Accreditation of a Master of Pharmacy degree course (MPharm)

University of Birmingham

Report of a Step 4 Accreditation event, 5-7 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 University of Birmingham approached the GPhC in early 2011 with an intention to apply for accreditation of an MPharm degree. A Step 1 event was subsequently held at the GPhC’s office in London on 15 July 2011. At the Step 1 event the University put forward a formal proposal for introducing a new MPharm degree. The University informed the GPhC of its plan to seek accreditation of a 5-year integrated MPharm degree which would be provided by the University’s School of Clinical and Experimental Medicine within the College of Medical and Dental Sciences. The GPhC considered the detail of the University’s proposal and advised that the suggested intake of students to the new course in 2013/2014 would be feasible, provided a successful outcome was achieved at both step 2 and step 3 upon first attempt. With regard to staffing, the GPhC agreed that the staffing ratio proposed was acceptable. The GPhC advised that key staff should be appointed in good time in order to influence the business case and curriculum. The GPhC also advised that it was important that teaching, including science subjects, was sufficiently pharmacy-oriented.
Following the step 1 event the University informed the GPhC of its intention to apply to undertake step 2 of the accreditation process during the 2011/2012 academic year. A step 2 event was subsequently held at the University of Birmingham from 23-24 November 2011. At the step 2 event, the GPhC agreed that the University of Birmingham should be permitted to progress to step 3 of the accreditation process, on condition that the University reviewed the timetable for the appointment of academic staff to ensure the development of an integrated MPharm degree curriculum, and updated the GPhC at the step 3 event. The GPhC also recommended that the University should organise the curriculum to ensure that the science is integrated with professional and clinical practice, as this would be the focus of the step 3 process. Following the step 2 event, a step 3 event was subsequently scheduled for 4-6 December 2012.

At the Step 3 event the accreditation team agreed to recommend to the Registrar of the General Pharmaceutical Council that the University of Birmingham should be permitted to move from step 3 to step 4 of the accreditation process for new MPharm degrees for its four-year programme, subject to the following condition: that a coherent assessment strategy be developed. This should include diagnostic, formative and summative assessment and marking criteria that are consistent with safe and effective practice. This will be evaluated by the accreditation team at the step 4 event.

The accreditation team agreed that they could not recommend to the Registrar of the General Pharmaceutical Council that the University of Birmingham should be permitted to move from step 3 to step 4 of the accreditation process for new MPharm degrees for its five-year programme. The team found that the provision proposed for the five-year programme was not sufficiently developed for it to be approved. In particular the team agreed that the finances underpinning pre-registration were not clear and that there were differing views among staff about the content and delivery of preregistration training.

Documentation

The provider submitted submission documentation to the GPhC in line with agreed timescales and a pre-visit took place at the University on 3 February 2014. During the pre-visit the schedule of meetings and timings for the Step 4 accreditation event were confirmed and the GPhC requested that 22 additional documents be submitted ready for the event.

The event

The event began with a private meeting of the accreditation team and GPhC representatives on 5 March 2014. The remainder of the event took place on site at the University of Birmingham on 6-7 March 2014, and comprised a series of meetings with staff and 45 students of the University, and included a tour of the University facilities relevant to the MPharm provision.

Accreditation team

The GPhC’s accreditation team (‘the team’) comprised:
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<thead>
<tr>
<th>Name</th>
<th>Designation at the time of accreditation event</th>
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<tbody>
<tr>
<td>Professor Terry Healey*</td>
<td>Accreditation team leader, Emeritus Professor of Pharmacy and former Head of School, Robert Gordon University</td>
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<tr>
<td>Dr Geoff Hall</td>
<td>Accreditation team member (Academic), Associate Head, the Leicester School of Pharmacy, De Montfort University</td>
</tr>
<tr>
<td>Professor Brenda Costall</td>
<td>Accreditation team member (Academic), Professor of Neuropharmacology, former Head of School, University of Bradford</td>
</tr>
<tr>
<td>Professor Barrie Kellam</td>
<td>Accreditation team member (Academic), Associate Professor of Pharmaceutical Chemistry, University of Nottingham</td>
</tr>
<tr>
<td>Mr Mark Brennan</td>
<td>Accreditation team member (Pharmacist), MPharm Programme Leader, Keele University</td>
</tr>
<tr>
<td>Ms Gail Fleming</td>
<td>Accreditation team member (Pharmacist), Head of Pharmacy, Health Education Kent, Surrey and Sussex</td>
</tr>
<tr>
<td>Ms Anne Watson</td>
<td>Accreditation team member (Pharmacist), Assistant Director of Pharmacy, NHS Education for Scotland</td>
</tr>
<tr>
<td>Mr Scott Downham</td>
<td>Accreditation team member (Newly-qualified pharmacist), St Thomas’s Hospital London</td>
</tr>
<tr>
<td>Mrs Leonie Milliner</td>
<td>Accreditation team member (Lay), Chief Executive, Association for Nutrition</td>
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along with:

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<tr>
<th>Name</th>
<th>Designation at the time of visit</th>
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<tr>
<td>Ms Joanne Martin *</td>
<td>Quality Assurance Manager (Education), General Pharmaceutical Council</td>
</tr>
<tr>
<td>Dr Ian Marshall</td>
<td>Rapporteur, Emeritus Professor of Pharmacology, University of Strathclyde</td>
</tr>
<tr>
<td>Mr Damian Day**</td>
<td>Head of Education, General Pharmaceutical Council</td>
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*attended pre-visit meeting on 3 February 2014
**attended on 7 March 2014 only

**Declaration of potential conflicts of interest**

Professor Marshall declared that he had recently been employed by the University of Lincoln which was also introducing a new MPharm degree.
Professor Kellam declared that Professor Marriott is currently an external examiner in Prof Kellam’s school at Nottingham.
## Meeting the accreditation standards

<table>
<thead>
<tr>
<th>Standard 1 – Patient and public safety</th>
<th>Accreditation team’s commentary</th>
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<tr>
<td>There must be clear procedures to address concerns about patient safety arising from initial pharmacy education and training. Concerns must be addressed immediately.</td>
<td>The team was confident that the one criterion to meet this standard will be met. The submitted documentation stated that the College of Medical and Dental Sciences (CMDS), within which the MPharm programme is delivered, has systems and processes in place to ensure patient safety. The majority of patient-facing activities will be conducted under the direct supervision of appropriately qualified teaching staff. Where students undertake such activities without direct supervision, they will only do so after successfully completing structured learning geared to the task in question, and after such learning has been tested in an appropriate assessment. Placement activities will be observational in Year 1, and even where students are not directly supervised, they will be closely monitored. During the event, the team learned that it was planned that MPharm students would gain experience of patient medical history-taking during hospital placements under the supervision of undergraduate medical students. The team was assured that this practice did not have the danger of resulting in harm to patients, but the team agreed that it was concerned that this practice would be outside the control of the MPharm team. Similarly, the team heard of MPharm students taking in and giving out prescriptions in community pharmacy placements apparently without supervision. The team encouraged the MPharm team to re-visit the above practices to ensure that patient safety is maintained at all times. Professionalism is a theme running throughout the MPharm programme, including the science modules. Students are provided with the Pharmacy Student Code of Conduct and information about fitness to practise procedures at the point of application and again in Week 1. Exposure to pharmacy practice and to pharmacy professionals is designed to inculcate a professional approach and help students to understand their role in the healthcare team. Placement supervisors are also made aware of the fitness to practise procedures, and receive guidance on the procedures in advance of hosting students.</td>
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<tr>
<th>Standard 2 – Monitoring, review and evaluation of initial education and training</th>
<th>Accreditation team’s commentary</th>
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<td>The quality of pharmacy education and training must be monitored, reviewed and evaluated in a systematic way.</td>
<td>The team was confident that the one criterion to meet this standard will be met. The submission explained that the University has a clear process for new programme development and approval, involving consideration at College level then at University level. Colleges and Schools worked within a framework of systems and policies for assuring academic quality and standards, supported by a central Academic Quality Unit. Each MPharm module is subject to an annual review including review of placement activity. Feedback on the placement experience is sought from providers and from students, and a system of peer observation has been implemented.</td>
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### Standard 3 – Equality, diversity and opportunity

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

The team was confident that the two criteria to meet this standard will be met.

The documentation stated that the University has an online training course in equality and diversity to ensure that staff members are equipped with the knowledge and skills needed as an academic and professional member of the University. The training includes information on UK equality legislation and University policies and practices. All staff associated with the MPharm course is required to undertake this training and to provide a certificate of attendance to the Admissions Tutor.

### Standard 4 – Selection of students and trainees

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.

The team was confident that the three criteria to meet this standard will be met.

The entry requirements for the four-year MPharm and five-year MPharm programmes are stated on the University’s website and on the UCAS website, and have been advertised to potential applicants at Open Days. The requirements include several criteria that are more stringent than the general University entry standards, English requirements, GCSE performance and evidence of experience. Applicants are required to have a Grade A at GCSE Maths and take a numeracy test at interview. The team was told that interviews are conducted by 2 members of staff for each applicant. The interview involves a series of general questions relating to the applicant’s commitment to pharmacy and their experience of working in healthcare and/or with patients/public, and an ethical and professional scenario-based question that investigates whether the applicant possesses the personal quality attributes of a professional, such as empathy, honesty and responsibility. The team was shown examples of pharmaceutical calculation test questions used at interview and also saw examples of ethical decision-making scenarios that applicants are required to work through.

### Standard 5 – Curriculum delivery

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 practice safely and effectively.

The team was confident that the eleven criteria to meet this standard will be met.

The submission explained that the MPharm programme has been designed to integrate the key areas of science, clinical therapeutics and practice in a progressive and coherent manner throughout the four academic years of the programme, which consisted of a number of scientific and professional credit bearing modules; 5 in each of Years 1 and 2, and 4 in each of Years 3 and 4. A series of non-credit bearing required components run alongside these modules. The documentation justified the structure of the MPharm with distinct themes, some with overtly science-orientated names, in the first three years of the course in that it provides students with an awareness of these fields as important elements of pharmaceutical knowledge in their own right, enabling the student to identify with the composition of knowledge and skills necessary to practise pharmacy. This structure was also stated to provide a clearly signposted, manageable framework for content during the formative student years and to avoid the high extraneous load presented in a fully integrated structure that could be detrimental to students. This continuum of integration in the programme was stated to provide a robust model of learning and teaching, without the risks of leaving new students in an undifferentiated conglomeration of material that they are unable to put into context. The accreditation team was unconvinced initially by the justification for the curriculum design.
described in the submission, doubting if it met the current GPhC expectations for integration. However, from discussions with both teaching staff and students it emerged that all the material presented is relevant to pharmacy and organised in such a way that students can see the integration of material from the different themes. In particular, the accreditation team explored the degree of integration in the curriculum through a series of integrated themes sessions. These sessions covered the following themes: pharmacogenomics, drug interactions, sexual health, healthcare and service developments, public health, antibiotic stewardship including infection control, mental health, and drug discovery. In all of the themes explored, groups of teaching staff from various disciplines, including those from outside the pharmacy core staff, were able to describe and discuss the material presented and make appropriate links to the practice of pharmacy. The team agreed that these sessions illustrated that, although the programme structure appeared to militate against a sufficient degree of integration, in practice it was delivering an acceptable level of integration to allow students to see the relevance of all the material taught to the practice of pharmacy. One notable feature of the provision was the use of virtual chemistry practical classes in Years 1 and 2 that have been developed in-house. It was emphasised that these classes are designed to illustrate chemical principles rather than to replicate physical and manipulative skills. The team was told that student feedback on this virtual approach has been positive.

The team noted that there are 7 days of placement experience in year 1, 10 days in Year 2, 13.5 days in Year 3 and 10 days in year 4; the team agreed that this amount of placement experience is at the upper end of the current norm for UK pharmacy schools and students interviewed told the team that early patient interaction was a major factor in their choice of Birmingham to study pharmacy. These placements are supported by agreements between the University and 5 hospital trusts, a community pharmacy group and a general medical practice. Each of the placement teaching experiences involves practical “hands-on” involvement with the relevant healthcare processes and involves significant interaction with patients, carers and a wide variety of healthcare professionals.

Currently interprofessional learning sessions take place with medical students during the Welcome Week induction period, where the two professional groups work on integrated case-based problems. The team was pleased to hear from senior members of the College that it had been the advent of the MPharm degree that had driven forward the College’s IPE strategy with considerable pressure emanating from the MPharm team to develop IPE. Students interviewed told the team that they had appreciated working together with medical students with the medical students undertaking diagnosis in role play exercises and the MPharm students helping with the choice of appropriate medication, based on information from the BNF and Medicines Complete. Students also described working alongside dental students in the Basic Life Support classes which are organised and run by medical students. The team was told that several MPharm students that successfully completed the Basic Life Support course have applied to become instructors on the course during their second year.

Diagnostic, formative and summative assessments (together with synoptic assessments) are used throughout the programme. The team agreed that the Assessment Strategy presented represented an account of the types of assessment to
be employed but did not indicate how the assessments would develop over the years of the programme to take into account the planned increased complexity of the material presented; as such, the team considered that the assessment strategy as presented did not adequately describe a strategy but rather a series of assessment events. In addition, the marking criteria that the MPharm team presented did not explicitly address issues of patient safety. The team also noted that marking criteria for the OSCEs had not yet been developed. Nevertheless, the team recognised from presentations during the Innovation session that the University holds a considerable resource of experience in OSCE assessments for medical students. The team would encourage the MPharm team to capitalise on the expertise available within the University in the development of OSCE assessments for the MPharm programme. The team heard of the standard setting process adopted; future teams will examine this element of the provision when data is available. The team expressed some concern at the use of the term “killer points” as had the Step 3 team, but was assured that this was a standard term used in medical OSCE assessments. The team was told that the College had moved away from the use of extended matching questions as they were described as being unreliable. Students who demonstrate practice or performance that is deemed to be unsafe or professionally inappropriate will be required to leave the course irrespective of grades or marks achieved. Despite the assurances contained in the documentation, the team noted from the four sets of marking criteria relevant to Year 1 that were presented during the visit that issues of patient safety were not evident in the criteria. The team agreed that there was no evidence that the criteria presented would result in the potential for patient harm, but nevertheless were not explicit with respect to issues of patient safety and effective practice. The team agreed that future accreditation teams will expect to see, as part of a fully developed assessment strategy a full set of marking criteria, with the Step 5 team expecting to see such criteria for at least Years 1 and 2.

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<th>Standard 6 – Support and development for students and trainees</th>
<th>The team was confident that the one criterion to meet this standard will be met</th>
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<td>Students and trainees must be supported to develop as learners and professionals during their initial education and training.</td>
<td>The submission explained that the personal tutorial system assigns three or four students per year to each member of academic staff. The tutor provides pastoral and study support at a series of scheduled meetings (usually two per semester). It mirrors the successful ‘mums and dads’ student buddy system already in operation across the Medical programme. This encourages older students to mentor newer students in a social framework. The first cohort of pharmacy students, who do not have ‘mums and dads’ in their course are instead mentored by medical students in an ‘aunts and uncles’ arrangement.</td>
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<th>Standard 7 – Support and development for academic staff and pre-registration tutors</th>
<th>The team was confident that the three criteria to meet this standard will be met</th>
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<td>A buddy system for non-pharmacist teaching staff is in operation, pairing non-pharmacist teaching staff from other Schools within the College with pharmacist teaching staff, to enable non-pharmacists to understand the pharmacy context and so design and deliver their teaching material accordingly. Non-pharmacists are also members of the Pharmacy Curriculum</td>
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Anyone delivering initial education and training should be supported to develop in their professional roles.

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<th>Standard 8 – Management of initial education and training</th>
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<td>Education and training must be planned and maintained through transparent processes which must show who is responsible for what at each stage</td>
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<td>The team was confident that the one criterion to meet this standard will be met</td>
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<td>The School committees generally report to the College Learning and Teaching Committee and decisions are taken at that level. The Staff Student Consultative Committee (SSCC) follows the Medical course model; meetings are held in the evenings and issues raised are referred on to the appropriate member of staff or committee for further action. Training is provided for SSCC student representatives, and student representatives sit on the College Board. Pharmacy students have established a student-run Pharmacy Society and are building relationships with the Medical Society and with the BPSA. The team heard that within the College of Medical and Dental Sciences at the University the organisational structures include Schools and Sections, the latter primarily related to research activities. Programmes such as the MPharm, like the MBChB programme, have their own identity and associated teaching staff. The team found it difficult to understand the reporting lines relevant to the MPharm degree within the organisational structure. In particular, the role and responsibility of the Head of Pharmacy was unclear to the team. Nevertheless, the team understood that the organisational structure had been in place for some time in the College and University and accepted that it represented a tried and tested system. Future visiting teams will be interested to see how the organisational structure complements the MPharm provision as it matures over the coming years.</td>
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<th>Standard 9- Resources and capacity</th>
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<td>Resources and capacity are sufficient to deliver outcomes.</td>
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<td>The team was confident that the one criterion to meet this standard will be met</td>
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<td>The team was told that the business plan presented at the Step 3 accreditation event had been simplified and would recover the full cost of the initial University investment by 2016/17. It was stressed that the plan was not predicated on the recruitment of international students.</td>
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<td>The current staff profile comprises ten staff members of various grades, who are registrants of the GPhC with three further academic staff members who hold a first degree in Pharmacy. Two other individuals contributing to year 1 of the MPharm programme are also GPhC registrants. All have experience of teaching in Higher Education Institutions and in several cases hold post-graduate qualifications in teaching &amp; learning in HE. The team heard that the pharmacy core teaching staff...</td>
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comprises 18 members supported by some 69 other expert teachers from within other areas of the University; these latter staff members are buddied with pharmacy core staff. The staffing strategy encompasses provision for placement activities through appropriate joint appointments supported by the University and external bodies. These staff members have access to all of the resources available to full time academic staff based within the University, including the education and training opportunities in teaching & learning. It is intended to maintain this balance of pharmaceutically qualified academic staff as the staffing complement is expanded as outlined in the Business Plan. The team was told that it is planned to recruit a 1.0 FTE lecturer in pharmacy practice, and a 0.5 FTE academic-practitioner in the next round of staff recruitment.

The team had the opportunity to inspect some of the new facilities for pharmacy, including the microbiology laboratory, a pharmaceutics laboratory with full tablet-making and –testing facilities, and a clinical teaching area designed for flexible usage and equipped with SMOTS recording system, computers and large-screen TV monitors. All the new facilities were of good design and high quality. The team was assured that all necessary equipment for Year 2 teaching had been ordered and delivered.

### Standard 10 - Outcomes

The team scrutinised the learning outcomes by discussions with the teaching staff in two integration and outcomes meetings. Rather than examining each of the 58 outcomes in these sessions, a selection of nine outcomes was chosen for detailed discussion. The outcomes selected were 10.2.2.e, 10.2.2.h, 10.2.1.h, 10.2.5.b, 10.2.3.n, 10.1.f, 10.2.1.c, 10.2.2.g, and 10.2.3.a. Additional outcomes were covered in discussions addressing Standards 1-9 and by the team’s scrutiny of the documentation.

For each of the nine outcomes scrutinised in detail, the evidence provided by the discussions with the staff gave the team confidence that these outcomes would be met at the required level for the MPharm programme, and the team was confident that all other outcomes would be similarly met. The team agreed that following the satisfaction of the nine outcomes tested that it was confident that all 58 outcomes would be delivered at the appropriate level.

### Indicative Syllabus

The team was content with the School’s use of the Indicative Syllabus to inform its curriculum.

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.
Summary and conclusions

The accreditation team agreed to recommend to the Registrar of the General Pharmaceutical Council that the University of Birmingham should be permitted to move from step 4 to step 5 of the accreditation process for new MPharm degrees. There were 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.

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 accreditation event, the Registrar of the General Pharmaceutical Council agreed with the accreditation team’s recommendation and approved the University of Birmingham to progress from step 4 to step 5 of the GPhC’s accreditation process for new MPharm degrees.
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

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>MPharm</th>
<th>Pre-reg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10.1.a</strong> Recognise ethical dilemmas &amp; respond in accordance with relevant codes of conduct and behaviour</td>
<td>Shows how</td>
<td>Does</td>
</tr>
<tr>
<td><strong>10.1.b</strong> Recognise the duty to take action if a colleague’s health, performance or conduct is putting patients or public at risk</td>
<td>Knows how</td>
<td>Knows how</td>
</tr>
<tr>
<td><strong>10.1.c</strong> 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</td>
<td>Does</td>
<td>Does</td>
</tr>
<tr>
<td><strong>10.1.d</strong> Apply the principles of clinical governance in practice</td>
<td>Knows how</td>
<td>Does</td>
</tr>
<tr>
<td><strong>10.1.e</strong> Demonstrate how the science of pharmacy is applied in the design and development of medicines and devices</td>
<td>Shows how</td>
<td>Knows how</td>
</tr>
<tr>
<td><strong>10.1.f</strong> Contribute to the education and training of other members of the team, including peer review and assessment</td>
<td>Shows how</td>
<td>Does</td>
</tr>
<tr>
<td><strong>10.1.g</strong> Contribute to the development of other members of the team through coaching and feedback</td>
<td>Knows how</td>
<td>Shows how</td>
</tr>
<tr>
<td><strong>10.1.h</strong> Engage in multidisciplinary team working</td>
<td>Knows how</td>
<td>Does</td>
</tr>
<tr>
<td><strong>10.1.i</strong> Respond appropriately to medical emergencies, including provision of first aid</td>
<td>Knows how</td>
<td>Shows how</td>
</tr>
</tbody>
</table>

### 10.2 The skills required in practice

#### 10.2.1 Implementing health policy

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

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>MPharm</th>
<th>Pre-reg</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Identify and employ the appropriate diagnostic or physiological testing techniques in order to promote health</td>
<td>Knows how</td>
<td>Shows how</td>
</tr>
<tr>
<td>b. Identify inappropriate health behaviours and recommend suitable approaches to interventions</td>
<td>Shows how</td>
<td>Does</td>
</tr>
<tr>
<td>c. Instruct patients in the safe and effective use of their medicines and devices</td>
<td>Shows how</td>
<td>Does</td>
</tr>
<tr>
<td>d. Analyse prescriptions for validity and clarity</td>
<td>Shows how</td>
<td>Does</td>
</tr>
<tr>
<td>e. Clinically evaluate the appropriateness of prescribed medicines</td>
<td>Shows how</td>
<td>Does</td>
</tr>
<tr>
<td>f. Provide, monitor and modify prescribed treatment to maximise health outcomes</td>
<td>Shows how</td>
<td>Does</td>
</tr>
<tr>
<td>g. Communicate with patients about their prescribed treatment</td>
<td>Shows how</td>
<td>Does</td>
</tr>
<tr>
<td>h. Optmise treatment for individual patient needs in collaboration with the prescriber</td>
<td>Shows how</td>
<td>Does</td>
</tr>
<tr>
<td>i. Record, maintain and store patient data</td>
<td>Shows how</td>
<td>Does</td>
</tr>
<tr>
<td>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.</td>
<td>Shows how</td>
<td>Does</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Knows how</th>
<th>Shows how</th>
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</table>

### 10.2.3.j. Take personal responsibility for health and safety

<table>
<thead>
<tr>
<th>Does</th>
<th>Does</th>
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</table>

### 10.2.3.k. Work effectively within teams to ensure safe and effective systems are being followed

<table>
<thead>
<tr>
<th>Knows how</th>
<th>Does</th>
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</table>

### 10.2.3.l. Ensure the application of appropriate infection control measures

<table>
<thead>
<tr>
<th>Shows how</th>
<th>Does</th>
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</table>

### 10.2.3.m. Supervise others involved in service delivery

<table>
<thead>
<tr>
<th>Knows how</th>
<th>Does</th>
</tr>
</thead>
</table>

### 10.2.3.n. Identify, report and prevent errors and unsafe practice

<table>
<thead>
<tr>
<th>Shows how</th>
<th>Does</th>
</tr>
</thead>
</table>

### 10.2.3.o. Procure, store and dispense and supply veterinary medicines safely and legally

<table>
<thead>
<tr>
<th>Knows how</th>
<th>Knows how</th>
</tr>
</thead>
</table>

### 10.2.4 Working with patients and the public

#### Learning outcome

<table>
<thead>
<tr>
<th>MPharm</th>
<th>Pre-reg</th>
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</thead>
</table>

#### a. Establish and maintain patient relationships while identifying patients' desired health outcomes and priorities

<table>
<thead>
<tr>
<th>Shows how</th>
<th>Does</th>
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</table>

#### b. Obtain and record relevant patient medical, social and family history

<table>
<thead>
<tr>
<th>Shows how</th>
<th>Does</th>
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</table>

#### c. Identify and employ the appropriate diagnostic or physiological testing techniques to inform clinical decision making

<table>
<thead>
<tr>
<th>Knows how</th>
<th>Shows how</th>
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#### d. Communicate information about available options in a way which promotes understanding

<table>
<thead>
<tr>
<th>Shows how</th>
<th>Does</th>
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</table>

#### e. Support the patient in choosing an option by listening and responding to their concerns and respecting their decisions

<table>
<thead>
<tr>
<th>Shows how</th>
<th>Does</th>
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</table>

#### f. Conclude consultation to ensure a satisfactory outcome

<table>
<thead>
<tr>
<th>Shows how</th>
<th>Does</th>
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</table>

#### g. Maintain accurate and comprehensive consultation records

<table>
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<tr>
<th>Shows how</th>
<th>Does</th>
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</table>

#### h. Provide accurate written or oral information appropriate to the needs of patients, the public or other healthcare professionals

<table>
<thead>
<tr>
<th>Shows how</th>
<th>Does</th>
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</table>

### 10.2.5 Maintaining and improving professional performance

#### Learning outcome

<table>
<thead>
<tr>
<th>MPharm</th>
<th>Pre-reg</th>
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</table>

#### a. Demonstrate the characteristics of a prospective professional plumber as set out in relevant codes of conduct and behaviour

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<thead>
<tr>
<th>Does</th>
<th>Does</th>
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#### b. Reflect on personal and professional approaches to practice

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<th>Does</th>
<th>Does</th>
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#### c. Create and implement a personal development plan

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</table>

#### d. Review and reflect on evidence to monitor performance and revise professional development plan

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<tr>
<th>Does</th>
<th>Does</th>
</tr>
</thead>
</table>

#### e. Participate in audit and in implementing recommendations

<table>
<thead>
<tr>
<th>Knows how</th>
<th>Shows how</th>
</tr>
</thead>
</table>
f. Contribute to identifying learning and development needs of team members  
   Knows how  Does

g. Contribute to the development and support of individuals and teams  
   Knows how  Does

h. Anticipate and lead change  
   Knows how  Shows how

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 pharmaceutics, 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)