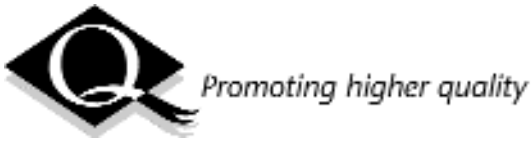

The Quality Assurance Agency
for Higher Education

Subject Review Report

March 2002 Q588/2001

University of Nottingham

Medicine

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 March 2002 of the quality of education in medicine provided by the University of Nottingham.

2. The University of Nottingham was established in 1881 as a University College and gained its full university charter in 1948. The main buildings of the University are situated in a parkland campus about three miles from the city centre. An additional campus has recently been opened within half a mile of the city campus on an inner-city site. Medical teaching is based in the Queen's Medical Centre (QMC), which is adjacent to the University Park Campus. The University has 17,828 full-time equivalent (FTE) undergraduate students and 2,507 FTE taught postgraduate students.

3. Medicine is taught in the Faculty of Medicine and Health Sciences through five of the six Schools in the Faculty, namely: Biomedical Sciences, Clinical Laboratory Sciences, Community Health Sciences, Human Development, and Medical and Surgical Sciences. The Medical School opened in 1970 with an initial intake of 48 students. The intake to the undergraduate medical course will increase to 244 from 2002. Currently there are 1,015 students enrolled on the undergraduate medical course and 255 full-time and 455 part-time students registered on postgraduate taught courses. The undergraduate course is served by 247.72 FTE academic staff, of whom 235 are full-time and 37 part-time. Substantial contributions are made by NHS clinicians, including 437 clinical teachers and 225 tutors in general practice. The teaching staff are supported by 409 technical administrative and clerical staff and 28 library staff. Teaching also takes place in a number of Trusts, including the QMC, Nottingham City Hospital, Southern Derbyshire Acute Hospitals, King's Mill Centre for Health Care Services, Nottinghamshire Healthcare and general practices and community settings.

4. The following provision forms the basis of the review:

- BMedSci Honours, Bachelor of Medical Sciences
- BMBS Bachelor of Medicine, Bachelor of Surgery
- MMedSci Assisted Reproduction Technology*
- MMedSci Clinical Education
- MMedSci Clinical Psychiatry*
- MSc Community Paediatrics
- MSc Immunology and Allergy
- MSc Molecular Medical Microbiology*
- MSc Oncology*
- MPH Master of Public Health*
- MSc Sports Medicine
- MSc Rehabilitation
- MSc Health Services Research.

Of the 11 programmes of postgraduate study, the five asterisked were sampled for detailed review.

5. The statistical data in this Introduction are provided by the institution itself. The aims and objectives are presented overleaf. These also are provided by the institution.

The Aims and Objectives for Medicine

Undergraduate medical course

Students admitted to the medical course at the University of Nottingham register for the degrees of BMedSci and BMBS. Since the major review of the course in 1992 and establishment of the current curriculum, the overall aims and objectives have been as follows:

Aims

On qualification, doctors should have:

i) broad knowledge of the human body and mind in relation to the whole person and his or her place in the family and society, of health and its promotion and of disease and its prevention or management, including legal and ethical aspects;

ii) competence to assess and treat the commoner or more urgent disorders, to communicate clearly, to assess evidence critically, and to carry out decisions with care and energy, whether in relation to patients, to their families, to fellow professionals, or to the community as a whole;

iii) attitudes of respect for others and for the high calling of medicine which favour participation in continuing professional development and in medical audit, together with due recognition of their own responsibilities and limitations.

Objectives

Newly qualified doctors should be able to:

Knowledge related objectives

i) explain the more prevalent disturbances of bodily structure and function in relation to processes such as trauma, inflammation, immune response, ageing, neoplasia, metabolic disturbance, or genetic disorder;

ii) describe how disease presents in patients, how patients react to illness or to the belief that they are ill, and how illness behaviour may vary between social and cultural groups;

iii) analyse the environmental and social determinants of major diseases and their spread, with attention to health promotion and disease prevention;

iv) use knowledge of the reproductive cycle, pregnancy, childbirth, and family planning in hospital or family practice consultations;

v) explain the current organisation and provision of primary and secondary health care, and the influence of economic and practical constraints;

vi) describe the influence of ageing and chronic disease on health and health care;

vii) make fluent and accurate use of the vocabulary of the medical sciences in outlining the working of the living body, of human behaviour in society, and of the main means of health care.

Competencies

viii) propose solutions to clinical problems through eliciting, recording and interpreting medical histories and physical signs, considering mental as well as physical factors, with discriminating use of laboratory, imaging and referral services;

ix) perform the principal procedures involved in investigation and management in ward, clinic or practice, including competent initial care of the commoner medical, surgical, obstetric or psychiatric emergencies;

x) apply the principles of therapeutics, including the benefits and limitations of drug and other therapy, to the management of illness, to rehabilitation, to the amelioration of suffering and disability and to the care of the dying;

xi) use an effective range of interpersonal skills in medical practice, based on understanding of human relationships, both personal and communal and of the importance of communication with patients, their relatives and with other professionals involved in their care;

xii) handle qualitative and quantitative evidence rigorously, making inferences with care, using knowledge of the scientific basis of medicine to make rational decisions and clear explanations;

xiii) contribute, as talent and opportunity permit, to the development of medical and clinical practice and its underlying knowledge, through critical attention to published work, careful observation or experiment and rigorous analysis.

Attitudes and professional values

xiv) show acceptance of the commitment to uphold the standards which medicine demands, and the respect for patients which that entails;

xv) practice personal honesty and fulfil the legal and ethical responsibilities involved in giving care both to individuals and populations;

xvi) keep up habits of reflective practice, self-directed learning and continuing professional education, together with willingness to admit their own limitations and seek help when necessary.

Specific aims and objectives for the BMedSci

The structure of the Nottingham medical course allows every student to gain an honours degree (BMedSci) at the end of their third year. The aims of the BMedSci third or 'honours year' are to:

i) develop the research skills and experience of the student through in-depth study of a scientific topic;

ii) develop knowledge of contemporary research and theory in chosen areas of medical science.

The objectives of the BMedSci honours year are that the student will be able to:

i) design and conduct an extended research, or educational, project;

ii) demonstrate competence in technical, laboratory, recording, organisation, data handling, research appraisal or other skills appropriate to the student's project;

iii) produce a coherent written report of the project which includes:

- a critical review of background literature;
- a clear account of the approach, rationale and methods used;
- appropriate analysis and interpretation of the results or outcomes;
- conclusions drawn from the results or outcomes;

iv) explain and discuss critically the background, approach, and outcomes of the project;

v) describe and evaluate research and theory in chosen areas of medical science.

Postgraduate courses

The aims of the taught postgraduate courses, which span a diverse range of disciplines, are to meet academic, professional and technical requirements specific to each discipline. Objectives for each course are in the individual course documentation. General objectives for students who complete masters courses are that they should be able to:

i) demonstrate advanced knowledge and in-depth understanding and skills within a specialised area, which may have professional and/or technical dimensions, as well as academic;

ii) integrate and apply knowledge and information from diverse sources;

iii) evaluate critically information and data in the scientific literature;

iv) develop hypotheses and design research studies to test them;

v) demonstrate practical and organisational skills in research;

vi) analyse and interpret research data, draw appropriate conclusions and, on the basis of these, formulate directions for further investigation;

vii) communicate information and ideas coherently, both verbally and in writing.

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	**3**
Student Progression and Achievement	**4**
Student Support and Guidance	**4**
Learning Resources	**3**
Quality Management and Enhancement	**3**

8. The quality of education in medicine at the University of Nottingham is **approved**.

The Quality of Education

Curriculum Design, Content and Organisation

9. The design, content and organisation of the undergraduate curriculum are closely aligned with the professional requirements of the General Medical Council (GMC). The curriculum is being actively reviewed and further developed in response to the report produced following the visit by the GMC in 2000. Professional skills are developed through all five years of the course, with substantial input from the first year onwards. The curriculum is designed to achieve the dual outcomes of an honours medical science degree and a professional medical qualification.

10. Students' learning is facilitated through a variety of methods appropriate to the intended learning outcomes. Early clinical exposure is used both to contextualise the learning in basic medical sciences and to support students' personal and professional development. In the first two years of the course, approximately one-half of the time is set aside for private study. Students are given instruction in the use of this time, and part of it is used for the completion of specific tasks that contribute to formative and summative assessment. There is appropriate use of opportunities for multidisciplinary learning, for example, with pharmacy students.

11. Student choice is facilitated through the project completed during the 'honours year' (year three) and the elective programme in year five. A 'core plus options' curriculum for the first three years is under development. The first three years provide a suitable scientific base, culminating in an honours BMedSci, at the end of year three. Key scientific skills are particularly developed by the four-month full-time research project taken by all medical students.

12. The BMedSci is a unique feature of the curriculum and one that is appreciated by students. However, the BMedSci project interrupts what is otherwise a graded introduction to clinical practice. Although an increased number of clinical projects have been provided, many students continue to pursue laboratory-based projects. There is a strategy to increase the proportion of projects with a clinical emphasis as the number of students increases.

13. The structure of the primarily clinical years of the course is more traditional. Students are taught on several Nottingham campuses and at Mansfield and Derby. Mechanisms are in place to ensure comparable delivery of the curriculum across all sites. Where expertise is confined to one campus, arrangements are made either for all students to visit that site on rotation, or for the teacher(s) concerned to visit the other sites.

14. At the end of the course, students participate in a Pre-Registration House Officer (PRHO) training fortnight and two weeks of shadowing. These help students manage the transition from senior medical student to licensed medical practitioner, and experience of running it will provide a basis for the University's further involvement in the PRHO year.

15. The intended learning outcomes are appropriate to the overall aims of the programme, and the award of the BMBS is recognised by the GMC as appropriate for granting provisional registration. Employers expressed a high degree of satisfaction with the knowledge, skills and attitudes of their PRHOs.

16. The Curriculum Planning Group (CPG) has responsibility for providing the strategy for the curriculum. Recent developments in teaching and learning, and in basic and clinical science and clinical practice, inform the design and ongoing review of the curriculum. Members of the CPG demonstrate a high level of expertise and commitment to their work.

17. The design, content and organisation of the postgraduate taught masters courses are appropriate, being informed in several instances by the requirements of professional bodies such as the medical Royal Colleges. Where appropriate, these organisations are involved in curriculum design and continuing review. Postgraduate curricula are appropriate to the intended learning outcomes. Each course is under continuing review; the curriculum is informed by recent developments both in teaching and learning and in science and clinical practice.

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. The strategy for teaching, learning and assessment for the medical course is to meet GMC requirements and to implement relevant university policy. This has involved increasing integration of teaching, reducing factual content and examinations. There have been some reductions in factual content and in the number of examinations, but the Faculty acknowledges that further work is required before there is a consistent approach to assessment across the curriculum. The approach to assessment is under active consideration to ensure that it continues to be fit for purpose.

20. The strategy for teaching and learning requires written objectives to be given to students, the encouragement of less instructive teaching, more self-directed learning and the use of a range of assessment methods. However, the strategy for assessment is less well developed and further work is being carried out on it to reflect the requirements of a modern curriculum.

21. The reviewers observed teaching in 24 sessions both within the Faculty and at clinical and hospital settings at Derby and Nottingham. These observations included all years of the undergraduate course as well as a sample of postgraduate teaching. A wide variety of teaching methods is used, drawing on the professional experience of both staff and students. The methods include formal lectures through to small-group work, tutorials, working with general practitioners, and clinical practice. Joint teaching sessions are held for medical, pharmacy and midwifery students, and this facilitates the sharing of experience.

22. Both the quality of teaching and the commitment to medical student training by academic and NHS staff were at a high level. Lecturers were enthusiastic, approachable, empathetic and highly skilled. Sessions were well organised, with teachers working with clearly articulated aims and objectives and, in the smaller groups, student participation. Most lecturers clearly linked theory to clinical examples and recent research, and made full use of audiovisual aids. It is commendable that the University has a policy of promoting and rewarding excellence in teaching, for example, by the Dearing awards which have recognised such excellence in the Faculty.

23. There is an impressive variety of teaching methods and learning opportunities suitable for a modern curriculum. Small-group work is particularly valued by students in providing formative assessment. The wide-ranging honours research projects are appreciated by students and commended by external examiners, who comment favourably on the commitment and expertise of supervisors. The projects reflect the research strengths of the academic staff and their associates. Much teaching takes place in accommodation which is fit for the purpose, including sophisticated laboratory facilities, teaching rooms and clinical settings. However, in some larger lecture theatres and teaching rooms, it was sometimes difficult to hear the teacher, or to see slides.

24. Postgraduate students commented particularly favourably on the currency of their teaching, professional relevance and flexibility in dealing with individual situations.

25. The Networked Learning Environment (NLE) is a valuable support and aid to students' learning. It provides on-line support for learning and self-assessment resources at all sites and when students are away from the University. Students can not only find the outlines of lectures and presentations but can also see the arrangements for the full curriculum. The system is interactive, giving opportunities for the formation of on-line discussion groups.

26. The clear learning objectives in study guides and logbooks facilitate effective use of private study and acquisition of professional skills and attitudes. Clinical skills are documented, and the appraiser and appraisee sign the written report. A mid-course formative appraisal documents strengths and weaknesses and allows correction in the latter part of the assignment. The dual demands of scientific and professional training inevitably lead to moderately high workloads, but students seem to cope without undue stress. Maturity, enthusiasm, integrative activities and enjoyment of the learning process were evident in students from year one onwards.

27. Despite the absence of a fully developed and implemented overall strategy for assessment, the individual components are wide-ranging and, in general, effective for measuring attainment of the intended learning outcomes. Assessments are thorough and cover the whole syllabus effectively. External examiners regard the assessments as rigorous, appropriate and fair, including the use of pass/fail oral assessments. Internal moderation shows good agreement between independent assessors. Overall, external examiners and the reviewers see the assessments as demonstrating achievements appropriate to the award of the degrees.

28. 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.

Teaching, Learning and Assessment: Grade 3.

Student Progression and Achievement

29. The Medical School is a popular one, with over 1,800 applicants for the 227 places on the undergraduate programme in 2001. It has a very active, enthusiastic Admissions Department with forward-looking ideas and the capacity to question received wisdom. The Department's research activity on admissions is impressive and is conducted as part of its commitment to fairness and openness. Since 1996, non-academic criteria for admission, largely based on the GMC's description of the qualities required of a doctor, have been used alongside academic criteria.

30. Entry qualifications are in line with UK medical schools and are reviewed regularly by the Admissions Committee. Some 79 per cent of entrants have

GCE A-Levels with an average points score of 29. Recent modifications have been made and are in keeping with widening access to a medical degree. The admission process results in a profile of 61 per cent female and 39 per cent male students. Some 5 per cent are mature students; 80 per cent indicated that they were white; 18 per cent declared themselves as non-white; and 5 per cent have some form of disability. There are 167 international students, with a further 182 FTEs on postgraduate courses. The ratio of applications to places on postgraduate courses is 2:1.

31. The progress of students through the undergraduate course is carefully documented and the number completing the programme is high, with some 95 per cent completing the BMedSci course. In most cases, the reasons for withdrawal include transfer to another course or personal or health factors. Few withdraw for academic reasons. On the postgraduate courses, non-completion rates are low at around 3 per cent, although a number of part-time students suspend their studies because of professional commitments.

32. Progression through the course and the qualifications awarded indicate a high level of student achievement in relation to the objectives. Written work and logbooks demonstrated considerable achievement, with the best research project work of publication quality. A number of students' articles have been published. There was evidence of knowledge and firm understanding of medical issues. Transferable skills are acquired early, cognitive skills develop over the five-year course and specific skills, for example, in surgery and geriatric medicine are gained from excellent teachers.

33. Feedback to students is provided in different ways and varies from course to course in amount and type. In the larger groups, lists are published including comments on the questions and responses on the NLE. Students receive individual comments on request or when they have not done well. Feedback is given on essay-type questions and small-group activities. Sometimes this is limited and more could be done to provide additional feedback on specific learning points.

34. External examiners' reports were almost universally favourable about the quality achieved and the presentations associated with BMedSci and BSBM degrees. The reviewers consider the marking and assessment procedures to be acceptable. Of those graduating with the BMedSci, 22 per cent gained a First class honours degree, 65 per cent an Upper Second and 13 per cent a Lower Second.

35. Employers indicated that the Medical School graduates were of a high quality, dependable and likely to proceed to high achievement in the profession. The PRHOs considered that the programme had equipped them with core knowledge. The destination data provided accorded with this, and current students in the School expressed enthusiasm at their future prospects.

36. A summer school for sixth-formers interested in medicine has been introduced and is popular. It is targeted at underachieving schools and appears to be worthwhile, although it has not been operating for long. It is considered to be a good way to widen participation in medical school application.

37. 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

38. The Medical School places great emphasis on student support and guidance and it is pleasing to see that it is regarded as a core item of the undergraduate and postgraduate programmes. The GMC was complimentary about support and guidance in years one and two of the undergraduate medical course, and recommended that the arrangements should be extended to the more senior years. This has now been done for years three and four. Year five is in transition, but students in that year seem quite happy with the interim arrangements.

39. The 'medical family' is at the heart of the support for undergraduate medical students. Students act as 'parents' to junior students, and the heads of the family are a pre-clinical tutor and a clinical mentor. This provides an excellent environment for personal development. A good electronic personal and academic record system includes appropriate reminders about personal development and encourages good practice. Support and guidance are also provided through the Early Clinical and Professional Development course.

40. The Academic Progress Committee has a strong supportive role. Information about support and guidance is widely available through the personal contact system, in printed guidance and on the appropriate web site. Students at every level and the PRHOs expressed strong satisfaction with the support system. Suitable support and guidance are provided for postgraduates, and attention has been given to reducing the drop-out rate. Psychiatry has been particularly good in this respect. Postgraduate students praised the support available and the ways in which special arrangements were made to meet personal situations.

41. Admission and induction arrangements are satisfactory. Induction arrangements for new medical students are a particular strength consistent with excellent support and guidance. Students receive information about arrival, accommodation and their first activities in the Medical School. There is a variety of induction events in the first week and the Medical Student Society is fully involved with these. The International Office organises a pre-session welcome and induction week. Postgraduate students also have an induction period and the opportunity to meet with course co-ordinators, personal tutors and supervisors.

42. Arrangements for academic guidance and tutorial support are generally good. Study-skills support is readily available. Staff development is active and there is good provision for staff induction and professional development in relation to tutorial and student support. Senior medical students are given good careers advice through a programme of presentations, by designated members of staff who may be contacted for each speciality and by readily available informal contacts.

43. 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

44. Learning resources are provided incrementally to meet the needs identified during the implementation of the Faculty's learning and teaching strategy. The Strategy and Finance Committee manages this process. Developments in resources, which have been considerable, have been piecemeal and not placed within an overall strategic context. The prime example here is the NLE, which has been implemented in Nottingham since 1999. It follows from a jointly-funded project involving a number of medical schools. The educational rationale for the provision is to provide an electronic mirror of the curriculum.

45. The NLE is a superb learning resource and has huge potential for enhancing and developing the overall learning experience. It is well stocked with the programme aims and objectives. The majority of sections of the NLE contain electronic copies of material originally used in paper format to support lectures. Additionally, many of the lectures are available for students to review at a later date. The reviewers consider that there is a lack of editorial control, with little central policy or system, resulting in inconsistent content and use. There is little evidence of any unfolding strategy either for the NLE in the delivery of teaching and learning, or to take advantage of the new educational opportunities that a virtual managed learning environment presents.

46. There is generous provision of PCs/workstations on all sites. Students are well satisfied with this information technology provision. They indicated that they had access to email and internet pages and that this was suitably used.

47. The NLE is designed to be accessed by any computer connected to the internet, including those on the NHS net rather than the University net or JANET. Students commented that it was not always possible to access their email on the University server. Students saw this as a disadvantage since email is increasingly used by academic staff and course co-ordinators for notices and information. All students have one introductory session on the NLE. Students are offered further study-skills sessions if requested.

48. There is very good provision of library services both in the Greenfield Medical Library (GML) and in the hospital trust libraries elsewhere. Opening hours are generous and there is an efficient system for ordering and reserving books from the GML electronically. There is suitable liaison between subject staff and libraries to ensure that core recommended textbooks are available in the GML and at appropriate hospital libraries where clinical students are on placement. The reviewers were shown a policy for withdrawal of books based on age and use, and were given statistics on actual numbers of books withdrawn. However, there was some evidence that in some subjects, such as clinical pathology and clinical psychiatry, this policy was not being fully adhered to. Students made no adverse comments about the library provision.

49. There is an excellent range of teaching and learning accommodation, including well-equipped lecture rooms, flexible-use seminar rooms, wet and dry laboratories and a dissection room at the QMC, and good lecture and seminar rooms at other sites. The role of the clinical skills laboratories at the QMC in curriculum delivery is well developed in years one and two and is widely used for consultation skills in year four, but its role in other years is still being developed. There has clearly been substantial recent investment in building and refurbishment of learning resources at the QMC and elsewhere. All sites have good social accommodation in terms of common rooms and eating facilities.

50. Free residential accommodation at one remote hospital site is available only for 'on-call' students and those on eight-week placements. Other students are required to commute daily from Nottingham. This may need to be addressed in future in the context of the Service Increment for Teaching contract.

51. There are adequate numbers of technical and administrative support personnel, and relationships with academic staff are good. Students spoke highly of the teaching co-ordinators at the two Derby sites.

52. 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.

Learning Resources:
Grade 3.

Quality Management and Enhancement

53. The programme is subject to university and faculty procedures for approval, validation and review, for example, university audits which involve internal and external consultation. Each School is responsible for the delivery of its undergraduate and postgraduate courses and for monitoring educational quality through well-established systems of student feedback on teaching. These are complemented by the University's system of student evaluation of teaching. Each School has a teaching committee which reports to the CPG annually through a formal report. This enables the views of subject staff to be considered.

54. Monitoring and evaluation of the programmes are managed through the formal committee structure. The CPG was established in May 2000 to bring greater coherence to the management of the undergraduate medical programme and to facilitate the delivery of the course across the five Schools in line with university requirements and external demands.

55. The CPG lies within the formal committee structure. It reports through the Faculty Undergraduate Committee to the Board of Faculty. Other committees, such as the Strategy and Finance Committee and Undergraduate and Postgraduate Committees, are responsible for making strategic decisions, by considering data such as those on admissions, progression and assessment results. The reviewers found that it is not always clear where the strategic responsibility for planning and decision-making for undergraduate developments lies within the Faculty committees.

56. Course teams who report to the teaching committees carry out monitoring of individual courses. The monitoring process through student evaluation questionnaires and other means is effective in identifying issues and making improvements at course level. In addition, there is clear evidence that the CPG has initiated some key changes to the curriculum resulting from review and evaluation. There is evidence also that whole course issues, such as the recent introduction of the personal tutor/mentor/family scheme, have resulted primarily from student feedback and comprehensive review.

57. All programmes are subject to University Quality Audit; the CPG has also carried out reviews of parts of the course, for example, the fourth year, and has responded to external reviews such as that from the GMC. Much has been achieved by the CPG since its inception, including a comprehensive review of the whole programme. While there is much evidence of progress, the review is not yet complete and is due to be finished towards the end of 2002. Further consideration should be given to the ways in which the NLE is used to enhance teaching and to the further development of the clinical skills facilities.

58. The Faculty has identified aspects of quality management and curriculum development that could be enhanced and has recently made a senior appointment of a quality assurance officer. The terms of reference for a Medical Education Unit in the Faculty have been agreed. This appointment has yet to be made. The reviewers consider that there are still aspects of quality management that would benefit from a more systematic approach.

59. Each programme considers all aspects of the learning process through programme committees which are attended by both staff and students. Postgraduate courses are reviewed in accordance with a set form that includes a description of quality procedures. These reviews are considered by the School teaching committees as well as by the Faculty Postgraduate Committee. These structures are effective in ensuring that issues identified are dealt with effectively and appropriately and that opportunities for enhancement are identified, considered and disseminated to others.

60. External examiners are subject specialists and are appointed in accordance with the University guidelines. External examiners' reports are considered initially by the individual Schools and then at faculty level through the committee structure. Feedback from external examiners has been useful in the design and review of programmes as evidenced by teaching committee reports.

61. There are good working relationships and effective liaison between the Faculty and NHS colleagues at all levels, and appropriate management structures in Trusts ensure high-quality teaching on clinical attachments. Regular meetings are carried out between the Faculty and NHS Trust representatives and have led to improvements in the delivery of teaching. In addition, clinical representatives attend the Clinical Teaching Group, and the Medicine and Surgery Management Committee.

62. The Faculty involves its students at all levels of discussion and students clearly feel they have good input into course management. Staff-student liaison committees are effective in raising awareness of issues and seeing that these are addressed at programme level. The Faculty staff-student consultative committee ensures that more generic issues can be raised directly with the Dean and are addressed at faculty level.

63. University and faculty quality assurance systems have proved important in supporting the development, implementation and evaluation of both undergraduate and postgraduate programmes. The mechanisms established for course review and improvement have clearly contributed towards the quality enhancement of these programmes. They have enabled the programme teams to identify good practice and areas requiring improvement in order to achieve the aims of the programmes.

64. Staff appraisal, induction and training of new lecturers and peer review of teaching are managed through university schemes and formalised through school procedures. Individual staff development needs are identified by university procedures. The criteria for promotion of staff include teaching excellence as a mandatory component of moving from lecturer to senior lecturer.

65. Staff development is managed and monitored at school level and there is much evidence that staff are skilled teachers who are able to deliver the programmes effectively. The University, Faculty, CPG and the schools have held staff development activities. These have clearly been effective in raising awareness of key issues for the staff who attended. Schools' staff development officers are responsible for disseminating and ensuring best practice. There is a developed peer review scheme, which also acts to promote good practice for established teachers. Staff development is also offered to external tutors; for example, clinical academics are required to take one module of the Postgraduate Certificate in Higher Education and 660 teachers (academic and NHS staff) have participated in the Teaching Improvement Project Scheme course.

66. The processes of self-evaluation and continuous improvement appear effective, the self-assessment document is appropriate and there is evidence of the use of management information in the self-assessment and the teaching committees. The self-assessment enabled the reviewers to carry out the review and indicated those actions which have been taken and need to be taken. Documentation provided for the review visit was comprehensive.

67. 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.

Quality Management and Enhancement: Grade 3.

Conclusions

68. The quality of education in medicine at the University of Nottingham is approved. All aspects make at least a substantial contribution to the attainment of the stated objectives and the aims are at least substantially met. The reviewers come to this conclusion, based upon the review visit together with an analysis of the self-assessment and additional data provided.

69. The positive features of the education in medicine in relation to the aspects of provision include the following:

a. The curriculum achieves the dual outcomes of an honours medical science degree and a professional medical qualification (paragraphs 9 to 12).

b. The taught masters programmes meet the requirements of the relevant professional bodies and through continuing review the curricula are informed by recent developments (paragraph 17).

c. Enthusiastic, knowledgeable lecturers both in the academic and clinical courses provide a high level of teaching (paragraphs 21 to 24).

d. Students' learning is developed through clear objectives outlined in study guides and reinforced through the Networked Learning Environment (NLE) (paragraphs 25; 26).

e. Well-qualified students make suitable progress through the courses and develop the necessary transferable and specific skills (paragraphs 29 to 32).

f. Students in the early years of the programme receive considerable support from a number of agencies within and beyond the University. Such support is being extended to the clinical years. Postgraduate guidance and support are very good (paragraphs 38 to 42).

g. The NLE is a superb learning resource with huge potential for developing the learning experience (paragraph 45).

h. Appropriate teaching accommodation and library and information technology resources are available on all sites (paragraphs 46; 48; 49).

i. University and faculty procedures ensure that the School Teaching Committees, working with the Curriculum Planning Group (CPG), deal effectively with particular issues (paragraphs 53; 56; 59).

j. There are effective relationships at all levels with the Faculty, the NHS and Trusts (paragraph 61).

k. Quality assurance systems provide vital support to the development and implementation of the programmes (paragraph 63).

70. The quality of education in medicine could be improved by addressing the following issues:

a. As yet, there is no overall assessment strategy that guides, informs or develops a consistent and appropriate approach to assessment issues across the curriculum (paragraphs 19; 20).

b. There is a lack of central co-ordination and strategic direction of the use of the extensive resources being developed in areas such as the NLE and clinical skills laboratories (paragraphs 44; 45; 57).

c. While much has been accomplished by the CPG, there is a need to further clarify the lines for policy and decision-making and their implementation in the undergraduate programme (paragraphs 55; 58).