General Pharmaceutical Council

Master of Pharmacy degree (MPharm): Integrated 5-year Programme

University of Birmingham

Report of a step 1 accreditation event

December 2017

Event summary and conclusions

Provider	University of Birmingham
Course	Masters of Pharmacy degree (MPharm): Integrated 5-year Programme
Event type	Accreditation
Step	1
Event date	19-20 December 2017
Accreditation period	Working towards accreditation: next visit due 2018/19
Outcome	The accreditation team agreed to recommend to the Registrar of the General Pharmaceutical Council (GPhC) that the University of Birmingham should be permitted to move from step 1 to step 2 of the accreditation process for new MPharm degrees.
Conditions	There were no conditions
Standing conditions	Please refer to Appendix 1
Recommendations	There was one recommendation. This is that the provider should start the process of developing the tutors for the long placements to ensure that they are fully involved in the preparation for the 5-year programme.
Registrar decision	Following the event, the Registrar of the GPhC accepted the accreditation team's recommendation and approved the progression of the programme from step 1 to step 2 of the GPhC's accreditation process.
Key contact (provider)	Professor John Marriott, Head of School of Pharmacy
Accreditation team	Professor Ian Marshall (Team Leader), Emeritus Professor of Pharmacology, University of Strathclyde Professor Angela Alexander (Team Member- Academic), Professor Emerita, University of Reading Ms Susan Bradford (Team Member- Lay Member), Solicitor (non-practising) Professor Brenda Costall (Team Member- Academic), Professor of Neuropharmacology, Former Pro-Vice Chancellor Planning, Research and Resources, Deputy Vice Chancellor and Head of Pharmacy, University of Bradford Professor Bill Dawson (Team Member- Pharmacist), Chief Executive, Bionet Ltd Mrs Sandra Hall (Team Member- Academic), Associate Professor of Pharmacy Professional and Clinical Leadership, Head of Pharmacy Practice, Leicester School of Pharmacy, De Montfort University
GPhC representative	Ms Joanne Martin, Quality Assurance Manager, GPhC
Rapporteur	Mrs Jane Smith, Chief Executive Officer, European Association for Cancer Research

Introduction

Role of the GPhC

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). This accreditation 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'.

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.

The powers and obligations of the GPhC in relation to the accreditation of pharmacy education are legislated in the Pharmacy Order 2010. For more information, visit: http://www.legislation.gov.uk/uksi/2010/231/contents/made

Background

The University of Birmingham approached the GPhC early in 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, when the University put forward a formal proposal for introducing the new programme and informed the GPhC of its plan to seek accreditation of a 5-year integrated MPharm degree as well as a traditional 4-year programme. The GPhC advised that the suggested intake of students to the new programmes in 2013/2014 would be feasible, provided a successful outcome was achieved at both step 2 and step 3 upon the first attempt. The GPhC agreed that the proposed staffing ratio was acceptable and 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.

At the subsequent step 2 event, the GPhC agreed that the University of Birmingham should be permitted to progress to step 3 of the accreditation process, for both programmes, 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.

A step 3 event was subsequently scheduled for 4-6 December 2012, when the accreditation team agreed to recommend that the University should be permitted to move to step 4 of the accreditation process for its 4-year programme. However, the accreditation team was unable to recommend that the University could move from step 3 to step 4 of the accreditation process in relation to its proposed 5-year programme, because the provision proposed for that programme was not sufficiently developed; in particular, the finances underpinning pre-registration were not clear and there were differing views among staff about the content and delivery of preregistration training.

The University now wished to recommence the process of applying for accreditation of a 5-year integrated MPharm programme. The proposed programme mirrors the recently-accredited 4-year

programme in Years 1-3, with some changes to Year 4 and a year-long placement in Year 5 intended to meet the GPhC's requirements for pre-registration training. The application to the GPhC for accreditation of this programme was considered at the step 1 visit on 19-20 December 2017.

Documentation

Prior to the event, the provider submitted documentation to the GPhC in line with the agreed timescales. The documentation was reviewed by the accreditation team and it was deemed to be satisfactory to provide a basis for discussion.

Pre-visit

In advance of the main visit, a pre-visit meeting took place at the University of Birmingham on 4 December 2017. The purpose of the pre-visit meeting was to prepare for the event, allow the GPhC and the University to ask any questions or seek clarification, and to finalise arrangements for the visit.

The event

The event began with a visit to a pharmacy and a private meeting of the accreditation team and GPhC representatives on 19 December 2017. The remainder of the event took place onsite at the University of Birmingham on 20 December 2017, and comprised a series of meetings with staff of the University.

Declarations of interest

There were no declarations of interest.

Key findings

Standard 1: Patient and public safety

The team was satisfied that all criteria relating to this standard will be met. (See Appendix 2 for criteria).

The School has effective systems in place to ensure that students do not jeopardise patient safety. Students will be made aware throughout their professional training of their responsibility to ask questions and to raise concerns, either through formal processes or informally with any member of staff.

During years 1 and 2 of the programme, patient-facing activities will be conducted under the direct supervision of appropriately qualified teaching staff. In years 3 and 4 a limited number of patient-facing activities might be conducted without direct supervision, once students have successfully completed appropriate and directly related learning and assessment. Any unsupervised tasks will be supported by clear documented instructions which will be agreed with individual students prior to the activity taking place. In year 5 students will be monitored in a similar way to year 4, working in a close relationship with their placement tutor. The long placement in the final year will be viewed in the same way as any other component of the MPharm degree insofar as candidates failing to meet the learning outcomes will not be awarded an accredited degree. Students failing to meet the year 5 learning outcomes may be able to repeat the year, subject to normal University regulations.

There are robust systems for ensuring that any causes for concern are dealt with promptly. Issues can be raised by both students and staff, including the long placement tutors who will receive training in the relevant systems and processes.

Detailed information about sources of support for health, conduct and academic issues will be

highlighted to students as part of their induction and at appropriate points throughout the programme. Students will also be given information and advice on the GPhC and University codes of conduct and on the fitness to practise procedures that apply to them.

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

The team was satisfied that all criteria relating to this standard will be met. One recommendation was made.

The School of Pharmacy sits within the Institute of Clinical Sciences, which is in turn part of the College of Medical and Dental Sciences, one of five Colleges at the University. The University has a clear process for new programme approval, with proposals going through a two-stage process of consideration at the College level, followed by scrutiny at the University level.

Strategic development of the proposed 5-year programme has to date been led by the Head of the School of Pharmacy. A dedicated Programme Director will be appointed to continue the detailed planning and roll-out of the programme, working closely with the current 4-year MPharm programme team and using existing School governance and quality assurance structures where appropriate.

The quality of teaching, learning and assessment is monitored via a University Academic Policy and Quality Framework including a system of annual programme and module review and underpinned by the external examiner system as well as feedback from the Student-Staff Consultation Committee. A detailed MPharm Quality Manual has been produced to guide staff through the quality assurance and management systems. This will extend to the five-year programme and includes specific quality management processes for placement activity.

Each student will be allocated an individual named tutor for their long placement in year 5 of the proposed 5-year MPharm. These tutors will be honorary members of staff within the Pharmacy School and will be required to meet the current GPhC requirements for pre-registration tutors. An induction and training package will be designed for them, consisting of university-based and online training. As these tutors will be delivering part of the MPharm programme, they need to be aware of the full programme content in order to provide a truly integrated experience for students. It is therefore a **recommendation** of this visit that the process of developing the tutors for the long placements should be started immediately, to ensure that they are fully involved in the preparation for the 5-year programme.

Final year students will also have an academic tutor from the core School of Pharmacy staff who will work in concert with the long placement tutor to ensure effective liaison between the School and the placement environment. A six-weekly meeting between the student and the two tutors will take place to review progress against the placement learning outcomes. Any differences of opinion between the academic and clinical tutor relating to the student's progress will be managed via mediation by a third tutor, as is currently the case when there are differences of opinion between two academic markers.

Standard 3: Equality, diversity and fairness

The team was satisfied that both criteria relating to this standard will be met.

The University has an on-going commitment to developing, enhancing and promoting an equality and diversity agenda and has appointed a Deputy PVC for Equalities. Equality and Diversity Champions and Leads are appointed throughout the University to support the development of equality and diversity-related activities at the University and the embedding of good practice at local level. The College has been awarded Athena Swan Silver Award status.

All staff members are required to undertake online training on diversity in the workplace. The training includes information about UK equality legislation and University policies and practices and outlines the expectations of members of staff. In addition, all staff members involved in recruitment and selection are required to attend training in this area.

The long placement tutors will receive equality and diversity training as part of their induction to their

role. There will also be clear mechanisms for placement tutors to identify any equality and diversity concerns, and to feed these back to the University.

Standard 4: Selection of students *and trainees*

The team was satisfied that all criteria relating to this standard will be met.

The 5-year programme will only be open to international students; home students will be directed to the recently accredited 4-year MPharm. All applications will be screened by the University's Central Undergraduate Admissions Team against academic entry requirements agreed by the School. Applications meeting the academic entry criteria will be passed to the Pharmacy Admissions Team for consideration of the personal statement and references.

As well as recruiting with the support of the University's International Office and via international agents, the community pharmacy chain which has undertaken to deliver some or all of the 5th year long placements, has offered to use its links with India to assist with recruitment from that country. The company will simply introduce students to the programme and will have no input into the admissions process at either central or School level. Admissions decisions will rest entirely within the University and School governance structures.

The School plans to relax its English language entry requirements from 2018-19, when international applicants will be required to achieve IELTS 7.0 overall with a minimum of 6.0 in any component (or equivalent). The current requirement is 7.0 in each of the components. The change is intended to harmonise the School more closely with the standards applied at other UK Schools of Pharmacy.

International applicants who do not have the required level of English or who wish to improve their English before the start of the academic year are able to take one of the University's pre-sessional English language courses but will be required to meet the specified level of English before registering for the MPharm programme. Support is also made available to students who are identified as needing help with language and communication skills during the programme.

There are no plans to allow students to transfer from the 4-year to the 5-year MPharm and approval for this transfer route was not sought at this event. Transfers from the 5-year programme to the 4-year programme might be allowed in the first three years, but not from year 4 onwards as the content of the two programmes diverges at this point.

Clear processes are in place to take account of good character and health checks as part of the application and admissions process.

Standard 5: Curriculum delivery and student experience

The team was satisfied that all criteria relating to this standard will be met.

The proposed 5-year programme mirrors the existing 4-year MPharm in years 1-3 with students on both programmes taught alongside each other. In year 4, students on the 5-year programme will take three modules: the 60-credit Integrated Pharmacy Practice module with the 4-year MPharm students and then a new 40-credit Advanced Pharmacy Practice module and a 20-credit Business and Pharmaceutical Enterprise module. These changes have resulted in the loss of a research project in year 4, but there is a requirement for a substantial practice audit project in the fifth year.

The final year will be a 120-credit placement year aiming to meet the GPhC pre-registration outcomes so that students will graduate ready to sit the pre-registration examination.

The changes to the structure of year 4 of the 5-year programme compared to the final year of the 4-year MPharm ensure that students leaving at the end of year 4 are not able to seek the award of an accredited MPharm (and therefore go on to apply for a pre-registration training place). Students exiting at the end of year 4 or who do not pass Year 5 will be eligible for the award of a Masters in Pharmaceutical Sciences.

The long placement in year 5 is the preferred model of the placement hosts. The educational rationale for this model is to allow students to build up gradually to the pre-registration element of the programme by extending the competency and case-based assessments used in years 1-4, supported by weekly class-based teaching. Students will be supported to transition from student to practitioner while under close supervision. The philosophy of the 5th year is that it is very much the same as years 1 to 4 insofar as it is part of a University of Birmingham degree programme and is therefore subject to the same rigorous quality assurance principles. The team agreed that there is a sound educational justification for the final year placement model which will ensure that the curriculum is integrated throughout.

The final year placement module is flexible and, for example, can support a split or joint placement in the future. The long placement manual as currently presented is based on the GPhC pre-registration manual. The team agreed that this must be revised to make it clear that the long placement is owned and quality assured by the University, not the GPhC.

Currently a community pharmacy chain has undertaken to provide all the final year placements but discussions with local NHS Trusts and Clinical Commissioning Groups are on-going and the intention is to offer long placements in a variety of settings.

A document was tabled at the event which mapped the final year assessments to the GPhC learning outcomes. Students will have multiple opportunities to meet the year 5 learning outcomes during their long placement. A variety of assessment methods has been built into the programme, and the students' progress will be reviewed every six weeks in a meeting between the student and their clinical and academic tutors to make sure that they are on the right trajectory. The standard 10 outcomes will be explored in detail at subsequent step visits.

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

The team was satisfied that the one criterion relating to this standard will be met.

There are a range of mechanisms in place to support students throughout their programme. This programme will recruit an exclusively international cohort. The University is experienced in educating international students and offers a range of support functions at the University level, including a welcome week with events for international students when they first arrive in the UK. Students can access University support functions themselves and can also be referred on by members of the School academic and support staff.

At the College level, there is a support unit designed to help both UK and international students on professional programmes with communication and confidence issues. The unit works with students at any point in their programme on a one-to-one basis using role-play techniques and video, with the student's consent.

At the School level, the personal tutor system ensures that international students have an identified member of academic staff with whom they meet regularly. The School also operates a family system which aims to build links between home and international students.

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

The team was satisfied that all criteria relating to this standard will be met.

There is a range of mechanisms in place to support staff delivering initial education and training to develop in their role. These operate at University, College and School level. This training and support will extend to the long placement tutors and, as described at Standard 2, it is a **recommendation** of this visit that that the process of developing the tutors for the long placements should be started immediately, to ensure that they are fully involved in the preparation for the 5-year programme.

Standard 8: Management of initial education and training

The team was satisfied that all criteria relating to this standard will be met.

There is a clear structure for the management of the proposed programme, which will sit alongside existing arrangements for the 4-year MPharm. A document describing the new structures and processes designed to manage the delivery and quality assurance of the long placement year was tabled. These range from pre-placement checks of the placement site and proposed tutor, through a series of checkpoints during the placement to an end of placement review with the tutor and student. A dedicated external examiner will be appointed for the 5-year programme and their feedback will be monitored and acted upon.

Standard 9: Resources and capacity

The team was satisfied that all criteria relating to this standard will be met.

The proposed programme has full support and approval from the University and is supported by a comprehensive business plan. Funding for academic and support staff, placements, equipment and consumables has been identified and ring-fenced. There is sufficient staff either in post or planned to be recruited to continue the roll-out of the programme, and there are appropriate accommodation, facilities and learning resources in the University.

A visit had been made to one of the pharmacies belonging to the chain that planned to host some or all of the long placements. The chain has 62 branches throughout the UK, with most in the Birmingham area. All branches are certified premises for pre-registration training although not all pharmacists have the three years' experience needed to act as a pre-registration tutor. The chain confirmed that it has the capacity to host up to 20 long placement students from the proposed programme.

A risk analysis had been provided after the pre-visit which identified the failure to recruit the target number of students as a key risk. The 5-year programme is identified as a key course for international recruitment and will therefore receive significant marketing support from the International Office.

Standard 10: Outcomes

The outcomes relating to Standard 10 were not tested at step 1 but will be considered at subsequent step visits.

Indicative syllabus

The team was satisfied 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.

Appendix 1 - Standing conditions

The following are standing conditions of accreditation and apply to all providers:

1. The record and report include other comments from the team, and providers are required to take all comments into account as part of the accreditation process. The provider must confirm to the GPhC that required amendments have been made.
2. The provider must respond to the definitive version of the record and report within three months of receipt. The summary report, along with the provider's response, will be published on the GPhC's website for the duration of the accreditation period.
3. The provider must seek approval from the GPhC for any substantial change (or proposed change) which is, or has the potential to be, material to the delivery of an accredited course. This includes, but is not limited to:
    a. the content, structure or delivery of the accredited programme;
    b. ownership or management structure of the institution;
    c. resources and/or funding;
    d. student numbers and/or admissions policy;
    e. any existing partnership, licensing or franchise agreement;
    f. staff associated with the programme.
4. The provider must produce and submit to the GPhC on an annual basis:
    a. requested data on student numbers and progression and degree awards;
    b. requested information about the extent of human and physical resources it enjoys for the delivery and support of the degree course.
5. The provider must make students and potential students aware that 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.
6. The provider must make students and potential students aware of the existence and website address where they can view the GPhC's accreditation reports and the timetable for future accreditations.
7. Whenever required to do so by the GPhC, providers must give such information and assistance as the GPhC may reasonably require in connection with the exercise of its functions. Any information in relation to fulfilment of these standing conditions must be provided in a proactive and timely manner.

Appendix 2 – Standards

GPhC standards for the initial education and training of pharmacists

NB. Information that is shaded grey or shown in grey italics is only applicable to those wishing to offer a 5-year MPharm degree with intercalated periods of pre-registration training.

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 *standards for pharmacy professionals (2017)*;
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 and 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 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 should 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 learning resources 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**	*Does*
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**	*Knows how*
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**	*Does*
10.1.d	Apply the principles of clinical governance in practice	**Knows how**	*Does*
10.1.e	Demonstrate how the science of pharmacy is applied in the design and development of medicines and devices	**Shows how**	*Knows how*
10.1.f	Contribute to the education and training of other members of the team, including peer review and assessment	**Shows how**	*Does*
10.1.g	Contribute to the development of other members of the team through coaching and feedback	**Knows how**	*Shows how*
10.1.h	Engage in multidisciplinary team working	**Knows how**	*Does*

10.1.i	Respond appropriately to medical emergencies, including provision of first aid	**Knows how**	***Shows how***

10.2 The skills required in practice

10.2.1 Implementing health policy

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

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

Learning outcome		MPharm	*Pre-reg*
10.2.2.a	Identify and employ the appropriate diagnostic or physiological testing techniques in order to promote health	**Knows how**	***Shows how***
10.2.2.b	Identify inappropriate health behaviours and recommend suitable approaches to interventions	**Shows how**	***Does***
10.2.2.c	Instruct patients in the safe and effective use of their medicines and devices	**Shows how**	***Does***
10.2.2.d	Analyse prescriptions for validity and clarity	**Shows how**	***Does***
10.2.2.e	Clinically evaluate the appropriateness of prescribed medicines	**Shows how**	***Does***
10.2.2.f	Provide, monitor and modify prescribed treatment to maximise health outcomes	**Shows how**	***Does***
10.2.2.g	Communicate with patients about their prescribed treatment	**Shows how**	***Does***
10.2.2.h	Optimise treatment for individual patient needs in collaboration with the prescriber	**Shows how**	***Does***
10.2.2.i	Record, maintain and store patient data	**Shows how**	***Does***
10.2.2.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**	*Does*
10.2.3.l	Ensure the application of appropriate infection control measures	**Shows how**	*Does*
10.2.3.m	Supervise others involved in service delivery	**Knows how**	*Does*
10.2.3.n	Identify, report and prevent errors and unsafe practice	**Shows how**	*Does*
10.2.3.o	Procure, store and dispense and supply veterinary medicines safely and legally	**Knows how**	*Knows how*

10.2.4 Working with patients and the public

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

10.2.5 Maintaining and improving professional performance

Learning outcome	MPharm	*Pre-reg*

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

Appendix 3 – Indicative syllabus

It is expected that education providers will use the indicative syllabus to develop a detailed programme of study which will enable pharmacists to meet the learning outcomes.

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)