



Promoting higher quality

**The Quality Assurance Agency
for Higher Education**

Subject Review Report

February 2000 Q182/2000

The Queen's University of Belfast

Pharmacology and Pharmacy

Reviewing the Quality of Education

The Quality Assurance Agency for Higher Education (QAA) was established in 1997. It has responsibility for assessing the quality of higher education (HE) in England and Northern Ireland from 1 October 1997 under the terms of a contract with the Higher Education Funding Council for England (HEFCE).

The purposes of subject review are: to ensure that the public funding provided is supporting education of an acceptable quality, to provide public information on that education through the publication of reports such as this one, and to provide information and insights to encourage improvements in education.

The main features of the subject review method are:

Review against Aims and Objectives

The HE sector in England and Northern Ireland is diverse. The HEFCE funds education in over 140 institutions of HE and 75 further education (FE) colleges. These institutions vary greatly in size, subject provision, history and statement of purpose. Each has autonomy to determine its institutional mission, and its specific aims and objectives at subject level.

Subject review is carried out in relation to the subject aims and objectives set by each provider. It measures the extent to which each subject provider is successful in achieving its aims and objectives.

Readers should be cautious in making comparisons of subject providers solely on the basis of subject review outcomes. Comparisons between providers with substantively different aims and objectives would have little validity.

Review of the Student Learning Experience and Student Achievement

Subject review examines the wide range of influences that shape the learning experiences and achievements of students. It covers the full breadth of teaching and learning activities, including: direct observation of classroom/seminar/workshop/ laboratory situations, the methods of reviewing students' work, students' work and achievements, the curriculum, staff and staff development, the application of resources (library, information technology, equipment), and student support and guidance. This range of activities is captured within a core set of six aspects of provision, each of which is graded on a four-point scale (1 to 4), in ascending order of merit.

The aspects of provision are:

- Curriculum Design, Content and Organisation
- Teaching, Learning and Assessment
- Student Progression and Achievement
- Student Support and Guidance
- Learning Resources
- Quality Management and Enhancement.

Peer Review

Reviewers are academic and professional peers in the subject. Most are members of the academic staff of UK HE institutions. Others are drawn from industry, commerce, private practice and the professions.

Combination of Internal and External Processes

The review method has two main processes:

- Preparation by the subject provider of a self-assessment in the subject, based on the provider's own aims and objectives, and set out in the structure provided by the core set of aspects of provision.
- A three-day review visit carried out by a team of reviewers. The review team grades each of the aspects of provision to make a graded profile of the provision, and derives from that profile an overall judgement. Provided that each aspect is graded 2 or better, the quality of the education is approved.

Published Reports

In addition to individual review reports, the QAA will publish subject overview reports at the conclusion of reviews in a subject. The subject overview reports are distributed widely to schools and FE colleges, public libraries and careers services. Both the review reports and the subject overview reports are available in hard copy and are also on the world-wide web (see back cover for details).

Introduction

1. This Report presents the findings of a review in February 2000 of the quality of education in pharmacology and pharmacy provided by The Queen's University of Belfast.
2. Queen's was originally established in 1845 as Queen's College, Belfast, and, along with the other colleges in Cork and Galway, formed the Queen's University in Ireland. The College received its university charter in 1908, when it became The Queen's University of Belfast. The University has 42 schools and institutes and a number of research centres and units. These are organised in five faculties covering Humanities, Legal, Social and Educational Sciences, Science and Agriculture, Medicine and Health Sciences, and Engineering. The main campus is situated approximately one mile south of the city centre. Currently, there are 15,153 full-time and 9,597 part-time students registered at the University.
3. A BSc degree in Pharmacy has been offered by the University since 1929, and in 1971 the course transferred from the College of Technology to the new School of Pharmacy within the University itself. In 1980, the School moved to a new purpose-built building on the Medical Biology Centre campus. Pharmacy is one of eight schools in the Faculty of Science and Agriculture and is the only school of pharmacy in Northern Ireland. In 1999-2000, 254 full-time students are enrolled on the MPharm and 520 students are enrolled on the part-time distance-learning taught postgraduate programmes.
4. The following provision forms the basis of the review:
 - MPharm
 - Diploma/MSc in Community Pharmacy
 - Diploma/MSc in Clinical Pharmacy
 - Certificate in Community Pharmacy Management
 - The Medicines from Concept to Consumer module for non-pharmacy students.
5. The statistical data in this Introduction are provided by the institution itself. The aims and the objectives are presented overleaf. These also are provided by the institution.

The Aims and Objectives for Pharmacology and Pharmacy

Aims

The University's purpose is 'to promote education and scholarship of the highest quality, to foster excellence in teaching and research, to acquire and disseminate knowledge for the benefit of society at large and to contribute to the educational, cultural, social and economic well-being of Northern Ireland'.

Within this context the School of Pharmacy aims to produce graduates possessing the knowledge and skills such that they can contribute meaningfully to the pharmacy profession.

The specific aims of the undergraduate programme are to:

- A. provide a quality education programme for pharmacy students that meets the requirements of the Pharmaceutical Society of Northern Ireland (PSNI) and the Royal Pharmaceutical Society of Great Britain (RPSGB);
- B. provide an educational environment within which students will have the opportunity to develop their interest in pharmacy;
- C. prepare students for independent lifelong learning by encouraging directed self-study;
- D. provide a strong knowledge base in pharmaceutical and related clinical sciences and in professional aspects of pharmacy;
- E. provide training in those practical skills related to the science and practice of pharmacy;
- F. help students develop a range of key and employability skills;
- G. foster development of research skills;
- H. develop awareness of professional and ethical issues;
- I. facilitate students in developing their full potential.

The specific aim of the taught postgraduate programmes is to:

- J. facilitate community and hospital pharmacists to develop their knowledge base and practice skills, and at MSc level their research skills, to enable them to contribute more fully within their respective areas of employment.

Objectives

On successful completion of the undergraduate MPharm programme students will be eligible to undertake pre-registration training having demonstrated a satisfactory level of achievement in the three aspects that support the practice of pharmacy:

Knowledge and Understanding

The student will be able to demonstrate the knowledge and understanding of:

1. the physical, chemical and biological principles relevant to the pharmaceutical sciences;
2. the design, development and delivery of drugs;
3. the clinical sciences relevant to the practice of pharmacy;
4. organisation of health care provision and the social, legal, ethical and economic issues relating to pharmacy practice.

Skills

Be able to:

5. use information technology (IT) competently;
6. communicate effectively by both written and oral means, including communication with patients and health care professionals;
7. undertake problem-solving;
8. demonstrate numerical skills;
9. work independently and as a member of a team;
10. record accurately, account for and present data generated within the laboratory;
11. critically interpret relevant literature and experimental data;
12. gather and use information effectively in the production of reports;
13. demonstrate the skills necessary for independent learning and research;
14. demonstrate specific skills associated with formulation, dispensing and analysis of pharmaceuticals.

Attitudes

Be able to demonstrate an awareness and appreciation of:

15. the duties and responsibilities of a pharmacist in providing care for patients and interacting with other health care professionals;
16. ethical principles relevant to the practice of pharmacy;
17. the need for a lifelong approach to continuing professional development.

On successful completion of the relevant Diploma course, the participants will have:

18. a sound knowledge and understanding of the pharmacotherapy of selected disease states;
19. developed the ability to learn independently;
20. developed practice skills through work-based learning.

In addition they will:

(Clinical Pharmacy)

21. have an ability to apply clinical knowledge to practice-based problems;
22. have an ability to evaluate critically the clinical literature;

(Community Pharmacy)

be able to demonstrate knowledge and understanding of:

23. the basis of responding to symptoms;
24. social and behavioural aspects of pharmacy, health promotion and interpersonal communication within the community pharmacy setting.

In addition, on successful completion of the relevant **MSc course** students will be able to:

25. demonstrate the skills necessary to undertake independent research in a relevant area of practice.

On successful completion of the **Certificate course in Community Pharmacy Management**, the successful student will have:

26. demonstrated the skills necessary to build business, operate effectively and remain competitive.

Summary of the Review

6. The graded profile in paragraph 7 indicates the extent to which the student learning experience and achievement demonstrate that the aims and objectives set by the subject provider are being met. The tests and the criteria applied by the reviewers are these:

Aspects of provision

1. Curriculum Design, Content and Organisation
2. Teaching, Learning and Assessment
3. Student Progression and Achievement
4. Student Support and Guidance
5. Learning Resources
6. Quality Management and Enhancement.

Tests to be applied

To what extent do the student learning experience and student achievement, within this aspect of provision, contribute to meeting the objectives set by the subject provider?

Do the objectives set, and the level of attainment of those objectives, allow the aims set by the subject provider to be met?

Scale points

1

The aims and/or objectives set by the subject provider are not met; there are major shortcomings that must be rectified.

2

This aspect makes an acceptable contribution to the attainment of the stated objectives, but significant improvement could be made.

The aims set by the subject provider are broadly met.

3

This aspect makes a substantial contribution to the attainment of the stated objectives; however, there is scope for improvement.

The aims set by the subject provider are substantially met.

4

This aspect makes a full contribution to the attainment of the stated objectives.

The aims set by the subject provider are met.

7. The grades awarded as a result of the review are:

Aspects of provision	Grade
Curriculum Design, Content and Organisation	4
Teaching, Learning and Assessment	4
Student Progression and Achievement	4
Student Support and Guidance	4
Learning Resources	4
Quality Management and Enhancement	4

8. The quality of education in pharmacology and pharmacy at The Queen's University of Belfast is **approved**.

The Quality of Education

Curriculum Design, Content and Organisation

9. The School of Pharmacy offers a four-year full-time undergraduate course (MPharm) and a range of part-time distance-learning postgraduate courses. The MPharm was introduced in 1997-98, replacing the three-year BSc Pharmacy, and currently has students in the first three years of the course. It follows the University's modular structure for the first two years, but a non-modular unit structure is used in years three and four. This allows unit leaders to design units of varying length, depending on the requirements of the unit content.

10. With the introduction of the MPharm, the Department took the opportunity to redesign completely the previous BSc course, with external input from, for example, employers. In line with stated aims, the curriculum complies with the requirements for accreditation of the RPSGB and the PSNI and clearly demonstrates breadth and coherence. Progressive depth can be seen in the three years currently available and in the planned final year, and provides a strong knowledge base in pharmaceutical and related clinical sciences. The research and professional interests of staff feed into the curriculum, for example in the units on drug delivery and pharmacotherapy, and most clearly in the project and clinical placement work. Vocational aspects of the course are enhanced by contributions from clinical practitioners and staff of the Northern Ireland Centre for Postgraduate Pharmaceutical Education and Training (NICPPET).

11. A skills half-module has been successfully introduced into the first year and covers numeracy, statistics, computer skills, writing and communication, and study skills. Skills development is clearly embedded in many of the modules and units throughout the course, such as the group project in Pharmacy Practice 2. The Departments of Physiology and Chemistry provide two physiology modules and one chemistry module. The physiology modules are tailor-made for pharmacy students.

12. The School decided that the MPharm should offer as wide a range of professional opportunities to graduates as possible and introduced a compulsory core curriculum, with the element of student choice provided in the final-year project. Projects will comprise 400 hours' work, and some projects will be available in work placements. Students are required to undertake vacation work experience in community pharmacy as part of the course, and opportunities exist for hospital placements in the vacation. Students view this positively.

13. The curriculum fully meets the stated aims relating to the provision of subject-specific knowledge, and practical and key skills. Though no MPharm students have yet graduated, the School is the major provider of pharmacy graduates in Northern Ireland, and previous experience with the BSc Pharmacy suggests that the curriculum will continue to equip graduates with the necessary skills and knowledge to contribute meaningfully to the pharmacy profession.

14. The Medicines from Concept to Consumer module is offered to non-pharmacy students at Levels 0 or 1. The comprehensive curriculum covers topics such as the origin and development of medicines and their modes of action and production. It is presented in an interesting and accessible format for non-specialists.

15. At postgraduate level, the School offers a range of part-time, distance-learning Certificate/Diploma/MSc courses. The clinical pharmacy and community pharmacy programmes are well designed around a series of self-teaching units that are authored and reviewed by experts in each field, including academic and pharmacy practice staff. Flexibility and student choice is provided through a coherent range of compulsory and optional units, from which students select 10. Clinical students gain appropriate knowledge of specialist areas through work-based, in-practice training and, for Northern Ireland-based students, through collaboration with designated hospitals, while community students develop practical skills further at their own workplace.

16. The Certificate in Community Pharmacy Management comprises a series of 10 modules, each of which is intended to occupy five hours of study time and covers topics, such as marketing, accounting and personnel management. The second part consists of five structured projects. All pre-registration graduates in Northern Ireland undertake the 10 modules of this course. Flexibility is provided by allowing students to start the course at any time of the year.

17. Postgraduate courses have benefited from the close collaboration between the School and the NICPPET, which has enhanced all curricula. The curricula of all such courses are well matched to the needs of the students and the profession. In line with stated aims, the curricula effectively enable practising pharmacists to develop their knowledge base and practice skills.

18. This aspect makes a full contribution to the attainment of the stated objectives. The aims set by the subject provider are met.

Curriculum Design, Content and Organisation:
Grade 4.

Teaching, Learning and Assessment

19. A wide range of teaching and learning activities is used to develop both subject-specific and transferable skills. The professional and research experience of the staff enhance the student learning experience, which is further complemented by contributions made to the course delivery by practising pharmacists. Distinctive features include role-play in pharmacy practice and hospital-based clinical teaching, which provides an excellent opportunity for contact with patients and health care professionals. A range of high-quality paper-based distance learning materials provides the major teaching and learning medium for the postgraduate certificate, diploma and MSc courses, with work-based practical sessions in the clinical pharmacy course.

20. In the MPharm programme, emphasis is placed upon traditional lectures and laboratory classes, supported by directed self-study. The first two years are primarily didactic, with a staged introduction of student-centred learning in the last two. The skills half-module provides a foundation from which there is progressive development of active learning. Students are appreciative of the value of such skills development.

21. The reviewers observed eight teaching and learning sessions, covering all three current levels of the undergraduate course. Sessions included lectures, practicals, workshops, and hospital-based small group clinical sessions. All sessions were well planned, and learning objectives were clearly stated and met. Some sessions involved student participation, when good communication skills were in evidence. Current and former students were generally positive about the quality of teaching provided by conscientious, committed staff.

22. Learning outcomes are clearly stated for students and are assessed by a range of appropriate methods, including written and practical examinations, laboratory reports, essays, peer review of group work, and projects. Assessment has a formative value, as well as a clear role in monitoring students' progression.

23. Assessments in the postgraduate diploma programmes reflect the workplace orientation of these courses. Following completion of self-teaching units, assessments include tutor-marked assignments and clinical case reports for hospital-based students.

24. From their scrutiny of students' work, the reviewers found that marking was consistent and appropriate. Assessment design is tailored to match the aims and objectives of the programmes. Assessment criteria are clearly stated for students, and are well matched to the task. Criteria vary in format, depending on the assignment; those used for the literature review in the

MPharm Infectious Diseases, their Treatment and Prevention module are an example of good practice which could, with benefit, be extended to other forms of assessment, where appropriate.

25. Feedback on students' work varies depending on the nature of the learning experience. It includes the use of feedback forms based on assessment criteria, oral feedback during peer assessment activities and written comments on assignments themselves. Bar charts of written examination results are placed on the School's intranet system, so that students can compare their performance with their peers. Undergraduate students confirmed that work was returned promptly. Postgraduates receive feedback either on their assignments or through comprehensive summary sheets. There was some dissatisfaction expressed by delays in returning work to postgraduate students. Staff are addressing this by introducing a marking deadlines policy, which will be monitored by the recently appointed manager of distance-learning courses.

26. This aspect makes a full contribution to the attainment of the stated objectives. The aims set by the subject provider are met.

Teaching, Learning and Assessment:
Grade 4.

Student Progression and Achievement

27. Over the past five years, the undergraduate student intake has increased from 69 in 1995 to 106 in 1999, while the number of applications has fallen. The current ratio of applications to entrants is approximately 3:1. The fall in applications is due largely to circumstances beyond the control of the School. Most applicants are from Northern Ireland, where the School is the only provider of pharmacy education. The female to male ratio of 60:40 is similar to that of other UK pharmacy schools. The entry profile is made up almost entirely of school leavers with GCE A-Levels, although five places each year are available for overseas students. In recent years, the average GCE A-Level points score has increased from 25 to 28. In line with university policy, from 2000-2001 the School intends to reserve up to 5 per cent of places for non-GCE A-Level entrants, such as those with Scottish Highers or graduates from other disciplines.

28. Progression rates from year one to year two are excellent, averaging 97 per cent over the three most recent entry cohorts. Withdrawals amount to 2 per cent, and 1 per cent transfer to other courses within Queen's. In the Medicines from Concept to Consumer module, offered to non-pharmacy students at Level 0 and Level 1, the average pass rates over the last three years were 94 per cent at Level 1 and 88 per cent at Level 0.

29. Completion figures relate to the previous BSc Pharmacy course. Over the last three years of this course, an average of 85 per cent completed within three years. Among 1999 graduates, 78 per cent gained a First or Upper Second class honours degree, and the degrees awarded are consistent with the high entry qualifications.

30. Progression and completion rates for the postgraduate, distance-learning courses are good. The reviewers find that the completion rates are consistent with the fact that all students are full-time practising pharmacists, and they reflect a motivated student body. Over the last three cohorts in the Diploma in Clinical Pharmacy, 78 per cent of students have graduated with the diploma to date and 2 per cent are still to complete. An average of 66 per cent were awarded the Diploma within the minimum two-year period. An average of 80 per cent of those students transferring to the MSc course have graduated to date, with 76 per cent gaining the degree within the minimum period of three years. A further 20 per cent are still on course to complete.

31. For the Diploma in Community Pharmacy, an average of 67 per cent have graduated to date and 22 per cent are still to complete; 42 per cent gained the diploma in the minimum two-year period. An average of 68 per cent of those students transferring to the MSc course have graduated to date, with 64 per cent gaining the degree in the minimum three-year period. Another 32 per cent are still to complete. The Certificate in Community Pharmacy Management was introduced in 1998 and recruits large numbers of students. Currently 37 students have graduated to date and 338 remain on course.

32. Scrutiny of the sample of students' work showed clear evidence of subject-specific knowledge and skills, transferable skills such as summarising and IT skills, and high-quality project reports. Diploma and MSc project work showed good understanding of relevant issues and the application of knowledge to practice. Overall, students' work and meetings with current and former students confirmed that the stated objectives are being achieved.

33. All undergraduates continue to the pre-registration year of training. Employers of the School's graduates were highly complementary of the quality and abilities of the graduates of the undergraduate pharmacy course. A major pharmaceutical company has selected Queen's as a key pharmacy school to provide students for its vacation employment programme.

34. External examiners support the level of attainment of students. Current undergraduates commented favourably on the continuous development throughout the course of IT skills, in relation to presentations of their

work and literature searches. Postgraduates particularly appreciated gaining knowledge that was directly relevant to practice and the confidence they gained from this. Former students felt well prepared for the pre-registration year.

35. This aspect makes a full contribution to the attainment of the stated objectives. The aims set by the subject provider are met.

Student Progression and Achievement:
Grade 4.

Student Support and Guidance

36. The University has well-established systems of student support and guidance, which include the provision of trained departmental advisers of studies, who provide additional academic and pastoral guidance. Students value the accessibility and responsiveness of the two pharmacy advisers of studies. The School and University provide clear and comprehensive written guidance for students. Undergraduate student booklets, for each level and each semester, contain essential information to guide students through the early weeks and progression through the remainder of the course. Student feedback on the content of the booklets is encouraged.

37. Admissions procedures allow prospective students to benefit from the University's general open days, which include departmental visits. The university-wide rolling induction programme takes place over two weeks and is supported by a written guide sent in advance. The programme is well organised and comprises core activities at university, faculty and school levels. There are three to four induction sessions within the Faculty of Science and Agriculture, while the School's activities include an introductory presentation from the Head of School. Comprehensive information packs are provided for students, who appreciate the welcoming arrangements made for them. Additional university activities were warmly praised by overseas students.

38. The personal tutor system provides effective academic and pastoral support and guidance for undergraduates. Students are allocated a personal tutor on arrival, and regular contact is encouraged and monitored. Students value the accessibility of all members of staff and are complimentary about the friendly and supportive environment of the School. In addition, the availability of lecture tutorial materials, past examination papers and discussion lists on the School's intranet provides further support.

39. The use of continuous assessment and attendance records allows the progress of individual students to be monitored and appropriate support provided. This is

monitored formally by the Student Support Committee. The School's advisers of studies provide further guidance and complement the personal tutor system. Students have access to a wide range of centrally provided welfare services, and the School clearly maintains effective liaison with these services.

40. Postgraduate students have access to a tutor in the School, and clinical pharmacy students also have a local hospital-based tutor. The recent appointment of a manager of the distance learning centre provides additional support for postgraduate students. Ways of enhancing communication using IT facilities are currently being explored.

41. The staff profile ensures that students benefit from contributions from professional pharmacists. A range of external employers, predominantly from hospital and community practice, make yearly visits to the School, enabling students to make informed careers choices on graduation. Further professional orientation occurs through obligatory experience in community pharmacy, for a minimum of one week during vacation periods. Graduates of the School confirm the success of careers guidance and the suitability of the course for a career in community pharmacy.

42. This aspect makes a full contribution to the attainment of the stated objectives. The aims set by the subject provider are met.

Student Support and Guidance:
Grade 4.

Learning Resources

43. The principal library facilities for pharmacy are housed in the biomedical library. The library is open 13 hours each day on weekdays, with shorter hours at weekends. It holds approximately 2,400 textbooks and 50 specialist journals, which fully support the curriculum. Additional medical library facilities are available at the Royal Victoria Hospital, and a shuttle bus service to this site is available. The on-line library guide gives full details of all library facilities. Access to libraries is available for all distance-learning students, and the School provides a reference pack of relevant articles to community pharmacy diploma students working in isolated locations. An effective library orientation session is provided in the first weeks of year one. As the course progresses, students need more sophisticated library skills, which are provided early in year three. A good working relationship between the School and library staff exists.

44. IT facilities are available in 15 computer centres, which have a total of 640 PCs. Excellent access arrangements are provided. For example, computers in the medical biology centre are available 14 hours a day, 7 days a week. The School has its own computer support officer, an arrangement that facilitates liaison between academic and IT staff. Students are introduced to IT skills in year one in the effective first-year skills module.

45. The School has access to funds held in a charitable trust. It also generates income from the distance-learning courses and this is reinvested back into the School. Thus the School is able to supplement its income from university sources considerably and thereby enhance the student learning experience. Laboratories are well equipped and apparatus destined for the new pharmacy building has already been purchased. In addition, research equipment is made available to students for project work. The School has a clearly defined procedure for purchasing equipment, and manages its resources well in the face of increasing student numbers.

46. The School has access to well-equipped, appropriate teaching facilities within the school building and in other adjacent buildings. There is a central system for booking lecture rooms. The construction of a new pharmacy building starts in April 2000 and is due for completion in September 2001. This should further enhance the provision. Appropriate refreshment and social facilities are available nearby.

47. Technical and administrative staff numbers are appropriate, and additional appointments have recently been approved. Technical staff assist in some practical classes, and a close rapport between technical and academic staff is apparent.

48. This aspect makes a full contribution to the attainment of the stated objectives. The aims set by the subject provider are met.

Learning Resources:
Grade 4.

Quality Management and Enhancement

49. The University has in place a robust system for quality management and enhancement, which the School implements carefully. Each module is reviewed annually and the review includes analysis of statistical information on progression, together with students' views from questionnaire responses and from students' direct involvement in the module review process. Module reviews have led to several changes in individual modules, such as changes to the statistics component in year one and the practical component in year three, to emphasise the continued development of IT and numeracy skills.

50. Each degree pathway is reviewed annually, and students are also directly involved. Such reviews have been carried out for all the degrees/pathways offered by the School of Pharmacy, with the exception of the Certificate in Community Pharmacy Management, which is due to be reviewed during 2000. A five-yearly university subject review process is currently under development through the Centre for the Enhancement of Learning and Teaching. In addition to the internal module, pathway and subject reviews, the School is subject to a five-yearly accreditation process conducted jointly by the RPSGB and PSNI, which was last undertaken in 1997.

51. The School has a well-established process for obtaining feedback from students and the School values the information obtained. Modules are evaluated through the use of questionnaires, which obtain feedback both on course organisation and teaching. There is an active and effective Joint Consultative Committee, with a student representative from each year of the MPharm course.

52. The University has anonymous examination marking to eliminate bias in marking. In addition, the School operates blind double-marking of final-year projects. All examinations have sample moderation by two internal members of staff and the criteria for selection for moderation are clearly stated. External examiners express general satisfaction with the system of assessment.

53. External examiners' comments can be responded to by the University, if they have general university-wide implications, but the normal response route is from the Head of School, after consultation with the Head of Teaching and discussion at the Teaching Committee. Recently, external examiners commented on the students' poor ability to integrate information across various areas of the course. The School has designed the MPharm course to avoid such problems and has introduced practice oral examinations, with feedback, to

allow students to develop oral examination skills. The reviewers commend the speed of dealing with external examiners' comments.

54. The University has an annual staff appraisal system that has been well received by staff and is regarded as developmental. The School encourages staff development through this process and informally. Appraisal takes into account student evaluation of teaching. An example of enhancement as a result is the modification made to the laboratory manuals for the Physicochemical Principles for Pharmacy course.

55. The staff development and training unit offers appropriate staff development courses. New members of staff undertake the Postgraduate Certificate in Higher Education Teaching. The reviewers found evidence of good teaching practice as a result of knowledge gained at training courses, particularly in terms of making students aware of teaching and learning aims and objectives. All practitioner teachers attend courses run by the unit. Postgraduate student demonstrators are also required to undergo training, including having to perform the relevant practical exercises themselves, before undertaking demonstrating duties. There is a university staff handbook, but the School has also produced its own staff handbook, which is an invaluable guide for new staff.

56. In 1998-99, the School introduced an effective system of peer review of teaching, which is valued by staff. All staff are trained by the staff development and training unit before they observe colleagues teaching. Another source of enhancement has been through the Enterprise Initiative, which has focused on the development of skills in undergraduate curricula at Queen's. This has been implemented by the School through the introduction of a skills half-module in year one of the MPharm.

57. The self-assessment document provides a good description of the provision for pharmacy education and a reasonable degree of evaluation. There is strong evidence of ownership of the document, and students and external reviewers were involved at a draft stage.

58. This aspect makes a full contribution to the attainment of the stated objectives. The aims set by the subject provider are met.

Quality Management and Enhancement:
Grade 4.

Conclusions

59. The quality of education in pharmacology and pharmacy at The Queen's University of Belfast is approved. All aspects make a full contribution to attainment of the stated objectives and the aims are met. The reviewers come to this conclusion, based upon the review visit together with an analysis of the self-assessment and additional data provided.

60. The positive features of the education in pharmacology and pharmacy in relation to the aspects of provision include the following:

- a. The broad, coherent curriculum of the MPharm includes well-embedded skills development and opportunities for extramural projects (paragraphs 10 to 12).
- b. Curricula are informed by practitioners, staff research interests and the close collaboration with the Northern Ireland Centre for Postgraduate Pharmaceutical Education and Training, and are well matched to the needs of students and the profession (paragraphs 10; 15; 17).
- c. The quality of self-directed learning materials for the postgraduate distance-learning programmes is high (paragraph 19).
- d. The variety of teaching and learning activities provide appropriate opportunities to develop professional and key skills (paragraphs 19; 20).
- e. There is an effective staged development from didactic teaching to independent learning (paragraph 20).
- f. The provision has a well-qualified undergraduate student profile, high progression and completion rates and good degree results (paragraphs 27 to 29).
- g. The effective, robust academic and pastoral support and guidance systems provided centrally and within the School ensure that undergraduates' needs are identified and addressed (paragraphs 36 to 39).
- h. The School's skilful management of resources and success in gaining additional external funding fully support the curriculum and teaching and learning (paragraph 45).
- i. Institutional quality management systems are effectively implemented at the subject level and include active student participation at all stages (paragraphs 49 to 51; 53).
- j. The School encourages staff development which leads to enhancement of the provision (paragraphs 54; 55).