ongoing support for all non-pharmacists involved in the delivery of MPharm degrees which must help them understand:

9.1.f.i help and understand the relevance of their work to pharmacy

9.1.f.ii how to deliver their area of expertise in a pharmaceutical context

9.1.g appropriate learning resources

9.1.h accommodation and facilities that are fit for purpose

9.1.i pre-registration premises which meet the GPhC's standards for pre-registration premises

Standard 10 - Outcomes

10.1 Expectations of a pharmacy professional

Learning outcome	MPharm	Pre-reg
10.1.a Recognise ethical dilemmas & respond in accordance with relevant codes of conduct and behaviour	Shows how	<i>Does</i>
10.1.b Recognise the duty to take action if a colleague's health, performance or conduct is putting patients or public at risk	Knows how	<i>Knows how</i>
10.1.c Recognise personal health needs, consult and follow the advice of a suitably qualified professional, and protect patients or public from any risk posed by personal health	Does	<i>Does</i>
10.1.d Apply the principles of clinical governance in practice	Knows how	<i>Does</i>
10.1.e Demonstrate how the science of pharmacy is applied in the design and development of medicines and devices	Shows how	<i>Knows how</i>
10.1.f Contribute to the education and training of other members of the team, including peer review and assessment	Shows how	<i>Does</i>
10.1.g Contribute to the development of other members of the team through coaching and feedback	Knows how	<i>Shows how</i>
10.1.h Engage in multidisciplinary team working	Knows how	<i>Does</i>
10.1.i Respond appropriately to medical emergencies, including provision of first aid	Knows how	<i>Shows how</i>

10.2 The skills required in practice

10.2.1 Implementing health policy

Learning outcome	MPharm	Pre-reg
a. Promote healthy lifestyles by facilitating access to and understanding of health promotion information	Shows how	<i>Does</i>
b. Access & critically evaluate evidence to support safe, rational & cost effective use of medicines	Shows how	<i>Knows how</i>
c. Use the evidence base to review current practice	Shows how	<i>Does</i>
d. Apply knowledge of current pharmacy-related policy to improve health outcomes	Knows how	<i>Shows how</i>
e. Collaborate with patients, the public and other healthcare professionals to improve patient outcomes	Knows how	<i>Shows how</i>
f. Play an active role with public and professional groups to promote improved health outcomes	Knows how	<i>Knows how</i>
g. Contribute to research & development activities to improve health outcomes	Knows how	<i>Knows how</i>
h. Provide evidence- based medicines information	Shows how	<i>Does</i>

10.2.2 Validating therapeutic approaches and supplies prescribed and over-the-counter medicines

Learning outcome	MPharm	Pre-reg
a. Identify and employ the appropriate diagnostic or physiological testing techniques in order to promote health	Knows how	Shows how
b. Identify inappropriate health behaviours and recommend suitable approaches to interventions	Shows how	Does
c. Instruct patients in the safe and effective use of their medicines and devices	Shows how	Does
d. Analyse prescriptions for validity and clarity	Shows how	Does
e. Clinically evaluate the appropriateness of prescribed medicines	Shows how	Does
f. Provide, monitor and modify prescribed treatment to maximise health outcomes	Shows how	Does
g. Communicate with patients about their prescribed treatment	Shows how	Does
h. Optimise treatment for individual patient needs in collaboration with the prescriber	Shows how	Does
i. Record, maintain and store patient data	Shows how	Does
j. Supply medicines safely and efficiently, consistently within legal requirements and best professional practice. NB This should be demonstrated in relation to both human and veterinary medicines.	Shows how	Does

10.2.3 Ensuring safe and effective systems are in place to manage risk inherent in the practice of pharmacy and the delivery of pharmaceutical services

Learning outcome	MPharm	Pre-reg
10.2.3.a. Ensure quality of ingredients to produce medicines and products	Knows how	Shows how
10.2.3.b. Apply pharmaceutical principles to the formulation, preparation and packaging of products	Shows how	Shows how
10.2.3.c. Verify safety and accuracy utilising pharmaceutical calculations	Does	Does
10.2.3.d. Develop quality management systems including maintaining appropriate records	Shows how	Shows how
10.2.3.e. Manage and maintain quality management systems including maintaining appropriate records	Shows how	Does
10.2.3.f. Procure and store medicines and other pharmaceutical products working within a quality assurance framework	Knows how	Does
10.2.3.g. Distribute medicines safely, legally and effectively	Knows how	Does
10.2.3.h. Dispose of medicines safely, legally and effectively	Knows how	Does
10.2.3.i. Manage resources in order to ensure work flow and minimise risk in the workplace	Knows how	Shows how
10.2.3.j. Take personal responsibility for health and safety	Does	Does

10.2.3.k.	Work effectively within teams to ensure safe and effective systems are being followed	Knows how	<i>Does</i>
10.2.3.l.	Ensure the application of appropriate infection control measures	Shows how	<i>Does</i>
10.2.3.m.	Supervise others involved in service delivery	Knows how	<i>Does</i>
10.2.3.n.	Identify, report and prevent errors and unsafe practice	Shows how	<i>Does</i>
10.2.3.o.	Procure, store and dispense and supply veterinary medicines safely and legally	Knows how	<i>Knows how</i>

10.2.4 Working with patients and the public

Learning outcome	MPharm	<i>Pre-reg</i>
a. Establish and maintain patient relationships while identifying patients' desired health outcomes and priorities	Shows how	<i>Does</i>
b. Obtain and record relevant patient medical, social and family history	Shows how	<i>Does</i>
c. Identify and employ the appropriate diagnostic or physiological testing techniques to inform clinical decision making	Knows how	<i>Shows how</i>
d. Communicate information about available options in a way which promotes understanding	Shows how	<i>Does</i>
e. Support the patient in choosing an option by listening and responding to their concerns and respecting their decisions	Shows how	<i>Does</i>
f. Conclude consultation to ensure a satisfactory outcome	Shows how	<i>Does</i>
g. Maintain accurate and comprehensive consultation records	Shows how	<i>Does</i>
h. Provide accurate written or oral information appropriate to the needs of patients, the public or other healthcare professionals	Shows how	<i>Does</i>

10.2.5 Maintaining and improving professional performance

Learning outcome	MPharm	<i>Pre-reg</i>
a. Demonstrate the characteristics of a prospective professional pharmacist as set out in relevant codes of conduct and behaviour	Does	<i>Does</i>
b. Reflect on personal and professional approaches to practice	Does	<i>Does</i>
c. Create and implement a personal development plan	Does	<i>Does</i>
d. Review and reflect on evidence to monitor performance and revise professional development plan	Does	<i>Does</i>
e. Participate in audit and in implementing recommendations	Knows how	<i>Shows how</i>
f. Contribute to identifying learning and development needs of team members	Knows how	<i>Does</i>
g. Contribute to the development and support of individuals and teams	Knows how	<i>Does</i>
h. Anticipate and lead change	Knows how	<i>Shows how</i>

Indicative syllabus

A1.1 How medicines work

Therapeutics

- Routes of administration
- New therapeutic advances
- Infection control
- Complementary therapies
- Clinical therapeutic uses of drugs

Applied Physical, Chemical and Biological sciences

- Sources and purification of medicinal substances
- Physicochemical characteristics of drugs and biological systems
- Thermodynamics and chemical kinetics
- (Bio)Analytical principles and methods
- Drug design and discovery
- Cell and molecular biology
- Biochemistry
- Genetics
- Microbiology
- Immunology
- Pharmaceutical chemistry
- Drug identification
- Drug synthesis

Pharmacology, pharmacokinetics & pharmacodynamics

- Contraindications, adverse reactions and drug interactions
- ADME
- Prediction of drug properties
- Pharmacogenetics and pharmacogenomics
- Drug and substance misuse
- Clinical toxicology and drug-over-exposure
- Molecular basis of drug action
- Metabolism

Pharmaceutical technology including manufacturing & engineering science

- Biotechnology
- Manufacturing methods
- Quality assurance processes
- Sterilisation and asepsis
- Environmental control in manufacturing

Formulation and material science

- Materials used in formulations and devices
- Biopharmaceutics, developmental pharmaceuticals, pre-formulation and formulation studies
- Design and standardization of medicines
- Microbiological contamination
- Contamination control
- Product stability
- Medical devices

A1.2 How people work

Normal & abnormal structure & function

- Nutrition
- Physiology
- Pathology
- Infective processes

Sociology

- Social and behavioural science

Health psychology

- Health promotion
- Disease prevention
- Behavioural medicine

Objective diagnosis

- Differential diagnosis
- Symptom recognition
- Diagnostic tests

Epidemiology

- Aetiology and epidemiology of (major) diseases

A1.3 How systems work

Healthcare management

- Public health
- Organisations: NHS, DH, govt priorities
- Other professionals
- Health care systems

Evidence-based practice

- Health information systems/ resources
- Health policy and (pharmaco)economics

Professional regulation

- Legislation
- Professional ethics and fitness to practise
- Sale and supply of medicines
- CPD
- Political and legal framework

Medicines regulation

- Evaluation and regulation of new drugs and medicines
- Pharmacopoeial specifications and biological standards
- Medicines licensing
- Product quality, safety and efficacy
- The supply chain
- Packaging, labelling and patient information

Clinical governance

- SOPs
- Research methodology / research ethics
- Risk & quality management
- Good manufacturing/dispensing practice
- Good clinical practice
- Health policy, clinical and science research methods

Clinical management

- Disease management
- Chronic medicines management
- Medicines use review
- Care planning

Workplace Regulation

- Health & Safety
- Sexual boundaries
- Independent Safeguarding Authority
- Data protection
- FOIA
- Consumer protection incl. complaints procedures

A1.4 Core and transferable skills

Professionalism

Research and research methods

Critical appraisal

- Audit and learning from errors

Problem solving

- Study skills
- Team-working skills

Clinical decision making

- Leadership skills

Accurate record keeping

Reflective practice (incl. continuing professional development)

Effective communication

- Interpersonal skills
- Medical terminology

Interpret & interrogate clinical data

Analyse & use numerical data

Pharmaceutical numeracy

Technological literacy

A1.5 Attitudes and values

See the *GPhC Code of Conduct for pharmacy students (2010)* and *Standards of conduct, ethics and performance (2010)*