



Master of
Pharmacy
degree
(MPharm); 5-
year Programme

Keele University

Report of a step 2 accreditation event

April 2019

Event summary and conclusions

Provider	Keele University
Course	Masters of Pharmacy degree (MPharm): Integrated 5-year Programme
Event type	Accreditation
Step	2
Event date	11 April 2019
Accreditation period	Working towards accreditation: next visit due 2021
Outcome	The accreditation team agreed to recommend to the Registrar of the General Pharmaceutical Council that the 5-year integrated pre-registration MPharm degree delivered by Keele University should be permitted to progress from step 2 to step 3 of the MPharm accreditation process, subject to one condition.
Conditions	The University is not permitted to allow a student to transfer to the 4-year MPharm degree programme following academic failure once they have entered the first professional pre-registration placement module; the team understands that this will require a change in the academic regulations and will apply to students admitted for the 2019/20 academic year onwards. This is to meet criteria 1.1e and 5.9. The University must provide a satisfactory response to this condition which contains an acceptable solution by the end July 2019. This response will need to be considered by the team in order to make a recommendation to the Registrar.
Standing conditions	Please refer to Appendix 1
Recommendations	No recommendations were made.
Registrar decision	Following the event, the Registrar of the GPhC accepted the accreditation team's recommendation that the 5-year integrated pre-registration MPharm degree delivered by Keele University should be permitted to progress from step 2 to step 3 of the MPharm accreditation process, subject to meeting one condition.
Key contact (provider)	Dr Katie Maddock, Interim Head of School
Accreditation team	<p>Professor Andrew Husband (Team Leader) Professor of Clinical Pharmacy and Head of School, Newcastle University</p> <p>Dr Geoff Hall (Academic) Retired formerly Associate Head Leicester School of Pharmacy De Montfort University</p> <p>Professor Paul Gard (Academic) Deputy Head of School, University of Brighton</p> <p>Miss Raminder Sihota (Pharmacist) Senior Manager and Professional Development, Boots UK</p>

	Mr Alastair Paterson, (Pharmacist – recently registered) Clinical Pharmacist, Northumberland Tyne and Wear NHS Foundation Trust Ms Fiona Barber, (Lay member) Independent Member, Leicester City Council
GPhC representative	Ms Jenny Clapham, Research and Insight Manager, GPhC
Rapporteur	Professor Brian Furman, Emeritus Professor of Pharmacology, University of Strathclyde

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/ukxi/2010/231/contents/made>

Background

The MPharm degree at Keele University is delivered by the School of Pharmacy, one of four Schools in the Faculty of Health and was reaccredited by the GPhC in 2014. Following this, the School informed the GPhC of its intention to introduce a 5-year MPharm programme in which pre-registration training would be integrated with the academic provision. The process for accrediting an integrated, five-year degree built upon an established, accredited four-year programme, comprises four steps, with steps 3 and 4 normally taking place respectively in years 4 and 5 of the programme; the completion of step 4 will also require GPhC representatives to attend the examination board at the end of year 5. Accordingly, a step 1 visit took place in June 2017; on that occasion the team recommended to the Registrar of the General Pharmaceutical Council that the 5-year integrated pre-registration MPharm degree proposed at Keele University should be permitted to progress from step 1 to step 2 of the MPharm accreditation process subject to one condition. This condition required the University to produce assessment criteria for each of the major placements in order to provide clarity in terms of the expectations for student achievement within each of the major placements; the team regarded it as essential that a process was in place to ensure consistency of assessment between Healthcare Practitioner Tutors and between major placement blocks. Normally, a step 2 visit would take place one year ahead of the first major professional placement. However, because of the issues around assessments of the major professional placements, it was agreed that a step 2 visit would be held to consider the strategy. As there was no student recruitment for the 2017/18 academic session,

the step 2 visit was deferred to 2018/19 and took place on April 11 2019; the following is a record of that visit.

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) subject to meeting the condition

The School's approach ensures that students develop as professionals whose first priority is to protect the public; they learn to do this initially in a safe environment where there is minimal, if any, risk to patients. This is supported by robust quality assurance and fitness to practise mechanisms to ensure that patient safety is not jeopardised and that students who pose a safety risk do not progress through the 5-year MPharm degree. Learning and teaching about professionalism, and patient safety in particular, throughout all five years, becomes progressively more complex, and ensures that students understand professionalism and patient safety issues. From the beginning of the programme, students are made aware of their obligations towards fitness to practise, and that they need to be aware of and abide by the GPhC's Standards for Pharmacy Professionals (2017). Students complete a professional portfolio of reflective pieces to demonstrate their professional development, and undertake competence-based assessments to ensure that they can work safely and effectively. When students are in contact with patients or members of the public, they are appropriately supervised at all times by a pharmacist member of staff, or by the pharmacists who are on duty in the pharmacy where they are working. When undertaking their major (pre-registration training) placements in years 4 and 5, the students will be under the full supervision of a pre-registration tutor. Students are gradually introduced to real-life pharmacy environments as the course progresses; in these environments they undertake tasks which progressively increase in complexity. Concerns about students' ability to practise safely may be reported to the School by members of staff, students, placement providers, external health professional supervisors, patients and members of the public. Where necessary, a student about whom concerns are raised may be suspended with immediate effect pending investigation under the fitness to practise process. Assessments of competence and knowledge in the course will ensure that students are safe to enter the GPhC Register of Pharmacists if they are awarded an MPharm degree and are successful in the GPhC's Registration Assessment. Any students who are identified as posing a risk to patients or the public are not allowed to complete the 5-year MPharm degree. In this context, the team imposed **a condition** that the University will not be permitted to allow students to transfer to the 4-year MPharm degree programme following academic failure once they have entered the first professional pre-registration placement module; because this will require a change in the academic regulations, it will apply to students admitted for the 2019/20 academic year onwards.

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.

The quality of teaching, learning and assessment on the 5-year MPharm degree is assessed by various means, especially through the Staff Student Voice Committee (SSVC) which meets twice each semester. The SSVC is chaired by a student and includes a student representative for each year, as well as relevant members of academic staff. Online teaching evaluation questionnaires are completed annually by the students. Results from these questionnaires are made available to all members of staff, and the stage leads ensure that any issues are addressed appropriately, with the outcomes reported to the School of Pharmacy staff meetings (see standard 8). There are four external examiners, who act as external quality assessors, and who scrutinise the quality of assessment through approval of examination papers, review of student work and participation in examination boards. The School produces a Curriculum Annual

Review and Declaration (CARD) report which summarises the student profile, student evaluations of the course, programme changes, and curriculum development; after approval by the School Learning & Teaching Committee, this report is sent to the Faculty Learning & Teaching Committee, with final oversight by the University Quality Assurance Committee. Other aspects of quality assurance include the National Student Survey, and an annual peer observation of teaching, the latter allowing staff members to learn from each other, share good practice, and address issues that arise. The School is also subject to an internal quality assurance (IQA) review every five years. In the redesigning the MPharm course for 2015, the School consulted extensively with a wide range of stakeholders, including patient groups, local and national charities, and local and national employers; input from these stakeholders contributed to shaping some elements of the new course and was also employed in the development of the 5-year integrated course.

Well-established procedures are in place to evaluate the quality of the standard 'learning through practice' (LtP) placements undertaken by all student on both the 4-year MPharm and the 5-year integrated degree programme; these procedures ensure the suitability of the placement premises, as well as that of the pharmacists who will supervise the students, and also allow students to provide feedback on their experiences. Hospital 'learning through practice' experiences are led by the School's team of Academic Clinical Educators. A School of Pharmacy Quality Assurance (QA) Framework, comprising the QA process, QA measures, Healthcare Provider Service Level Agreements (SLAs) and Student Honorary Contracts, is being developed for the major (pre-registration training) placements in close partnership with placement providers; this will be in place before the students embark on their first major placement. The practicalities of the QA process (logistics, personnel, timing, documentation, IT platform/support) are being developed and tested using the first year community pharmacy placements in the current 4-year MPharm programme. This QA process will be further developed to accommodate the specific requirements for the major placements in the 5-year integrated degree. The 5-year QA process will include an initial review of new premises to assess their appropriateness, the resources available and the availability of key staff members. There will also be regular visits to students on major placements by trained, University-employed Quality Assurance Co-ordinators (QACs), led and managed by the LtP team. Student learning and assessment progress will be monitored against the major placement training plan (which includes workplace-based assessments) to ensure satisfactory performance and adherence with University and GPhC standards. This will include tutor feedback on student progress and student feedback on their placements. QA measures which fall outside acceptable limits will be managed and documented appropriately. Urgent or critical QA issues will be identified as 'red flags', with specific processes in place to mitigate each red flag.

For the major placements, joint training will be offered to the Health Provider tutors and the students' personal University-based tutors. This training will comprise an orientation day, followed by a 'Train the Trainers' module, which will cover aspects such as workplace-based assessments and the student pre-registration portfolio, as well as the QA processes. The QA Coordinators will visit monthly during the students' training and these visits will complement the training, as well as form a key part of the monitoring of the major placements. IT training will also be provided; development of the IT platform is in progress and the School will have everything in place before students embark on their first major placement. Triangulation meetings, involving the QA Coordinator, the HP Tutor and the student will look at student progress and address concerns.

Standard 3: Equality, diversity and fairness

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

The University has an Equality and Diversity Strategy which sets out key priorities, these including fostering awareness and understanding of Equality and Diversity, active use of data to review policies and procedures, optimising the student experience, and promoting and maintaining a positive staff experience. Equality and Diversity data are collected from all enrolling students; these data include disability, gender, religion and ethnicity. The Equality and Diversity Strategy commits the University to

examining these data and making changes to policies and practices if anomalies are discovered. All staff members undertake mandatory Equality and Diversity training as part of their induction, with mandatory biennial updates that are available as an online learning package. Major placement providers will already have equality and diversity training in place; there is an expectation that all pre-registration tutors will have undertaken this training, which will also be required of students. Students who are involved in the admissions interview process receive tailored Equality and Diversity training. The main student body is introduced to Equality and Diversity within Law, Ethics and Practice teaching in stage 1.

Standard 4: Selection of students and trainees

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

The entry requirements for the 5-year MPharm degree are publicly available on the University's website (<https://www.keele.ac.uk/ugcourses/pharmacyintegratedtrainingyear/>). The website also contains a comprehensive description of the course, its content and the methods of assessment. All students interested in attending Keele to study pharmacy have the opportunity to attend Keele Open Days. The pharmacy provision at open days includes a presentation which outlines the content of the course and the entry requirements; a tour of the teaching facilities is also available. All applicants meeting the required criteria for entry onto the 5-year MPharm degree are invited for interview, either face-to-face or, in the case of international students, by telephone or Skype. All applicants are subject to a series of standardised interview questions to ensure parity of interview. As part of the interview process, all applicants must complete a declaration relating to any previous convictions; the nature of any declared convictions is examined by the School's Investigating Officer, who interviews the applicant and determines whether he/she is fit to enter the course. On entry to the programme, students undergo an enhanced DBS check; failure to complete this will result in the student being unable to attend placements and thus will be unable to complete the programme. International students who are ineligible for an enhanced DBS check must supply the University with a statement of good conduct from their home country. Declarations of any changes to DBS status are required from the returning students at each stage of the course. All students must comply with the occupational health requirements of the School's 'learning through practice' placement providers, as outlined on the School's website. Reasonable adjustments are made for those students with any health issues that may affect their studies. Students will be allocated to their major placements in years 4 and 5, rather than undergoing a selection process, with the allocation being subject to academic and professional standards, and undertaken in collaboration and discussion with the placement providers. The students' 'learning through practice' placements in the first two years of the course will be undertaken with prospective major placement providers, who will have observed the students' progress and seen the improvement in their assessment performance, along with their increase in confidence.

Standard 5: Curriculum delivery and student experience

The team was satisfied that all criteria relating to this standard will be met subject to meeting the condition

Each year, or stage, of the Keele 5-year MPharm course is based upon a single 120-credit module. This structure enables the contextualised, integrated teaching and assessment of the several subject disciplines that underpin the undergraduate education of pharmacists. Teaching teams, comprising a mixture of registered pharmacists and pharmaceutical scientists, have developed teaching and assessment materials based on patient-centred themes for each stage of the course. The 4-year course was designed to allow the integration of the three major training placement blocks required for the 5-year integrated MPharm programme. The first major 13-week placement will take place across the first semester of year 4, followed by a return to academic study from January until June; the second major 13-week placement will take place from July to September of that year, with a subsequent period of academic study from October to January (inclusive) in year 5. The third major placement of 26 weeks will take place from February to July (inclusive) of year 5. Stage 1 covers the required fundamental science,

including cell biology, chemistry and mathematics, progressing to address the physiology of the nervous, cardiovascular, respiratory, endocrine, reproductive and musculoskeletal systems, along with a consideration of metabolism and basic pharmacology; a theme of pharmacy professionalism and practice runs throughout. The principal aim of stage 2 is to further develop knowledge and skills in the different subject disciplines by demonstrating the links between applied topics in science and practice that will underpin all subsequent learning. It includes the themes of pharmaceutical science and formulation, pharmacology and drug action, and law, ethics and pharmacy practice as well as introducing the basic concepts underpinning clinical therapeutics, with an overarching theme of the gastrointestinal tract to provide illustrative materials. Stage 3 covers evidence-based medicine, basic research methods, complex patient groups, clinical infections, disorders of the respiratory system, cardiovascular disease, endocrine disorders such as diabetes, disorders of the central nervous system, and pain. The academic content of stages 4 and 5 extends the stage 3 studies of cardiovascular, central nervous system and endocrine disorders and also covers disorders of the genitourinary tract, musculoskeletal disease and palliative care; stages 4 and 5 also allow students to choose elective topics. There is an emphasis on professionalism across all five years of the course and students are required to complete a professional development strand of assessment, with ethical scenarios being explored throughout all stages. Clinical decision-making is introduced in stage 2 and built upon in stages 3, 4 and 5. The programme uses a mixture of teaching methods, including traditional lectures, workshops, computer aided learning, online quizzes, problem classes, drop-in sessions, and electronic discussion. As students move across the stages, there is an increased emphasis on independent learning, with a progressive reduction in the amount face-to-face contact, with most learning in stages 4 and 5 based on a 'study day' model to further develop students' independent study skills. Throughout the programme, in addition to their major training placements, students will gain practical experience of working with patients, carers and other healthcare professions. This includes placements in community pharmacy, clinical placements on the wards in hospitals, interactions with real and simulated patients, and a number of inter-professional education activities with students of physiotherapy, medicine, nursing, midwifery, rehabilitation science, radiography and biomedical science. Currently, the major placements are planned to take place in community pharmacy, but with periods of cross-sector working in hospitals and GP practices; in the longer term, the School intends to broaden the major placements into these other sectors. A wide variety of assessments is used throughout the 5-year MPharm degree; these include assignments involving individual and group essays, competence-based practical examinations, computer tasks, dissertations based on independent study, written and online examinations, presentations, laboratory reports, and workplace-based assessments. Students are expected to complete a Professional Portfolio throughout each year of their studies. This portfolio consists of a number of elements, including reflective pieces, CPD cycles, skills analyses and records of competencies. Assessment of students on the major placements will use a set of well-established workplace-based assessments, including 'direct observation of clinical skills' (DOCS) and multisource feedback. The criteria for successful completion of each major training block require the student to have achieved a score showing competence in three DOCS, to have performed satisfactorily in multisource feedback, and to have achieved a minimum of 50% in at least two out of three case-based discussions. Students will also have to show appropriate continuing professional development entries and must have satisfactorily completed their training plans for each of the major placements, with no significant concerns being highlighted.

Standard 6: Support and development for students and trainees

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

The School of Pharmacy provides a comprehensive pastoral care system for students. Each student is allocated a personal tutor upon registration on the 5-year MPharm; new first year students meet with their personal tutors during their first week, or as soon as possible thereafter. Students normally remain with their personal tutor for the duration of their studies. In addition to providing pastoral care, the personal tutoring system is also used to monitor attendance, provide feedback on assessment performance and award, or remove, Professional Activity Credits (PACs); this PAC system is designed to

encourage students to participate in extra-curricular activities, as well as to fully engage with the course, and students are required to attain a threshold number of PACs to pass the Professional Development strand in each stage of the course. While on their major placements, students will continue to receive support from their personal tutors, in addition to that received from their Health Provider tutors who supervise their training. There will be regular meetings at the placement site between the University tutor, the placement tutor and the student, along with monthly study days at Keele provided by the School of Pharmacy. During their major placements, the students will compile a portfolio of evidence of meeting the Pre-Registration Performance Standards and will receive regular feedback on this portfolio both from their placement tutor and their university tutor. While undertaking their major placements, students will continue to live either on or close to the campus, and will therefore remain part of the Keele community, having access to the entire Keele University student welfare and support package. In addition to the personal tutor system, members of staff operate an 'open door' policy, allowing students the freedom to seek advice or assistance from any member of staff throughout the teaching. Each student in years 1 and 2 is also allocated a professional mentor, whose role is to guide the student through the process of reflection and self-development, thus helping students to reflect upon their skills, attitudes and values and make appropriate entries in their Professional Development Portfolios. The School operates a 'buddy' system, whereby students in years 1 and 2 are allocated a buddy from students in years 4 and 3 respectively. This system offers peer-to-peer support in academic and personal matters. As well as support offered by the School, The University provides support in a number of ways. This includes the use of the Keele Learning Environment (the KLE) which is the University's virtual learning environment. Staff members use the KLE not only as a repository for teaching materials and reading lists, but also as an active teaching tool. Careers information and advice is also posted to the KLE along with links to appropriate support and information services. The Keele University website also provides comprehensive student support materials. Keele Student Support Services offers a wide range of support including one-to-one support on written communication skills. There is also a comprehensive careers advice service.

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.

The University provides a range of training and development opportunities relevant to the needs of its staff within the context of its strategic direction. There is a 'Welcome to Keele' induction programme which all new members of staff are expected to attend. All new members of academic staff must complete the MA in Learning and Teaching in Higher Education programme (MA LTHE). This course is delivered by the Keele Institute for Innovation and Teaching Excellence (KIITE) over a two-year period, and successful completion entitles participants to become Fellows of the Higher Education Academy. The course includes the design, plan and delivery of student learning activities, including the appropriate use of learning technology, assessment of student work, provision of feedback, and reflective evaluation of the effectiveness of staff members' own practice. The programme also provides a platform on which candidates can build a continuing professional development portfolio. Each new member of staff is allocated a teaching mentor from within the School. The mentor's function is to demonstrate to the member of staff how to integrate their subject matter into the pharmacy curriculum; they also observe teaching sessions, tutorials and assessment exercises undertaken by the trainee. A portfolio of teaching experience is submitted for scrutiny by a course tutor from another school in the Faculty. KIITE also provides an extensive range of courses and workshops covering University systems, personal skills, essential skills for researchers, information technology, learning and teaching, and health and safety. Keele University operates a Staff Performance Review and Enhancement (SPRE) programme for all members of staff. SPRE provides a framework for managers and their staff to work together in clarifying expectations and ensuring that these are realistic and relevant both to the overall strategic direction of the University and to the career planning and work needs of the member of staff. The process provides regular and structured opportunities to explore support and development needs and to explain how these will be provided.

Keele University has linked up with the Staff Counselling Service, University Hospital of North Midlands, which offers a high quality, confidential, face-to face-service, with qualified and experienced counsellors. All Keele employees can access the Service directly and can have up to five counselling sessions, in which they can focus on personal difficulties, whether or not they are work-related.

Standard 8: Management of initial education and training

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

The School of Pharmacy operates within the Faculty of Medicine and Health Sciences, which currently comprises the School of Health and Rehabilitation, the School of Medicine, the School of Nursing & Midwifery, the School of Pharmacy, the Research Institute for Science and Technology in Medicine, and the Research Institute for Primary Care & Health Sciences. However, the Faculty is currently undergoing reorganisation, as part of which the School of Pharmacy will merge with the Research Institute for Science and Technology in Medicine to produce a new school, the School of Pharmacy and Bioengineering. This will create a critical mass in various research areas, and will introduce new staff expertise, for example, in regulatory affairs; there will be a wider pool from which to offer undergraduate research projects. There will be no impact on the current undergraduate provision with regard to resources or budgets, and the students will not notice any change in terms of their experience. The changes are purely at Faculty level, rather than at the level of the University. While Pharmacy will be part of a merged school, it retains the description 'Pharmacy' in the title and will still be able to procure the necessary resource. The School of Pharmacy has its own management structure to disseminate Management Board decisions to the staff and student bodies. The MPharm course is governed by the School of Pharmacy meetings, which are chaired by the Head of School and which take place at least twice per semester. All members of academic, technical and administrative staff are members of this committee and participate fully in all decisions regarding MPharm structure, content, teaching and assessment. The student body is represented at the School of Pharmacy meeting by a student representative of the Staff Student Voice Committee (SSVC). Decisions taken at the School of Pharmacy meeting regarding MPharm content or structure are presented to the School Learning and Teaching Committee (SLTC) which reports directly to the Faculty Learning and Teaching Committee (FLTC) and so to the University's Education Committee, with University teaching and learning policy operating in reverse to this structure. There is a lead academic for each stage of the course with responsibility for delivery of learning and teaching materials, and the production of the relevant assessments. The academic lead for stage 4 of the 4-year MPharm will also act as the academic lead for stage 5 of the 5-year integrated course, as the academic content is common to both courses. The 'Learning Through Practice' team will lead on the major placement activity in both stages 4 and 5 of the integrated course.

Standard 9: Resources and capacity

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

School business plans are prepared in a common format and to a timetable determined by the Deputy Vice Chancellor. Subsequent use of School reserves and balances must be authorised by the Director of Finance of the University before any expenditure is incurred, so that cash flow consequences can be managed. The Faculty of Medicine and Health Sciences accountant reports the MPharm accounts separately from all other School activities. Monthly accounts are provided for planning and operational purposes. The Faculty accountant regularly updates the Head of School and the School Business Manager on progress against the business plan. The Head of School reports all perceived and new risks, through the Dean of the Faculty of Medicine and Health Sciences, to the Deputy Vice Chancellor. The Head of School of Pharmacy has sole responsibility for the financial resources within the School. The forecast budget shows that the funding is at an appropriate level to deliver a sustainable MPharm degree, now and into the future. The establishment of the 5-year integrated MPharm was predicated on the potential loss of overseas students on the 4-year MPharm programme due to changes in Home Office regulations relating to visa requirements; overseas students registering for a 5-year MPharm programme,

incorporating the pre-registration training component of the programme, will be eligible for a 5-year student visa under Home Office regulations. In order to provide the correct level of placement supervision, especially relating to the major training placements, the School has recruited a Learning through Practice Team (LTP) consists of a Senior Teaching Fellow, an LTP Tutor, an LTP Teaching Fellow to deal with quality assurance, and two LTP administrators. There are also additional costs associated with the Learning through Practice programme as a result of the fees paid to the community pharmacy to cover training expenses. These additional costs will be covered by the larger fee paid by students on the 5-year integrated MPharm, compared with the standard international fee. The School has recruited three students in the first cohort for this degree, and will recruit five in each subsequent year; when the first cohort reaches stage 5, and all additional expenses have been taken into account, the net increase in income to the School will be more than sufficient to cover the costs; the course remains viable on an annual student intake of three students. Should the student intake exceed five, a further Teaching Fellow and Administrator will be recruited, the costs being covered by the resultant additional income. The School of Pharmacy is secure within the University and all students entering the 5-year programme will be supported through to completion, whatever decision may be eventually reached on the future of that particular degree. The major risk associated with the programme is student failure but the School will be able to identify underperformance as early as years 2 and 3, and may be able to identify problems during the early 'learning through practice' placements, so that remedial steps can be instigated. If recovery at that stage is not possible the student would revert to the 4-year programme. The School acknowledges that issues that might create problems with UK Visas and Immigration, such as students suffering a bereavement, or having health problems during their major placements, and such students would need to be dealt with on case-by-case basis. Once embarked on the major placements, students failing even as late as year 5, when they will have completed everything that a student on the 4-year course will have done, cannot be re-entered onto the 4-year programme. (See condition imposed)

The University's learning and teaching resources include the Keele Learning Environment or KLE. All students have access to this via the internet and via a mobile device app, allowing them access their timetable, lecture notes, reading lists, links to relevant information, areas for group work/discussion, and assignment submission and feedback. The Keele Campus Library is situated close to the School of Pharmacy building. It houses over half a million print books, extensive e-books and makes available online full-text articles from about 30,000 electronic journals, in addition to which printed journals, books and other items relating to the fields of health and social care are held at the Clinical Education Centre (CEC) at the University Hospital of North Staffordshire, which contains approximately 38,000 volumes; students have ready access to all pharmacy-specific texts. All students are provided with a University IT account which allows them to use the university IT services and facilities. With a wireless enabled laptop, smartphone or other suitable device, students can connect to the wireless network in all University buildings and halls of residence. The undergraduate activities of the School of Pharmacy are based within dedicated buildings at the heart of the academic science cluster on the Keele campus. These house pharmaceuticals laboratories, state-of-the-art chemistry laboratories, an IT suite, microbiology, biochemistry and physiology laboratories, the Clinical Skills Suite and 3D Health Cinema and the Digital Health Hub; additional laboratory space for physiology, pathology and pharmacology work is located on campus within the Undergraduate Medical School. The 'Health Cinema' comprises a large screen, visualisation facility that can use both 2D and 3D, with the 3D experience used to provide an immersive environment in which students can learn more about anatomy and the chemical structures of drug molecules. The Digital Health Hub is a 60-seat computer suite that offers augmented reality spaces to project virtual models (e.g. anatomy, molecules, or patients) onto the group tables. In addition, the space allows for students to use managed IT systems and a space to bring their own device if preferred. The Keele Augmented Reality Environment (KARE) is an app that has been developed to allow students to interact with computer-generated patients; its features include the ability to interact with digital objects, 'picking up' care plans, prescribing charts, and observation charts, allowing simulation of observation and diagnostic functions that provide information regarding the status of each virtual patient within the ward.

Standard 10: Outcomes

The delivery and assessment of the standard 10 learning outcomes were not scrutinised during step 2 visit but will be considered at a later stage of the accreditation process.

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

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
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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 pharmaceuticals, pre-formulation and formulation studies
- Design and standardization of medicines
- Microbiological contamination
- Contamination control
- Product stability
- Medical devices

A1.2 How people work

Normal & abnormal structure & function

- Nutrition
- Physiology
- Pathology
- Infective processes

Sociology

- Social and behavioural science

Health psychology

- Health promotion
- Disease prevention
- Behavioural medicine

Objective diagnosis

- Differential diagnosis
- Symptom recognition
- Diagnostic tests

Epidemiology

- Aetiology and epidemiology of (major) diseases

A1.3 How systems work

Healthcare management

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

Evidence-based practice

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

Professional regulation

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

Medicines regulation

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

Clinical governance

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

Clinical management

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

Workplace Regulation

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

A1.4 Core and transferable skills

Professionalism

Research and research methods

Critical appraisal

- Audit and learning from errors

Problem solving

- Study skills
- Team-working skills

Clinical decision making

- Leadership skills

Accurate record keeping

Reflective practice (incl. continuing professional development)

Effective communication

- Interpersonal skills
- Medical terminology

Interpret & interrogate clinical data

Analyse & use numerical data

Pharmaceutical numeracy

Technological literacy

A1.5 Attitudes and values

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