



Basic Medical Education in the British Isles

1 General Section School Profiles

THE REPORT OF THE
GENERAL MEDICAL
COUNCIL SURVEY

BASIC MEDICAL EDUCATION IN THE BRITISH ISLES

*The Report of the GMC Survey of Basic Medical Education
in the United Kingdom and Republic of Ireland, 1975-6*

1

General Section and School Profiles

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Preface

SIR JOHN BROTHERSTON, MD, FRCP Edin.

I have been asked, as Chairman of the Education Committee of the General Medical Council during the time when the Survey was proposed, planned, and begun, to write a brief introduction for those readers who may not be familiar with the General Medical Council and its role in relation to basic medical education in the United Kingdom.

The Survey, though entitled the 'Survey of Basic Medical Education', was concerned primarily with the preclinical and clinical periods of study, but it also collected information about the premedical year, where this is undertaken by students within a medical school, as opposed to prior to entry. It should be noted that the Survey did not deal with the preregistration year, although this is defined by the Council as part of 'basic medical education'.¹

When it was founded in 1858, the General Medical Council was assigned by Parliament a statutory responsibility for establishing and maintaining standards of medical education in the British Isles. Although no longer unique—indeed having formed a model for similar institutions in the Commonwealth and elsewhere—the Council retains this responsibility as its primary task. The nature of the task in the 1970s is considerably different from that which faced the first Council more than a century ago. I am indebted to Mr W. K. Pyke-Lees, a former Registrar of the Council, for the following information about medical education in the 1850s.²

1. Para. 7 of the Appendix to volume 2 which is the GMC's *Recommendations as to Basic Medical Education* (1967).

2. W. K. Pyke-Lees, *Centenary of the General Medical Council 1858–1958*.

Reviewing in 1869 the circumstances of its own origin, the Council stated that the two chief causes of the legislation (to establish the Council) had been 'the deep-felt necessity for a radical improvement in the education of the main body of the medical practitioners, and reciprocity of professional privileges in the three divisions of the Kingdom'. Before 1858, nineteen separate licensing bodies had conferred professional titles after tests widely diverse in character. Most of the titles had a purely local value, with the result that, for example, an Edinburgh practitioner might be unable to extend his practice legally to London or Dublin, or even to Glasgow. . . . This complicated system, or lack of system, the inadequate tests for many of the qualifications, and the large number of wholly unqualified practitioners made it impossible for the public to distinguish qualified from unqualified persons.

To assist patients in making the necessary distinction the Council was authorized to maintain a national register which is continuously updated and published annually.

The composition of the Council was in 1858 and remains to this day closely related to its primary responsibility for medical education. When the Council was founded, each licensing body (i.e. those bodies which grant medical qualifications) was represented.¹ Today the Council has forty-six members. Eight, including three laymen, are nominated by Her Majesty the Queen. Eleven medical members are elected by the postal votes of the profession in the British Isles. The remaining twenty-seven members represent universities which grant medical degrees, as well as the Royal Colleges of Physicians and Surgeons, the Royal College of Obstetricians and Gynaecologists, and the Society of Apothecaries of London, which are also licensing bodies.

The Medical Act of 1858 established the Council and defined its tasks. It empowered the General Medical Council to ask licensing bodies for information about their current courses of study and examinations and to send Visitors to attend and report upon any examinations held by the bodies. The Act did not authorize the Council to lay down any compulsory curriculum. In theory, it could only consider on its merits any curriculum adopted by a body and pronounce it either 'sufficient' or 'insufficient'. If the verdict was 'insufficient' the body must keep on trying until the

1. Although the five Scottish universities then had only two representatives between them.

Council said 'sufficient'. However, to improve on this inconvenient procedure the Council began to issue 'Recommendations' or 'Resolutions' so as to indicate in general terms beforehand what would be sufficient. Recommendations as to professional examinations and professional education have been issued by the Council at varying intervals since 1861.

Sir Donald McAlister, a former President of the General Medical Council, outlined in 1922 the procedure which had been evolved by the Council in regard to the curriculum and preparation of Recommendations. He said that the Council's method was that 'of full and free consultation with teachers and teaching institutions, followed by equally full and free debate in this Council, in which all the medical faculties and corporations are represented'. Hence the Council's recommendations were 'the expression of a concordat amicably reached, not of an ordinance framed and issued by external authority'. This method has not changed to the present day.

It is true, however, that Recommendations issued during the second quarter of this century, from 1922 onwards, became increasingly specific about matters for inclusion in the curriculum, culminating in the Recommendations of 1947. Yet even in these Recommendations the Council emphasized that its object had never been to standardize medical education:

It should be emphasized that nothing in the Acts (governing medical education and the Council's activities) entitles the Council, even if they so desired, to prescribe a uniform curriculum to be imposed by bodies and schools upon all students. There is in fact in this country no such thing as 'the medical curriculum' in the sense of a single curriculum consisting of identical courses of study and standardized examinations.¹

The policy of the Council to allow medical schools freedom to follow their own paths was well established by as early as 1881-2, when the Medical Act Commission concluded, having received evidence from a number of bodies including the Council:

It would be a mistake to introduce absolute uniformity into medical education. One great merit of the present system, so far as teaching is concerned, lies in the elasticity which is produced by the variety and the

1. General Medical Council (1947). *Recommendations as to the Medical Curriculum*.

number of educating bodies. . . . We desire to leave to them as much initiative as possible. . . . Nothing should be done to weaken the individuality of the universities and corporations.

This enlightened policy has allowed the interesting differences of method and emphasis, characteristic of English provincial, Irish, London, and Scottish schools, to continue as a source of varied experience from which all can learn.

A tendency to increasing precision in the Council's Recommendations from 1922 to 1947 was, however, reversed in the Recommendations of 1957 in which the Council advised 'a lighter and more flexible curriculum', and carefully refrained from 'specifying the period of time to be allotted to particular subjects or the sequence in which they should be taught'.¹

Schools responded so well to this that in the introduction to its next Recommendations, issued in 1967, the Council went on to note

with satisfaction the wide variation in the method and content of medical education which is emerging between different schools. . . . The Council is anxious to encourage and to increase the new flexibility in the planning of curricula in the different schools. The Council thinks that it is now widely accepted that in medical education there is no single pathway to success. Identity rests not in the path but in the goal.²

These statements were widely welcomed by licensing bodies and medical schools, and during the past decade almost every school in these islands has undertaken a major review of its undergraduate curriculum. In addition to being prompted by the 1957 and 1967 Recommendations, these reviews have been influenced by the report of the Royal Commission on Medical Education³ and also developments abroad: notably in North America.

In its 1967 Recommendations the Council discussed the objectives of basic medical education:

The first fundamental requirement is that basic medical education should give the student knowledge of the sciences upon which medicine depends and some understanding of the scientific method.

1. General Medical Council (1957). *Recommendations as to the Medical Curriculum*.

2. General Medical Council (1967). *Recommendations as to Basic Medical Education* (reprinted as an Appendix to volume 2 of this Report).

3. Royal Commission on Medical Education (1968). *Report 1965-68* (Todd Report), Cmnd 3569 (London: HMSO).

The second fundamental requirement is that basic medical education should give the student a comprehensive understanding of man in health and in sickness and an intimate acquaintance with his physical and social environment.

The third fundamental requirement is that the pre-registration appointments¹ should complete the student's basic medical education and prepare him for the vocational training which is to follow.

The over-all objective is defined as 'to provide doctors with all that is appropriate to the understanding of medicine as an evolving science and art, and to provide a basis for future vocational training; it is not to train doctors to be biochemists, surgeons, general practitioners or any other kind of specialist'.

It is no easy matter to decide to what extent these objectives are being achieved or indeed whether they are in need of some re-consideration, in a period when the pace of educational development and expansion is almost matched by that of financial stringency and restriction. Accordingly, to assist it in the discharge of its responsibilities for basic medical education, the Council decided in 1972 to undertake a survey of basic medical education. The results of this are contained in this report.

It is not possible to summarize such a wide-ranging report, nor to list all the developments reported therein. Readers may turn at first to those pages dealing with their own school or specialty, but they would be well advised to study the other sections. There is relevance for us all in the experience of other schools and disciplines.

It may nevertheless be worth mentioning certain trends which emerge from the report. There is little evidence of decline in the numbers of applications for entry to medical school, and indeed the academic standard of entrants has shown a progressive rise and is now almost certainly at its highest ever level. Increasing percentages of women are being admitted to schools, and increasingly

1. The Council decided in 1943 that 'in view of the special knowledge required of qualified practitioners in the various branches of medical practice, it would be expedient in the public interest for a period of postgraduate training to be required before entry into independent medical practice'. Under the Medical Act of 1950, since 1 January 1953 any British graduate seeking full registration for entry into independent medical practice must first complete twelve months' service in pre-registration posts in hospitals approved by British universities for preregistration house officer training.

schools appear to be interested in diversifying the student intake by accepting a limited number of graduate or other 'mature' entrants. Such applicants are often interviewed prior to entry, although schools still differ in their selection techniques for the 'normal' entrant, and particularly in the part played by interviews.

Increasingly, medical schools expect the student to have completed his premedical studies before he enters their course. All the schools in Scotland have now moved or are now moving to a five-year curriculum (normal in the rest of the United Kingdom), accepting by direct entry candidates with Scottish 'Higher' qualifications; the old 'first year' is to be retained for a small number of students, probably, in two schools, in something which approximates to the English 'premedical' year. In four English schools, however, the premedical year has recently been abandoned, though in one new medical school such an arrangement is to be introduced.

Although all schools have changed their curricula in the light of recent 'Recommendations', the extent of change is very variable. Some schools have been slower to change, others have been much more radical. In the preclinical years, for instance, there are great variations in the amount and organization of teaching in the classical disciplines. The amount of practical work required differs widely: for example, whereas in many schools students spend a considerable time engaged upon dissection, one school has decided that no dissection will be required. Early clinical exposure is increasing during this period, sometimes in an attempt to demonstrate 'relevance', but sometimes as a more integral part of the course. The amount of 'horizontal' integration of courses is variable, but is on the increase. Newer subjects, recommended for inclusion in the curriculum in the 1967 Recommendations (for example, Behavioural Sciences, Human Genetics, Human Reproduction and Family Planning, and Statistics) have with few exceptions been introduced, but the amount of time allocated to them varies greatly, and some of the courses are still in an experimental stage.

In the clinical years, schools are making increasing attempts to co-ordinate the clinical experience received by students by such techniques as the rotation of students through various firms and

the introduction of central, frequently integrated, lecture courses. A further stimulus to co-ordination has been the increasing reliance of many schools for part of their clinical teaching upon regional ('peripheral') hospitals outside the teaching centre. On the other hand, efforts are made to cater for the varied needs and interests of students by the use of periods of elective study, whole-time clinical attachments and project-based research options, now offered by many more schools. There has been a significant movement to widen the student's experience beyond the traditional clinical disciplines into the community outside the hospital. Resources for teaching Community Medicine have expanded and teaching in the context of General Practice is now an established part of the programme in almost all medical schools.

The pattern of assessment varies equally widely between schools, but the use of progressive or in-course assessment as a formal part of the 'professional' examination procedure continues to increase. In parallel, the use of 'objective' test techniques (MCQs, etc.) has become widespread. A growing number of schools have now established a pattern of final assessment whereby written papers are completed by the end of the second clinical year, leaving the final year free of assessment except for clinical and oral examinations.

Increasingly, over-all control of the curriculum is given to a standing committee. Often, smaller groups or working parties look after separate stages, topics, and multidisciplinary courses. In many schools departments are still responsible for planning course content, but in others this has been taken over by the curriculum committee and its subgroups.

In this report, then, we have a unique record of the activities, plans, and problems relating to undergraduate medical education in the United Kingdom and the Republic of Ireland in 1975. Although the information collected relates to a point in time, it nevertheless paints a background against which it will be possible to understand more clearly the changes which continue to take place in programmes of medical education.

The Council's task is now to consider, 'Where do we go from here?', and it will devote itself to this problem in the immediate future. Whatever changes may or may not emerge, one factor will

however remain constant: the Council will adhere to its policy described by Sir Donald McAlister in 1922 of 'full and free consultation with teachers and teaching institutions'.

Acknowledgements

I must take this opportunity to express the gratitude of the Council to everyone in the medical schools who was involved in providing information for the survey. Each school received one large questionnaire on general matters relating to organization and the curriculum, and the heads of departments in the disciplines and specialties composing the curriculum each received a subsidiary questionnaire about their own discipline or specialty. Some schools accordingly received up to forty questionnaires, and yet less than 1 per cent of all the questionnaires dispatched failed to return. The effort and time given by busy teachers and administrators is much appreciated.

It is a great pleasure also to acknowledge our debt of gratitude to Dr Ronald Harden, Mr Richard Wakeford, and all the Survey team from the Centre for Medical Education of the University of Dundee. The report is the result of their hard work, persistence, and excellent organization.

Acknowledgements

The GMC Survey Team worked within the Centre for Medical Education at the University of Dundee under the general direction of Dr Ronald M. Harden, Director of the Centre. The members of the team were:

Richard E. Wakeford

Len A. Biran

Ann Blacklock

Jill Rogers

The team would like to record their thanks for continued help and encouragement throughout the Survey to Sir John Brotherston (Chairman) and the members of a sub-committee of the GMC, specially constituted to steer the project; to the Registrar of the GMC and his staff (in particular, Wendy Cogger) for their tolerance and assistance; to the members of staff of Dundee Medical School who advised on many aspects of the questionnaires; and to a loyal succession of secretaries, especially Audrey Mounsey who has typed the entire report.

Particular thanks are also due to 'GMC Correspondents' in the medical schools, who responded valiantly to the remorseless succession of questionnaires and visits: without them the Survey would have been impossible. The team would also like to thank all those members of British and Irish medical schools who completed questionnaires or submitted to interview, and especially those who, by assisting in the pilot exercises, did so twice.

Note

The Nuffield Provincial Hospitals Trust is glad to publish these two volumes as a contribution to knowledge in the important field of medical education which is the base of medical care quality.

The General Medical Council will be prepared to deal with any queries arising from this report of the survey through: The Registrar, 44 Hallam Street, London W1N 6AE.

G.McL.

1

GENERAL SECTION

General Section

General Introduction to the Survey and the Report

BACKGROUND TO THE SURVEY

Under the various Medical Acts from 1858 to 1958, the supervision of undergraduate medical education is the primary task which has been assigned by Parliament to the General Medical Council. About every ten years, the GMC has issued 'Recommendations' to the United Kingdom Medical Schools advising them about curricular matters in the light of recent medical and educational developments.

The last such 'Recommendations' were issued by the GMC in 1967: at about the same time, the report of the Royal Commission on Medical Education (the Todd Report) was published. Both documents had far-reaching implications for the medical schools. Thus, during the last ten years, undergraduate medical education has been in a state of considerable change following an earlier period of relative stability. Curricula and teaching methods are being reorganized, many schools are expanding and new schools are developing. The Council's Education Committee therefore resolved in 1973 to conduct a 'Survey of Basic Medical Education': the primary reason for undertaking the Survey was to discover what was happening in the schools—not only what curricular changes have been introduced or are being planned but also the difficulties and constraints facing the schools in the pursuit of their objectives. The Centre for Medical Education at the University of Dundee was asked to undertake the Survey.

Survey Methods

Each school was asked to appoint a 'GMC Correspondent' to act as a channel for communication and to co-ordinate the answering of the school's questionnaires. In some schools, senior administrative or academic staff acted as Correspondents, in others the dean himself was given the task.

The first year of the Survey was a pilot phase, in which questionnaires and other data-collection techniques were developed. A number of

schools volunteered to assist in this; as a result the draft questionnaires were much altered, and it was resolved to include interviews as a possible supplement to them. It was decided on this occasion not to involve students in the exercise.

The second year and a half was devoted to data-gathering, and later report-writing. Each school's GMC Correspondent completed a lengthy questionnaire on matters related to the school as a whole; he also distributed up to forty subsidiary questionnaires to those responsible in his school for the teaching of the component disciplines/specialties of the medical course as a whole. The subjects upon which information was sought were:

- Anaesthetics
- Anatomy
- Biochemistry
- Chemical Pathology, Clinical Chemistry, Clinical Biochemistry
- Child Health, Paediatrics
- Communicable Diseases
- Dermatology
- Forensic Medicine, Medical Jurisprudence
- General Practice
- Genetics
- Geriatrics
- Haematology
- Human Genetics
- Human Growth and Development
- Human Reproduction and Family Planning
- Immunology
- Medical Ethics
- Medical Physics, Biophysics
- Medicine
- Microbiology and Parasitology
- Obstetrics and Gynaecology
- Ophthalmology
- Orthopaedics and Trauma
- Otorhinolaryngology
- Pathology
- Pharmacology
- Physiology
- Psychiatry, Psychological Medicine, Mental Health
- Psychology and Sociology
- Radiology (Diagnosis and Therapy)
- Social Medicine, Community Medicine, Public Health, Epidemiology
- Statistics and Biometric Methods
- Surgery

Therapeutics

Venereology

In addition, some schools were asked to complete questionnaires on their interdisciplinary courses. Other subjects (for example Cardiology, Rehabilitation), were not examined specifically, but some data on them were nevertheless received: please refer to the Index to this Report.

During this period, three visits were undertaken to every school by a member of the Survey team (R.E.W.) to discuss the questionnaires with the GMC Correspondent and, later, to elaborate, clarify, and expand upon replies with selected respondents to the discipline/specialty questionnaires.

Also during this time, the information handling system was devised. A feature-card based store was used.

In the final six months of the Survey (ending in June 1976) report-writing was concluded.

STRUCTURE OF THE REPORT

The Report on the Survey is presented in two volumes: the first reports on the medical schools of the British Isles as a whole, in general terms, covering such aspects as selection, curricula, and assessment, in addition to quite specific topics; following this is a 'profile' of each individual medical school; the other volume describes the teaching of the component elements of the medical course, subject by subject.

Teaching at 'premedical' (briefly), 'preclinical', and 'clinical' stages only is considered. The preregistration year was outside the Survey's remit.

Volume 1. General Section and the School Profiles

This, the 'General' section, reports principally on information gathered at medical school level, from the GMC Correspondents.

The first part describes the schools' objectives, curricular arrangements, and assessment systems in general terms, and gives more details about selected aspects (for example intercalated degrees). It reports upon schools' selection policies and procedures, and their results, and the arrangements for curricular control and development are also outlined. Finally, current developments in the medical schools and the reported obstacles to their attainment are described.

The second part of this volume consists of brief, standard-format 'profiles' of each of the thirty-eight medical schools in the United Kingdom and Eire. These profiles outline the curricular and assessment systems of each school, and give further details of selected aspects; they then cover selection policy and procedures, curricular control and development, and the school's reported 'problems and developments'.

**Volume 2. Reports on the Teaching of the Component Disciplines/
Specialties of the Medical Course**

The second volume comprises separate reports on the teaching of the component subjects of the medical course. (Because of overlap, reports on a number of subjects have been combined, and the number of reports is slightly less than that of the titles of questionnaires distributed.)

These reports, which vary considerably in length, are based on the replies from those actually responsible for teaching the subjects: they describe for each subject the teaching arrangements (position in the curriculum, teaching time, etc.); aims, objectives, and methods of teaching; student assessment; and problems and developments. Greater detail is given for certain disciplines/specialties: for details, see the introduction to Volume 2. These reports, by arrangement with the deans, are presented anonymously. As a result, little of the information is given in tabular form. Furthermore, as the details were collected from teachers (rather than medical schools), there may not always be full concordance between this section of the Report and the other.

Some Considerations

A report dealing, as this does, with a developing field such as medical education inevitably cannot, at the moment of publication, reflect the present situation. While speed has been of the essence in the production of the report, lest information becomes out of date, the Survey Team nevertheless apologize for any errors, and also if justice is not felt to have been done to some of the considered and erudite replies. There are indeed areas in which the data could have been more completely analysed and reported upon—but time and space would not permit.

The team are also aware of some aspects of undergraduate medical education into which the exercise has not gone as deeply as it has in others—for instance (and most particularly) with respect to clinical teaching: the majority of clinical teaching in many schools is given in units or hospitals away from the control of the professor or senior teacher of the subject. Our information is generally limited to that obtained from the schools and their staff: lack of comprehensiveness in this regard is acknowledged.

Finally, it has been the duty of the Survey Team to collect information and subsequently to present it—not to infer and conclude. In writing the report we have therefore had the difficulty of avoiding on the one hand, evaluating, and on the other, recording the obvious. We hope that we have succeeded.

1. Introduction: The Medical Schools

THE MEDICAL SCHOOLS

There are thirty-eight medical schools in the British Isles: their full names are listed in Table 1. Twenty-seven of the medical schools are in England and Wales: of these, one is in Wales (the Welsh National School of Medicine/University College Cardiff) and fourteen are within the University of London.

In Scotland there are five medical schools and in Ireland six. One of the Irish schools is in Belfast, Northern Ireland; three of the five schools in the Republic of Ireland are in Dublin.

Outline of Course Stages Offered

Of the thirty-eight medical schools, sixteen offer a separate premedical stage (Table 2, column A); the definition of a 'premedical' stage will be discussed later. Thirty-four schools presently offer a preclinical stage (column B), and thirty-four run a clinical course (column C).

Each of the six Irish schools offers all three course stages, as do a further seven schools in England and Wales. Two Scottish schools (Dundee and Edinburgh) also offer all three stages, but Edinburgh is considering whether the preliminary premedical stage should be discontinued. Of the remaining schools, eight offer a single stage only; Cambridge, King's College London, University College London, and St Andrews run a preclinical course only; King's College Hospital Medical School, St George's Hospital Medical School, University College Hospital Medical School, and the Westminster Medical School run clinical courses only.

Commencing in October 1976, the pattern changes: St George's Hospital Medical School will start to run its own preclinical course in addition to its existing clinical one, and the University of Cambridge's new clinical course commences.

Table 1. *The Medical Schools of Great Britain and Ireland*

University of ABERDEEN Medical School
The Medical School, The Queen's University of BELFAST
University of BIRMINGHAM Medical School
University of BRISTOL Medical School
University of CAMBRIDGE Medical School
University of DUBLIN, TRINITY COLLEGE, Medical School
University of DUNDEE Medical School
University of EDINBURGH Medical School
University of GLASGOW Medical School
University of LEEDS Medical School
University of LEICESTER Medical School
University of LIVERPOOL Medical School
University of LONDON:
 CHARING CROSS Hospital Medical School
 GUY'S Hospital Medical School
 KING'S COLLEGE, STRAND
 KING'S COLLEGE HOSPITAL Medical School
 LONDON Hospital Medical College
 THE MIDDLESEX Hospital Medical School
 ROYAL FREE Hospital School of Medicine
 The Medical College of ST BARTHOLOMEW'S Hospital
 ST GEORGE'S Hospital Medical School
 ST MARY'S Hospital Medical School
 ST THOMAS'S Hospital Medical School
 UNIVERSITY COLLEGE LONDON
 UNIVERSITY COLLEGE HOSPITAL Medical School
 WESTMINSTER Medical School
University of MANCHESTER Medical School
National University of IRELAND:
 University College CORK
 University College DUBLIN
 University College GALWAY
University of NEWCASTLE UPON TYNE Medical School
University of NOTTINGHAM Medical School
University of OXFORD Medical School
ROYAL COLLEGE OF SURGEONS IN IRELAND
University of ST ANDREWS
University of SHEFFIELD Medical School
University of SOUTHAMPTON Medical School
WELSH National School of Medicine/University College CARDIFF

Some Explanatory Notes

Because of unusual or rapidly changing circumstances (or historical accident) the situation of a number of medical schools warrants a prefatory note at this point.

The preclinical course at CAMBRIDGE is unique: essentially it is of a 'course unit' structure, where aspiring medical graduates have to complete modules of each appropriate basic medical science subject by the end of their preclinical years. The variation in individual student experience is thus considerable, and although the 'typical' path is described, this is at best an over-simplification.

The preclinical courses at CAMBRIDGE, OXFORD, and ST ANDREWS are each three years long, as opposed to the normal two. However, the students emerging from these courses will normally possess a degree. They will in addition at Cambridge and Oxford have been able to select from a number of optional courses during (normally) the third preclinical year.

CAMBRIDGE Medical School is offering a clinical course for the first time in 1976.

ALL THE MEDICAL SCHOOLS IN THE IRISH REPUBLIC run courses of six years in duration for virtually all their students. Principally, this is to accommodate the Republic of Ireland school-leavers, who take a broader range of subjects than their British (and Northern Irish) counterparts, in somewhat less depth. Normally there is no direct preclinical intake to these schools, except at Trinity College Dublin where 10-15 students are admitted each year from Northern Ireland.

LEICESTER Medical School, which will offer both preclinical and clinical courses, took in its first students in 1975: thus, many of the curriculum details and plans listed by this school must necessarily be of a tentative nature. Similarly, but to a lesser extent, arrangements at the other two new British medical schools (NOTTINGHAM and SOUTHAMPTON) will be flexible and subject to change. (The first students to graduate from Nottingham did so in 1975, from Southampton in 1976.)

THE MEDICAL SCHOOLS OF THE UNIVERSITY OF LONDON are components of the federal structure of that University. Hence, somewhat special conditions apply. Principally, there is an extra tier of university administration and some similarity of curricular and (particularly) assessment arrangements. There are twelve 'general' undergraduate medical schools, providing preclinical and clinical (or just clinical) stages, and two medical science faculties of multi-faculty institutions (KING'S COLLEGE and

UNIVERSITY COLLEGE LONDON) offering preclinical courses only. (However, UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL is shortly to become the clinical medical faculty of UNIVERSITY COLLEGE LONDON.)

The THREE SCHOOLS OF THE NATIONAL UNIVERSITY OF IRELAND, University College Cork, University College Dublin, and University College Galway, find themselves in a similar position. However, the level of control and co-ordination exerted on its constituent medical schools by the NUI is perhaps less than that of the University of London. During 1976, the Minister for Education announced that the University is to be dissolved, and its constituent colleges raised to the status of separate universities.

THE ROYAL COLLEGE OF SURGEONS IN IRELAND is the only 'private' medical school in the British Isles: it receives minimal government support, and is consequently not constrained to take only (or even mainly) Irish entrants. (The School is also noteworthy in that the year normally referred to as the 'premedical' one is referred to in that school as the 'preregistration' year.)

SCHOOLS IN THE IRISH REPUBLIC generally differ significantly in their organization from those in the UK (for details, see the 'School Profiles'). Different Health Service arrangements obtain. It has long been suggested by the Irish government that the two university medical schools in Dublin, TRINITY COLLEGE DUBLIN and UNIVERSITY COLLEGE DUBLIN, should amalgamate or combine in some way. However, there are no firm plans at present.

ST GEORGE'S HOSPITAL MEDICAL SCHOOL has up until the present run only a clinical course. From October 1976, it will also offer a two-year pre-clinical course.

The WELSH NATIONAL SCHOOL OF MEDICINE and UNIVERSITY COLLEGE CARDIFF are at their own request treated as a single 'medical school' for the purposes of this report. The first two years of study in the Basic Medical Science subjects are carried out at University College Cardiff, before entry to the School for the three-year clinical course. (This school is referred to as 'Wales' throughout this report.)

Further information about these (and the other) medical schools may be found further on in this volume of this Report, in the 'School Profiles'.

2. Student Numbers

Numbers in Each Stage of the Course; Interchange

INTRODUCTION

Information was obtained from the schools in 1975 about existing and projected student numbers. In reporting these figures, it must be emphasized that those relating to the future are estimates, and it is possible that by the time this report is published, schools' circumstances may have changed. With respect to the 'present' (it is the 1974 entry figures which are reported), the figures quoted are those of the actual numbers of students who entered course stages, and not the target figures—which have on occasion in recent years been exceeded.

PREMEDICAL COURSES

It is possible in sixteen schools to identify separate premedical course stages. These are preliminary courses covering physics, chemistry, and biology, taken by some (or all) students entering a medical school. A premedical course normally makes the total medical course six years in length for students who take it, rather than the normal five years. For the purpose of this report, the University of St Andrews is not treated as offering a premedical course: although its preclinical course is three years in length and in the first year students do study the basic science subjects, it is a degree course (students are not permitted to bypass the first year) and the first year contains medical science subjects in addition to the normal premedical ones.

The sixteen medical schools offering premedical courses are listed in Table 3, column A. It will be seen that these sixteen comprise two London schools, two Scottish schools, all six Irish schools, and six schools in England and Wales. In the English schools it is a minority of students who take the premedical course (see column B); in the Scottish and Irish schools, however, students not taking the premedical course are the exception (column C). The actual premedical entry in 1974 (column D) reflects this: in only one English school (Guy's) was the

Table 3. The Premedical Stage: Student Numbers

	Pre-medical stage entered (1974)	Number of students taking pre-medical year	Actual pre-medical year 1974	Actual pre-medical entry 1975	Estimated pre-medical entry 1975																
	A	B	C	D	E																
ABERDEEN																					
BELFAST	●		●	124	80																
BIRMINGHAM	●	●		8	20 (max)																
BRISTOL	●	●		11	12																
CAMBRIDGE																					
DUBLIN, TRINITY COLLEGE	●		●	84	83																
DUNDEE	●		●	61	*																
EDINBURGH	●		●	108	*																
GLASGOW																					
LEEDS																					
LEICESTER																					
LIVERPOOL																					
LONDON: CHARING CROSS																					
LONDON: GUY'S	●	●		21	17																
LONDON: KING'S COLLEGE, STRAND																					
LONDON: K.C.H.M.S.																					
LONDON: LONDON HOSPITAL																					
LONDON: THE MIDDLESEX																					
LONDON: ROYAL FREE																					
LONDON: ST. BARTHOLOMEW'S	●	●		18	?																
LONDON: ST. GEORGE'S																					
LONDON: ST. MARY'S																					
LONDON: ST. THOMAS'S																					
LONDON: UNIVERSITY COLLEGE																					
LONDON: U.C.H.M.S.																					
LONDON: WESTMINSTER																					
MANCHESTER	●	●		9	20																
NAT. UNIV. OF IRELAND: U.C. CORK	●		●	70*	70																
NAT. UNIV. OF IRELAND: U.C. DUBLIN	●		●	136	135																
NAT. UNIV. OF IRELAND: U.C. GALWAY	●		●	70	70																
NEWCASTLE	●	●		5	6																
NOTTINGHAM																					
OXFORD																					
ROYAL COLLEGE OF SURGEONS IN IRELAND	●		●	129	130																
ST. ANDREW'S																					
SHEFFIELD	●	●		17	25																
SOUTHAMPTON					15																
WALES / UNIVERSITY COLLEGE CARDIFF	●	●		4	4																
TOTAL	16	8	8	875*	*																

* - See text

entry in excess of twenty students. However, while remaining small, the number of students entering a British premedical course can vary widely from year to year; this is because selectors are frequently operating within a maximum allocation, rather than aiming at a particular quota.

In England and Wales, 93 students commenced premedical courses in 1974; in Scotland the figure was 169, and in Ireland, 613. (In 1974, Cork experimented with a common first-year course for all science students, a system in which it is not possible to identify any particular number of premedical students. However, this system has now been abandoned. Since the premedical entry, both before and after this experiment, was 70 students, this is the notional figure included in the above statistics.)

Planned Changes

The future number of available premedical places is unclear, for a variety of reasons. One school, St Bartholomew's, is uncertain whether it will continue to offer a premedical course. Southampton, however, will introduce a 'bridge course', similar to a premedical course, in 1977. The Universities of Dundee and Edinburgh have decided in principle to reduce their 'normal' course length from six years to five: Dundee plans to retain the separate premedical year for a minority of entrants, and Edinburgh may also do this. These changes will be effected by 1979. Until recently, Belfast insisted upon all its students entering the premedical year; now, however, it has adopted a policy of 'accelerated entry' for a proportion of the students, probably about one-third by 1979.

The result of these changes will be little alteration to the over-all number of premedical year places, except in Scotland and Northern Ireland, where the total available will drop by almost 200. In England and Wales, the total of around 100 places is unlikely to change significantly.

PRECLINICAL COURSES

In 1974, 3,990 students commenced their preclinical studies at 33 schools in the British Isles. Table 5 indicates the geographical distribution. It will be seen that the average size of intake varied from 101 in the London schools to 143 (ignoring Nottingham, with a temporarily low intake) in the other schools in England, Wales, and Northern Ireland.

Table 4, column A lists the actual preclinical entry to each school in 1974. In column B, these figures are classified, as follows:

<i>Size of intake</i>	≤80	81-100	101-20	121-40	141-60	> 160
Symbol	I	II	III	IV	V	VI

Table 4. The Preclinical Stage: Student Numbers

	Actual pre-clinical entry 1974	Classified pre-clinical place 1974 (see opposite)	Estimated pre-clinical entry 1974 (see next)	Classified pre-clinical clinical entry 1978	Estimated pre-clinical clinical entry 1978														
	A	B	C	D	E														
ABERDEEN	136	IV	●	150	V														
BELFAST	140	IV	●	135*	IV														
BIRMINGHAM	161	VI		160	V														
BRISTOL	134	IV	●	120	III														
CAMBRIDGE	227	VI		236	VI														
DUBLIN, TRINITY COLLEGE	102	III	●	90	II														
DUNDEE	115	III	●	115	III														
EDINBURGH	150	V		152*	V														
GLASGOW	208	VI		210	VI														
LEEDS	132	IV		216*	VI														
LEICESTER	0	-		98*	II														
LIVERPOOL	156	V	●	150	V														
LONDON: CHARING CROSS	120	III	●	120	III														
LONDON: GUY'S	110	III		112	III														
LONDON: KING'S COLLEGE, STRAND	124	III		125	III														
LONDON: K, C.H.M.S.	n/a	-	-	-	-														
LONDON: LONDON HOSPITAL	88	II	●	100	II														
LONDON: THE MIDDLESEX	90	II	●	90	II														
LONDON: ROYAL FREE	105	III	●	100	II														
LONDON: ST. BARTHOLOMEW'S	98	II		100*	II														
LONDON: ST. GEORGE'S	0	-		100	II														
LONDON: ST. MARY'S	93	II		90	II														
LONDON: ST. THOMAS'S	65	I		90	II														
LONDON: UNIVERSITY COLLEGE	116	III	●	116	III														
LONDON: U.C.H.M.S.	n/a	-	-	-	-														
LONDON: WESTMINSTER	n/a	-	-	-	-														
MANCHESTER	200	VI	●	200	VI														
NAT. UNIV. OF IRELAND: U.C. CORK	79	I		65	I														
NAT. UNIV. OF IRELAND: U.C. DUBLIN	148	V		130	IV														
NAT. UNIV. OF IRELAND: U.C. GALWAY	71	I		70	I														
NEWCASTLE	108	III	●	130	IV														
NOTTINGHAM	48	I		160	V														
OXFORD	104	III		100	II														
ROYAL COLLEGE OF SURGEONS IN IRELAND	120	III		130	IV														
ST. ANDREW'S	76	I	●	75	I														
SHEFFIELD	120	III	●	250	V														
SOUTHAMPTON	116	III		130	IV														
WALES / UNIVERSITY COLLEGE CARDIFF	120	III	●	150*	V														
TOTAL	3990	-	16	4463*	-														

* Tentative approximation

Table 5. Intake into Preclinical Stage, 1974

	<i>No. of schools</i>	<i>Total intake</i>	<i>Average intake</i>
London schools	10	1,009	101
Other schools in England, Wales, and Northern Ireland	13	1,766	143*
Scottish schools	5	695	139
Total UK	28	3,470	127*
Schools in Irish Republic	5	520	104
Total British Isles	33	3,990	123*

* Excludes Nottingham: see text.

It will be seen that the preclinical intakes at most of the London schools, some of the Irish schools, the new medical schools, and St Andrews and Oxford were small (up to 100 students). The 'large' medical schools (over 140 students entering the preclinical course) are Birmingham, Cambridge, Edinburgh, Glasgow, Liverpool, Manchester, and University College Dublin.

Planned Changes

In the years immediately preceding the Survey, sixteen schools had increased their available preclinical places significantly: see Table 4, column C. By 1979 further changes in size will occur. Columns D and E indicate the estimated preclinical intake in 1979, numerically and in classified form. The emergence of the new course at St George's is particularly noteworthy. There will be an over-all increase of 12 per cent in the available places between 1974 and 1979: Table 6 gives geographical details. The increase takes place in all areas except the Republic of Ireland, where the number of medical school places is lowering slightly for a variety of reasons (for example, decreasing failure rates). Over the five years, the increases are as follows: 134 places in London medical schools (13 per cent); 367 in schools in England, Wales, and Northern Ireland (21 per cent); 7 places in Scottish medical schools (1 per cent). The loss of 35 places in the Irish Republic represents a decrease of 7 per cent.

In addition to the slight reduction of places in schools in the Irish Republic (excluding the Royal College of Surgeons in Ireland, the private medical school), a number of temporary adjustments to the number of available places have occurred in the United Kingdom; particularly noteworthy is Aberdeen, which for one year reduced the intake into the first year of the old six-year curriculum to facilitate the introduction of a five-year curriculum the following year, and at the same time

Table 6. *Estimated Intake into Preclinical Stage, 1979*

	<i>No. of schools</i>	<i>Total intake</i>	<i>Percentage change 1974-9</i>	<i>Average intake</i>
London schools	11	1,143	+13	104
Other schools in England, Wales, and Northern Ireland	14	2,133	+21	152
Scottish schools	5	702	+1	140
Total UK	30	3,978	+15	133
Schools in Irish Republic	5	485	-7	97
Total British Isles	35	4,463	+12	128

allowing of an increase in the annual intake (the following year) without having to provide for a double output of graduates five years later.

CLINICAL COURSES

In 1974, 3,565 students commenced clinical courses at 33 schools in the British Isles: their geographical distribution is indicated in Table 7. The average size of intake varied from 94 (schools in the Irish Republic) and 97 (London schools) to 130 in Scottish schools. The average figure of 124 quoted for schools in England, Wales, and Northern Ireland (other than the London schools) ignores the intake at Nottingham: this course had only recently commenced.

Table 7. *Intake into Clinical Stage, 1974*

	<i>No. of schools</i>	<i>Total intake</i>	<i>Average intake</i>
London schools	12	1,169	97
Other schools in England, Wales, and Northern Ireland	12	1,406	124*
Scottish schools	4	522	130
Total UK	28	3,097	113*
Schools in Irish Republic	5	468	94
Total British Isles	33	3,565	110*

* Excludes Nottingham—see text.

Table 8, column A, lists the clinical entry to each school in 1974: column B shows this entry classified in the same manner as for Table 4. The 'small' schools (entry of 100 or less) include most of those in London, some of the schools in the Irish Republic, the new medical schools, and Oxford. The 'large' schools (more than 140 students

Table 8. The Clinical Stage: Student Numbers

	Actual Clinical entry July 1971	Classified Clinical entries 1971-74 (see text)	Estimated Clinical entry 1979	Classified Clinical entry 1979	Estimated Clinical entry 1979	NOT APPLICABLE TO THIS TABLE														
						A	B	C	D	E										
ABERDEEN	101	III	●	115	IV															
BELFAST	245	V	●	122*	IV															
BIRMINGHAM	253	V	●	160	V															
BRISTOL	119	IV	●	120	III															
CAMBRIDGE	0	-		100	II															
DUBLIN, TRINITY COLLEGE	05	II	●	60	II															
DURDEE	109	III	●	110	III															
EDINBURGH	151	V		150	V															
GLASGOW	161	VI		200	VI															
LEEDS	111	III	●	150*	V															
LEICESTER	0	-		96	II															
LIVERPOOL	131	IV	●	150*	V															
LONDON: CHARING CROSS	60	I	●	120	III															
LONDON: GUY'S	124	IV		115	III															
LONDON: KING'S COLLEGE, STRAND	n/a	-	-	-	-															
LONDON: K.C.H.M.S.	107	III		100	II															
LONDON: LONDON HOSPITAL	97	II		100	III															
LONDON: THE MIDDLESEX	119	IV		120	III															
LONDON: ROYAL FREE	50	II		100	II															
LONDON: ST. BARTHOLOMEW'S	132	IV		120*	III															
LONDON: ST. GEORGE'S	66	I		82*	II															
LONDON: ST. MARY'S	94	II		100	II															
LONDON: ST. THOMAS'S	27	II		100	II															
LONDON: UNIVERSITY COLLEGE	n/a	-	-	-	-															
LONDON: U.C.H.M.S.	106	III		100	II															
LONDON: WESTMINSTER	69	I		75	I															
MANCHESTER	229	VI	●	275	VI															
NAT. UNIV. OF IRELAND: U.C. CORK	71	I	●	65	I															
NAT. UNIV. OF IRELAND: U.C. DUBLIN	142	V		125	IV															
NAT. UNIV. OF IRELAND: U.C. GALWAY	59	I		70	I															
NEWCASTLE	103	III	●	120	IV															
NOTTINGHAM	21	I		96	II															
OXFORD	62	I		100	II															
ROYAL COLLEGE OF SURGEONS IN IRELAND	111	III		120	IV															
ST. ANDREW'S	n/a	-	-	-	-															
SHEFFIELD	111	III	●	150	V															
SOUTHAMPTON	65	I		130*	IV															
WALES / UNIVERSITY COLLEGE CARDIFF	120	III	●	150	IV															
TOTAL	3565	-	13	4250*	-															

* = Tentative estimate

entering the clinical course) are Belfast, Birmingham, Edinburgh, Glasgow, Manchester, and University College Dublin. (For the purposes of these figures, Cambridge, with a tiny but fairly regular entry into a somewhat informal clinical 'course' is ignored: see the school's 'profile'.)

Planned Changes

In the four years immediately prior to the Survey, thirteen schools had significantly increased their clinical intake (see Table 8, column C). The anticipated clinical entry into each medical school in 1979 is listed in column D (and classified in column E). The main changes from the 1974 situation are that the new medical schools are growing, and that some other English provincial schools are expanding. The new clinical school at Cambridge will, by 1979, it is estimated, be taking in 100 students a

Table 9. *Estimated Intake into Clinical Stage, 1979*

	<i>No. of schools</i>	<i>Total intake</i>	<i>Percentage change 1974-9</i>	<i>Average intake</i>
London schools	12	1,240	+ 6	103
Other schools in England, Wales, and Northern Ireland	14	1,949	+39	139
Scottish schools	4	595	+14	149
Total UK	30	3,784	+22	126
Schools in Irish Republic	5	470	0	94
Total British Isles	35	4,254	+19	122

Table 10. *Clinical Medical School Places in Relation to Local Populations*

<i>Area</i>	<i>Approximate population (millions)</i> <i>A</i>	<i>Estimated entry of clinical students to schools in the area (1979)</i> <i>B</i>	<i>Approximate ratio of B : A (clinical students/million population)</i>
London area	12	1,240	103
England (other than London area)	34½	1,667	48
Wales	2½	150	60*
Northern Ireland	1½	132	88*
Scotland	5	595	119
Total UK	55½	3,784	68
Eire	3	470	157
Total	58½	4,254	73

* Approximate figures (population base estimate errors may be proportionately large).

year. Table 9 indicates the geographical distribution of the estimated intake in 1979.

The total figure for the British Isles is 4,254 representing an increase of 19 per cent on the entry in 1974. Clinical school places are rising at an approximate annual rate of $4\frac{1}{2}$ per cent in the UK, whilst remaining virtually stationary in the Irish Republic. Extrapolating from the figures above, it may be expected that up to 3,788 students will qualify in 1982 in the UK, an increase of 22 per cent on the anticipated maximum figure for 1977. In Table 10 a more detailed geographical distribution is contrasted very roughly with the relevant local population concerned. The average medical student : population ratio in the UK is 68 students per million, but is over twice this in the Irish Republic.

INTERCHANGE OF STUDENTS

In a situation where four medical schools are 'preclinical only', and four other schools are 'clinical only', a considerable interchange of students occurs at the preclinical/clinical interface: approximately one-sixth of all UK medical students are involved. The thirty-four clinical medical schools fall into four categories: they may be 'self-sufficient', providing all their own clinical input; schools may, whilst being essentially self-sufficient often take in one or two additional students from other preclinical schools into their clinical course; schools with their own preclinical course may take in a significant number (5+) of extra clinical students from the Oxford and Cambridge preclinical courses; finally, there are schools with no preclinical course of their own to which all the entry comes from outside.

The first category, that of 'self-sufficient' clinical schools, is listed in column A of Table 11; there are eighteen of these. They include all the Scottish clinical schools and all the Irish schools—no significant interchange occurs at all in Ireland. (It should be noted that as it has approximately 100 places in both preclinical and clinical stages, Oxford could be self-sufficient: however, as a matter of policy it encourages interchange of students.) Of these eighteen schools, five often take in one or two students from Oxford and Cambridge into their clinical course: these schools are indicated in column B. In addition, the medical school at Dundee may occasionally take in students from the preclinical course at St Andrews who have some pressing reason for continuing their studies in Scotland, as opposed to proceeding to the clinical course at Manchester.

Schools which have their own preclinical course but which none the less normally take in a significant number of extra clinical students from (normally) Oxford and Cambridge are listed in column C. There are twelve of these, one being Manchester which contracts to accept the

Table 11. Interchange of Students in 1974

	1974 students not available... %	1974 students not available... %	1974 students not available... %	1974 students not available... %	1974 students not available... %	1974 students not available... %	1974 students not available... %	1974 students not available... %	1974 students not available... %	1974 students not available... %
	A	B	C	D	E	F	G	H	J	
ABERDEEN	●									
BELFAST	●									
BIRMINGHAM				●		3	2			
BRISTOL	●	●							3	
CAMBRIDGE	n/a									
DUBLIN, TRINITY COLLEGE	●									
DUNDEE	●	see text								
EDINBURGH	●						1			
GLASGOW	●									
LEEDS	●									
LEICESTER	●									
LIVERPOOL	●	●								
LONDON: CHARING CROSS				●		5	1			
LONDON: GUY'S				●		13	4			
LONDON: KING'S COLLEGE, STRAND	n/a									
LONDON: K.C.H.M.S.				●		39	6	52	10	
LONDON: LONDON HOSPITAL				●		19			1	
LONDON: THE MIDDLESEX				●		17	11			
LONDON: ROYAL FREE	●	●								
LONDON: ST. BARTHOLOMEW'S				●		6	2			
LONDON: ST. GEORGE'S				●		19	1	12	34	
LONDON: ST. MARY'S				●		9	2			
LONDON: ST. THOMAS'S				●		22	12			
LONDON: UNIVERSITY COLLEGE	n/a									
LONDON: U.C.H.N.S.				●		20	6	80		
LONDON: WESTMINSTER				●		20	4	13	30	
MANCHESTER				●					55	
NAT. UNIV. OF IRELAND: U.C. CORK	●									
NAT. UNIV. OF IRELAND: U.C. DUBLIN	●									
NAT. UNIV. OF IRELAND: U.C. GALWAY	●									
NEWCASTLE				●		6	3			
NOTTINGHAM	●									
OXFORD				●		22	(43)			
ROYAL COLLEGE OF SURGEONS IN IRELAND	●									
ST. ANDREW'S	n/a									
SHEFFIELD	●	●								
SOUTHAMPTON	●									
WALES / UNIVERSITY COLLEGE CARDIFF				●		4	2		9	
TOTAL	4	10	5/6	12	4	224	98	105	116	80

preclinical output from St Andrews. There are then four remaining clinical schools who have no preclinical course of their own; these are King's College Hospital Medical School, St George's Hospital Medical School, University College Hospital Medical School, and Westminster Medical School (column D).

The medical school of origin of all students transferring in 1974 is indicated in columns E-J. The destination of the 224 students from Cambridge who entered the various preclinical courses is indicated in column E, the destination of the 98 students from Oxford in column F. In addition to the schools indicated, Bristol, Liverpool, the London Hospital, and Sheffield would normally expect a small intake into their clinical course from both Oxford and Cambridge. Similarly, the destination of students from the University College and King's College preclinical courses are indicated in columns G and H respectively. Because of students who take an intercalated degree and students who give up their medical studies, these totals would not tally with the actual output of these four schools in 1974.

Students from other medical schools who changed schools in 1974 are listed in column J. Bristol accepted three clinical students from elsewhere: two were from London and one was from Australia. Ten students entering King's College Hospital Medical School took their preclinical studies at Guy's; one student from the preclinical course at St Bartholomew's transferred to the London Hospital Medical College. Entry into the Westminster Medical School included one student from Trinity College Dublin, and one German student. The students from St Andrews proceeded to clinical courses at Manchester (55) and Wales (9).

The pattern indicated in Table 11 is, in general, quite typical. However, the interchange of students from St Andrews to Wales has now stopped, and the total output from St Andrews will in future normally proceed to the clinical course at Manchester. Commencement of the new preclinical course at St George's (which will make the school self-sufficient) and the new clinical course at Cambridge (which will not) are factors which will cause the major changes over the next few years. However, the links between, particularly, University College London/UCHMS/Westminster, between King's College Strand/KCHMS/Westminster, and between Oxford and Cambridge and many of the London schools will continue. The proposal to make UCHMS the clinical medical faculty of University College London will not materially affect these matters. The latest (August 1976) estimate of the number of Oxford and Cambridge students who will enter London clinical schools is 190 in 1977, decreasing to 110 in 1980.

The exchange of students between universities may bring problems. In the past, one of these was that entry into the clinical courses at the University of London was 'split', with new clinical students arriving in both April and October. Generally, for entry into a school's clinical

course, a transferring student must have passed his preclinical school's own exams. However, twelve schools will exceptionally permit a student to enter their clinical course with 'Conjoint' as opposed to university preclinical qualifications. The question does not apply in the five schools in the Republic of Ireland, where transfer of students does not occur, and fifteen further schools will not permit such an arrangement.

For students transferring between the Universities of Oxford, Cambridge, and London, there has long been a problem of which university's degree students should or could take, and the present situation is at once varied and confused. However, in future, students entering the London medical schools from Cambridge are likely to be able to opt as to which degree they take, whilst those from the preclinical course at Oxford are likely to be expected to take the London degree, for convenience. The situation may change further as both Oxford and Cambridge introduce new regulations.

3. Selection

Medical Schools' Objectives; Selection Policies and Processes; Medical Students' Characteristics on Entry to the Course

MEDICAL SCHOOLS' OBJECTIVES

Before describing their selection policies and processes, it is appropriate to consider briefly the objectives of the medical schools.

In their 'Recommendations' of 1967 the General Medical Council stated that the object of basic medical education should be '... to provide doctors with all that is appropriate to the understanding of medicine as an evolving science and art, and to provide a basis for future vocational training; it is not to train doctors to be biochemists, surgeons, general practitioners, or any other kind of specialist'. Thus, in the present Survey the GMC Correspondent in each school was asked to provide a statement of the aims or objectives of their undergraduate medical course. Respondents were also frequently asked about this aspect of their school philosophy in interview. What follows is a summary of the written and reported comments of GMC Correspondents regarding the aims of their undergraduate courses.

Following the 'Recommendations' of 1967, all respondents said that their primary aim was to produce a 'basic' practitioner, a graduate prepared for a lifetime of study. The schools are fully aware that it is not possible to give an undergraduate a 'total' education before he qualifies: the undergraduate course should therefore aim to equip the student with the fundamental skills and knowledge of basic sciences and disease processes to enable him to be competent in and take advantage of the preregistration year, and subsequent specialist training. At the same time, the student is being prepared for his continuing and life-long education. As one respondent said, 'they become doctors later'.

Seven respondents particularly mentioned that they were aiming to produce an 'undifferentiated' doctor, one who would be able to work in any of the specialties—they were not aiming to produce general practitioners. One respondent (at the Middlesex) drew attention to the fact that they admit deliberately a wide range of students to the medical

course in order to help them produce graduates with varied interests and career aspirations.

The respondent at Nottingham also reported that his school planned to produce a 'balanced output' of students. Two of the Irish schools were particularly concerned that their students should be able to adapt not only to national needs but also to the probable global needs. In the words of the respondent from the Royal College of Surgeons in Ireland, his school's aim is 'to produce a well-rounded doctor who will be able to function effectively and safely, not only in Ireland, but throughout the world'.

Respondents were clearly very sensible of the need for the practising doctor in whatever specialty to be prepared at medical school for continuing education and many pointed to the need for the graduate to be intellectually equipped to assimilate developments in medicine and to have a commitment to a 'life-long study'. Two respondents referred to the need of their students to recognize their own limitations and to know when and where to turn for assistance: this was of great importance in whatever specialty the graduate practised.

The respondent at University College Hospital Medical School, while fully endorsing the 1967 Recommendation of a doctor with a broad knowledge and an aptitude for continuing education, also emphasized that the doctor had a unique role to play in the health care of the country: 'We also emphasize that we are training doctors, not Social Service workers or Public Health administrators. A doctor has the special skill, knowledge and duty to be able to (1) take a history; (2) physically examine; (3) set in motion various investigations and (4) treat patients. No other profession has this, and we must safeguard medical training to this end.' At King's College Hospital Medical School the aim is summed up: 'To produce a clinician competent at history taking, physical examination, (who can) produce a reasonable diagnosis with the knowledge of appropriate investigations, therapy and management, including social, familial and community factors.' Four respondents drew particular attention to the need for students to be able to obtain information from patients and make accurate observations. Another four specified a closely related matter, the need to be able to assess and evaluate data: '(the student) should know that conclusions should be reached by logical deduction and he should be able to assess evidence both as to its reliability and its relevance' (Newcastle).

Four respondents referred to the personal characteristics they aim for in their graduates—'a blend of the scientific and the humanitarian'. They emphasized also the dual nature of clinical training: '(the aim is) to provide competent doctors who are academically educated and are also versed in patient care'.

Increasingly, the work of the doctor is directed closer towards the needs of the community: a large number of respondents drew attention

to this. Three particularly said that the student had to be fully aware of the problems of man in the community: at Newcastle a student should 'understand the effect of environment on health and should appreciate the responsibility of his profession, for the prevention of disease'.

At Edinburgh, the objectives of the course include a statement that the student should develop 'knowledge of the resources of other health-care professions and of the community and the ability to make appropriate use of these resources in dealing with health problems'.

Beyond his responsibility to the community, are the doctor's responsibilities to society: at Nottingham, students are prepared for 'a life of service' and at the Royal College of Surgeons in Ireland 'an attitude of religious and racial understanding and tolerance'. High ethical standards must be maintained in students' later relationships with patients and colleagues: at Liverpool, the aim is for the student '. . . to reinforce every ethical concern and compassionate attitude and be the advocate of the underprivileged whatever the character of the deprivation, to preserve in all aspects of professional activities, politically in the community and nation and in diagnosis and treatment, the rights and privileges of the individual and to accept individually for oneself these same responsibilities'.

To enable students to make an informed and appropriate career choice, many respondents consider it important for them to be provided with the experience of a wide range of (clinical) subjects. For example, this is mentioned by St Mary's, and at St Thomas's the course in clinical studies and related sciences should '. . . introduce the student to all the major branches of medicine so that he may understand what each is about, what its methods of investigation and treatment are, and what sort of results are obtained for patients'. Respondents at both Cambridge and Leicester said that one of the aims of their course was to equip students with the basic knowledge to enable them to choose a career which would give them job satisfaction.

Despite the 'basic doctor' approach, twelve schools stated that they place greater emphasis upon the scientific basis of medicine than, they understand, do others. At some of the older-established medical schools this is marked, and at one Scottish school there is a split between the objectives for those taking the intercalated degree and those not doing so: for the former group the objective is a more 'scientific' and academic one. Three schools—Edinburgh, Manchester, and Oxford—unashamedly emphasize their 'philosophy of the first rate' and the aim of 'maximizing the potential' of every student.

Perhaps the most comprehensive general statement of objectives is that put forward by Nottingham (it is in fact derived from the objectives adopted by the University of Newcastle upon Tyne Medical School):

The qualities and knowledge a doctor should possess are:

General Intention

1. He should have developed an attitude to medicine which is a blend of the scientific and humanitarian.

Scientific Method

2. He should know that conclusions should be reached by logical deduction and he should be able to assess evidence both as to its reliability and its relevance.

Professional Standards

3. He should be imbued with the high ethical standards required of a doctor. He should have learned how to deal with patients and their relatives with sympathy and with understanding.

Human Biology

4. He must possess a knowledge of the structure, function, and development of the human body, and of the development of human abilities and personality; of the factors which may disturb these, and the disorders which may result.

Pathology

5. He should be able to relate clinical symptoms and signs to structural and functional changes so that the management of patients can be rational.

Clinical Knowledge

6. He must learn how to elicit facts from a patient. He should have a good knowledge of those diseases which are an acute danger to life and of the more common diseases. He should recognize the limitation of his own clinical knowledge and should be prepared, when necessary, to seek further help.

Environment and Health

7. He should understand the effect of environment on health and should appreciate the responsibility of his profession for the prevention of disease.

Continuing Education

8. He should appreciate that medicine is a continuing education and that he has an obligation to remain a student and to contribute, if he can, to the progress of medicine throughout the whole of his professional career.

SELECTION

Correspondents were asked what qualities their medical school seeks in its entrants and what policy operates in their selection.

Objectives

All correspondents indicated that academic achievement is an extremely important criterion. The entrants must have the academic ability and powers of application to survive a long and demanding course and to pass the qualifying examinations. This is the *sine qua non*. Most schools also look for other qualities but ten place sole emphasis on academic ability: these include the four 'state' schools in Eire. They concentrate

on academic ability as the best guide to future development and as the most readily identifiable and measurable attribute.

Seventeen correspondents mentioned motivation (see Table 12, column A). They seek entrants who show evidence of strong and (preferably) long-standing motivation for a career in medicine. A few correspondents reported that personal attributes of motivation, etc., are disregarded in their schools: these personal qualities have been found to be unreliable in predicting the sort of person who will emerge from the course five or six years later, and discovering and measuring them is a subjective and time-consuming business. Three schools (Westminster, Sheffield, Dundee) stated that they attempt to find entrants who are likely to make 'good doctors': a combination of skills, motivation, and personality is sought.

Other personal qualities are examined carefully in eighteen schools (column B). The applicants' characteristics as individuals are considered extremely important. Successful candidates will be 'well-rounded' personalities, with a wide range of interests and it is hoped, something to contribute to the life of the medical school community. One school favours 'practical experience in medical, paramedical, sociological or scientific work'. A few particularly favour community work and other extra-curricular activities, while at school. Four schools try to maintain a variety of backgrounds and interests among their new students: they do not want a homogeneous group.

Other personal characteristics mentioned were: evidence of social concern and imagination (one school), and evidence among a minority of entrants of research propensity—the potential for a career in academic medicine. Two schools (the London, Bristol) have recently developed a preference for students who spend a year gaining experience between school and university. The experience would consist usually of paid employment or service overseas. Half the new students at one of these schools (the London) in October 1974 had intercalated other activities between school and university: 'we have tried not only to persuade people to take a year's break . . . but to ensure that the break is spent in a fashion which will complement the life experience of the individual, to broaden it and provide access to those many walks of life which patients too frequently suffer from and doctors very seldom are acquainted with in person'.

A few schools in Ireland and Scotland give priority to local candidates—more 'local' than those countries' nationals, of whom a large portion of the intake consists: in Scotland, this is influenced by the apparent reluctance of some English schools to accept Scottish 'Highers' as entry qualifications.

Eleven correspondents referred to a concern with the age and health of applicants. They imply a policy of choosing applicants who will pursue a full and useful career in active medical practice, and who will not

Table 12. Aspects of Selection Policy and Procedures

	Information is labelled for applicant's preference order of preference is very important	Information is labelled for applicant's preference order of preference is important	Information is labelled for applicant's preference order of preference is not important	Information is labelled for applicant's preference order of preference is not important	Information is labelled for applicant's preference order of preference is not important	Information is labelled for applicant's preference order of preference is not important	Information is labelled for applicant's preference order of preference is not important
	A	B	C	D	E	F	G
ABERDEEN			up to 5				66
BELFAST		●	1-2*		●		73*
BIRMINGHAM	●	●	10*	●	●		70
BRISTOL			'A'	●		●	70
CAMBRIDGE			'A'		●		78
DUBLIN, TRINITY COLLEGE			'A'			●	67*
DUNDEE			up to 15				69*
EDINBURGH			'A'	●			61*
GLASGOW	●		'A'				56
LEEDS	●	●	4-5	●		●	63
LEICESTER	●		10*		●		-
LIVERPOOL		●	9	●		●	70
LONDON: CHARING CROSS	●		'A'		●		65
LONDON: GUY'S		●	5	●	●		75
LONDON: KING'S COLLEGE, STRAND			5*		●		69
LONDON: K.C.H.M.S.		●	'B'		●		n/a
LONDON: LONDON HOSPITAL	●	●	'A'		●		71
LONDON: THE MIDDLESEX	●	●	6-9		●		73
LONDON: ROYAL FREE	●	●	8-10*		●		55
LONDON: ST. BARTHOLOMEW'S		●	'A'	●	●		59
LONDON: ST. GEORGE'S	●		5*	●	●		n/a
LONDON: ST. MARY'S		●	'A'		●		77
LONDON: ST. THOMAS'S	●	●	2-3	●	●		74
LONDON: UNIVERSITY COLLEGE	●		10-15*		●		69
LONDON: U.C.H.M.S.			'B'		●		n/a
LONDON: WESTMINSTER	●	●	2-10*	●	●		n/a
MANCHESTER		●	5			●	64
NAT. UNIV. OF IRELAND: U.C. CORK			up to 3				46*
NAT. UNIV. OF IRELAND: U.C. DUBLIN			5*				70*
NAT. UNIV. OF IRELAND: U.C. GALWAY			'C'				51*
NEWCASTLE	●	●	'A'			●	63
NOTTINGHAM	●	●	'A'	●	●		58
OXFORD			4-5		●		68
ROYAL COLLEGE OF SURGEONS IN IRELAND		●	2-3				77*
ST. ANDREW'S			5*				56
SHEFFIELD	●	●	up to 5		●		61
SOUTHAMPTON	●		15*			●	57
WALES / UNIVERSITY COLLEGE CARDIFF	●		5*				58
TOTAL	17	18	-	11	21	7	-

Notes: 'A' = "a number" 'B' = clinical school - see related pre-clinical schools
'C' = occasionally * = Quota + = pre-medical intake

have physical difficulty in completing the course. No school will consider an applicant if he is more than 30 years of age, except in very unusual circumstances, when the candidate would in all respects have to be outstanding. Others scan the comments on the application form in order to rule out candidates with recent severe or chronic ill-health; and schools which do not normally interview applicants (see below) follow-up by interview or by letter to the headmaster or headmistress any hint of disability in otherwise suitable applicants. Two schools mentioned that they are particularly anxious to admit students who are mentally stable: any episode of mental illness, even if apparently overcome, will exclude an application.

Finally, the majority of schools operate a policy of admitting some 'special' applicants each year. These would be graduates or other mature applicants. Details for each school are given in the 'profiles', but rough total figures are given in column C of the table: as will be seen, not all schools could be specific. Schools do not necessarily have a quota for this type of entrant; but about twenty schools appear to have a very rough target for the number of graduate entrants, though often this will be separate from any target for other mature entrants. Six schools admit up to 10 per cent or more of their entry as graduates. It is sometimes possible for graduates with appropriate degrees (for example, in dentistry or a laboratory science) to be (effectively) admitted directly to the second preclinical year and to take a four-year course. To be admitted to any medical school graduates must normally have a 'good' honours degree of first or upper second class, and a number of schools favour graduates of their university. Two schools (Newcastle and Belfast) indicated that their graduate intake has been rising recently.

Many schools regularly accept students from abroad: this includes all the medical schools in *Eire*. Typically, the policy is to accept only those coming from countries without a medical school or countries where there are special difficulties in gaining entry to the home medical school. The Royal College of Surgeons in Ireland is the most notable case, in awarding one-third of its places to applicants from developed countries in Europe and North America and another third to students from the 'Third World'. Trinity College, Dublin, is also unusual, in taking up to 28 per cent of its students from outside *Eire*: 8 per cent come from 'third world' countries and 20 per cent from Northern Ireland. Elsewhere, two schools, one in London (UCHMS), one in England (Manchester) take up to about 10 per cent of their students from overseas (one has standing arrangements with several Commonwealth countries in Africa); other schools normally accept considerably fewer, and the overseas applicants compete 'on equal footing' with nationals.

Methods

Five schools hold a qualifying examination for prospective entrants. At Oxford and Cambridge, most successful applicants will have taken it. At Sheffield between two and four students are admitted each year on the basis of success in the entrance examination, which is specifically for mature applicants. In Eire, two schools (Trinity College Dublin, and Royal College of Surgeons in Ireland) make use of a special 'college' examination, and ten students are annually admitted to one school and twenty-five to the other, afterwards.

Elsewhere, school-leaving examination grades are the principal determinants in this aspect of selection. Often a 'points' system is adopted (for example, five points for an 'A' grade, four for a 'B', etc.), and this is the sole technique in the four 'state' schools in Eire—despite drawbacks, the system is impartial.

The information given in the confidential headmaster's report is reported a most important factor in eleven schools' selection processes, though undoubtedly it would count in most. These reports are not yet in widespread use in Eire (see column D) except at TCD. Complicated systems for weighting different selection techniques are sometimes used.

Interviews are held as a routine measure for successful applicants only in London, some English schools, and in Northern Ireland: column E lists the twenty-one schools where successful candidates will normally have been interviewed—efforts may even be made to interview overseas applicants. Other schools who do not interview as a routine measure will interview a minority (often a very small one) of applicants: the purpose is to follow up doubts about an applicant's health, or motivation, to assess an overseas applicant's proficiency in English, or to select for the last few remaining places after normal processes have filled the majority.

Seven schools who do not interview routinely invite the successful applicants to visit the medical school after an offer has been made (column F). Groups of applicants tour the medical school, and meet teaching staff and students.

Other, minor, factors in the selection process which correspondents mentioned were the order of preference of medical school, as indicated on the application form (only applicants who make a school their first or second choice will be considered by a number of schools) and only one reported that no attention at all is paid to the order of preference. A few correspondents also mentioned O-level results—these are scrutinized both in respect of grades achieved and the spread and combination of subjects.

Developments

The most often reported change which has occurred recently is the raising of the academic 'minimum' standards required for entry and the

operation of this standard with regard to all applicants without exception: this is almost universal. However, one school which has raised the minimum academic requirements for entry has decided not to raise them to the level insisted upon by some other schools as 'it is felt this policy eliminates candidates of average academic ability who have many other excellent attributes which are likely to make them a good doctor'. A number of correspondents referred to the increasing proportion of female students. Two schools are now admitting fewer overseas candidates than before, as Commonwealth countries build up their own medical schools: one of them has partly replaced these by admitting more 'mature' students than previously. Another school now gives priority to local candidates as deliberate policy: the reason lies in the unique circumstances of this medical school (Belfast).

Five schools have recently abandoned the interview as a primary method of selection: they now interview only 'special cases', or none at all. The decision was generally made partly on logistic grounds and partly because the method itself was felt to be unreliable:

Interviews may state more about interviewers' susceptibilities than about the candidates' abilities. . . . Medical students are more closely related to their teachers who influence them in knowledge, practice, interests and characteristics more than students in any other Faculty. By the time they qualify they probably reflect more of their teachers' attributes than they do their own juvenile characteristics.

Other changes which were reported from individual schools are: a decision to ignore the order of preference of medical schools in selecting for interview, but not in deciding whether to offer a place; ceasing to hold an intelligence test for all interviewed applicants as the results correlated so well with A-level performance that the test was superfluous; and less reliance at Oxford and Cambridge on the entrance examinations which are designed for post-A-level applicants and greater consideration to pre-A-level applicants and to their A-level results, which has brought in more students from schools which do not have facilities for third-year sixth-form studies. Several schools now have an admissions committee, or the equivalent, or a sub-dean or tutor whose main responsibility is the selection process. Four schools have introduced more flexibility into their selection policies. They are less strict with regard to the subjects offered.

The three medical schools belonging to the National University of Ireland have recently reverted from 'open' entry to the premedical year and limited entry to the preclinical year to a policy of limitation of entry to the premedical year too.

Eleven schools are reviewing their selection policy, hoping to make it more valid and more efficient, though changes are not expected for some time. Several of these schools have constituted research groups or

working parties to examine the issue. One or two have mounted longitudinal cohort studies of students to see what relationships exist between characteristics noted on application and progress through medical school, and even beyond. The particular question of interviews is under discussion in several cases. Two schools are very concerned to make their selection more 'personal' and less reliant on academic criteria and written sources of information. They are considering interviews, but the sheer weight of numbers is daunting and may prevent them introducing interviews as a routine selection method. Another school is 'planning to check the effectiveness of our interviews and indeed our whole selection procedure by compiling more information about applicants, but it is unlikely that any change will result from this in the near future'.

STUDENT ENTRY CHARACTERISTICS

Data on age, sex, and qualifications on entry of students commencing their courses in 1974 were collected. The mean age on entry to each School's preclinical courses was almost invariably between 18 and 19; to premedical years it was normally 18, except to the Royal College of Surgeons in Ireland where it was over 20 (see the 'School Profile'). Column G shows the proportion of men in the 1974 entry; it ranged from 46 to 78 per cent.

Individual details of A-level, etc., qualifications are not shown: in part this is due to deficiencies in the data, and the Irish and Scottish qualifications are not comparable. For students entering the London and English schools with A-levels, however, the mean grade equivalents on students' best three relevant A-levels ranged from slightly under 'BBC' (10.7 points, SD 1.9, using 5 for an A, 4 for a B, etc.) to over 'ABB' (13.4, SD 1.5). Direct entrants to the second year of two schools admitting most students to the first year (of six) averaged 14.2 and 14.5 respectively.

4. The Curriculum: Early Years

Premedical and Preclinical Courses

PREMEDICAL COURSES

The typical length of a premedical course is 30 weeks; the range is from 21 weeks to 34 weeks. The standard subjects are biology, chemistry, and physics. Biology may be taught as 'zoology', while other schools teach specifically 'human biology'.

In the United Kingdom, premedical courses are not taken by the majority of medical students, as they are in Eire. In the UK, premedical students are frequently exempted from one or more of the prescribed courses and take an option instead—behavioural science subjects have become very popular—while one school arranges an optional course in nursing, which has reportedly been very successful, and strengthens the vocational resolve of students who are waiting to enter the medical course proper.

The purpose of the premedical year is regarded very differently between the different categories of medical school who offer it (see Chapter 2). In Ireland and Scotland the main justification is the need to take account of local circumstances, particularly the value of local/national school-leaving qualifications (eight schools). In three of these schools and in two others it is hoped to offer students the opportunity of a broader education than might otherwise be obtained. The most common purpose of offering a premedical course however is to widen the range of acceptable entrance qualifications and to enable students without all the standard science subjects to enter medicine (thirteen schools). One correspondent summed up this approach: 'It is normally used as a conversion course, for example for students who have pursued "arts" subjects at A-level, arts graduates, or mature students. It is *not* used as a means of "topping up" A-level grades, but may be pursued by students with subject deficits. . . . In addition, occasionally students with overseas qualifications of uncertain standard may be required to enter the premedical course.' At two schools an important purpose is to facilitate the entry of overseas students. At another school the main

purpose is to facilitate the entry of mature students who are changing careers, and this will be the chief reason in another school for retaining the course in future, if it is decided to do so.

All or almost all the courses within four schools' premedical stage are run for medical students only (Belfast, Guy's, St Bartholomew's, RCSI): in two schools (Manchester, Galway) some courses are attended by medical students only, others not. In the remaining ten schools, no course is run only for medical students; courses are also attended by dental and/or veterinary students (seven schools) and/or by science students (eight schools).

'PRECLINICAL' OR 'BASIC MEDICAL SCIENCE' COURSES

Length

Preclinical courses are normally spread over two academic years although this may include some periods or terms of clinical instruction (see below).

At Oxford, Cambridge, Nottingham, and St Andrews, the 'preclinical' teaching lasts three years (see Chapter 2). At Nottingham the reason is the 'Honours Year'—Year 3—of which two terms plus part of the preceding summer vacation are devoted to the study in depth of a chosen topic. At Oxford, Cambridge, and St Andrews, preclinical teaching is given over 72 weeks, 72 weeks, and 87 weeks, respectively. The teaching at Nottingham in the first two full academic years totals 68 weeks. Students passing out of these four courses will normally have been awarded degrees.

Elsewhere, teaching and learning in the normal two-year span ranges from 54 weeks to 71 weeks. It is typically 60 weeks, made up of two 30-week three-term years. Six schools give less than 60 weeks, seven schools give more than 60 weeks and almost always this is due to clinical studies beginning in the summer following the preclinical course proper. There are eight schools whose second 'preclinical' year is appreciably longer than their first one.

The 'classical' subjects taught at this stage of the course are anatomy, physiology, and biochemistry. Histology may be included with either anatomy or physiology, or alternatively taught separately. Pharmacology is also, more often than not, regarded as a 'basic medical science' and taught during this period. Other subjects have more recently made an appearance: genetics, statistics, and behavioural sciences. Introductory pathology is often featured in the later part of the stage.

Volume 2 of this Report reviews the teaching of the individual disciplines and specialties in detail, and it will be seen that almost all schools teach almost all these subjects. The major variation occurs in the ways

of interrelating the subjects to each other and incorporating them in the curriculum. The contrasting structures which can be discerned in the arrangements for the main preclinical subjects and for early teaching of the paraclinical subjects are:

(a) Entirely 'separate'. All courses are subject-specific with no 'horizontal' integration—i.e. integration with subjects normally taught concurrently—though vertical integration with clinical staff may occur within the separate courses. Thirteen schools—see Table 13, column A.

(b) Mainly 'separate' as regards the major courses but with some multidisciplinary 'topic' courses in chosen areas. Eight schools: column B.

(c) The structure of the first year is 'separate' and departmental; the structure of second year courses is integrated and interdepartmental. Five schools: column C.

(d) Throughout the two years, some courses are 'separate' and others are integrated. Two of these schools lean more to the 'separate', while one of the others has a greater proportion of integration, especially by the second year. Five schools: column D.

(e) A wholly integrated structure. Teaching is based on themes, topics, and systems, rather than delineated by departmental boundaries. Three schools: column E.

It must be emphasized that this classification is a rough one, as no two schools present exactly the same structure (see the 'School Profiles'). Even among the schools whose courses are apparently separate there is often a considerable degree of 'harmonization' and both formal and informal liaison between the departments.

Schools with highly integrated practices include the new medical schools, but integration, partial or total, has also been established after radical revision of the curriculum in older medical schools. Two schools planning new or revised 'preclinical' stages (Sheffield and St George's) intend to base them on transcending themes and on consideration of body systems, taught by multidisciplinary teams of staff. However, other medical schools with new curricula have opted for more separate and subject-specific courses.

Remedial Teaching

The Survey inquired specifically about remedial teaching, free study time, and clinical teaching in the early years of the curriculum.

The majority of schools have not found it necessary to provide remedial teaching for new preclinical entrants who are 'deficient' in some way. Those that do either arrange short intensive courses before the first term begins—for example at the end of September—or tutorials and small-group tuition during the term, as at Oxford and Cambridge

where college tutors are responsible. Details are given in the 'School Profiles'.

Twelve schools give extra tuition in biology and/or zoology, four give it in physics, four in chemistry, and two in mathematics. A total of fourteen schools gives remedial teaching in one or more subjects: see Table 14, column A.

Free Study Time

Free study time as a timetabled element is featured in the preclinical courses of twenty-five schools (Table 14, column B). One school averages approximately 20 hours or so each week during a five-term preclinical course; four average 8 to 10 hours per week; another group average 6 to 8 hours per week (five schools), while another ten schools give 3, 4, or 5 hours' free study time per week. In the remaining schools it varies from one year to the second: altogether, seven schools give more in the second than in the first preclinical year.

Clinical Teaching in the Early Years

Sixteen schools reported 'significant' clinical teaching (other than courses in clinical method) in the early years of their curriculum—see Table 14, column C: 'significance' is in terms of amount and of direct use to future clinical training. The remaining twenty preclinical schools, including those offering only preclinical courses, indicated that clinical teaching occurs but is not 'significant'.

In nineteen schools there is some clinical teaching in the very first year. In the others it begins in the second preclinical year, or in the case of St Andrews in the final year of the three-year course. In the first year, the majority of schools with a clinical element give less than 50 hours' clinical teaching, but five give more than this. In the second (or final) preclinical year the clinical element is less than 50 hours in eleven schools, 50 to 100 hours in ten schools (including University College Dublin where the 'year' extends into Year 4 of their six-year curriculum), and over 100 hours in eleven schools. (Leicester could not give a figure.) Six of the schools with a clinical element of more than 100 hours in the second year belong to the group already giving clinical teaching in the first year. One school already giving a very significant amount intends to increase this further.

The most frequent objective for these clinical elements is 'to show the relevance of the basic sciences to clinical medicine' (sixteen schools); it will 'underline the relationship between the clinical situation and their lectures and practicals'. Another reason is to present the 'whole picture' of a system or a topic (twelve schools); abnormal behaviour and functional disturbances are presented 'in the flesh' to supplement and

amplify teaching on normal structure and function. Often it is impossible to teach a topic without some clinical references—human reproduction for example. Six schools hope that early clinical teaching will make students familiar with medical vocabulary, and six hope that it will reinforce students' motivation and help to preserve their vocational urge in the long wait before beginning clinical studies proper. One new school (Nottingham) has an introductory course in the first term, when 'attention is given to the scope and responsibilities of medicine, the role of the doctor, the organization of the Health Service, methods of medical enquiry and measurements in medicine. The elements of basic emergency care are taught and cardio-respiratory resuscitation and care of the injured. Visits are made to clinics and to general practices and important clinical syndromes are demonstrated.' Leicester has a similar orientation course in its first week; both these schools include much clinical illustration in the subsequent basic science courses. Two schools (Newcastle and Nottingham) remarked that they do not consider their curriculum to be divided into 'preclinical' and 'clinical' stages, and see them as single integrated entities in which the clinical aspects of early teaching should not be regarded as anything surprising.

There are three major categories of early clinical teaching; the first, already referred to, is 'illustration'. This takes place when clinical staff contribute to teaching sessions—giving a lecture or joining in a symposium (26 schools) and when patients are demonstrated to the class (23 schools). Sometimes the case demonstrations take place in hospital—special clinics or ward rounds are mounted for preclinical students in groups at a time; this is a particular feature at St Andrews and at University College Dublin. The clinical specialties most often involved are medicine and surgery (both general and specialist, including neurology, cardiology, endocrinology, renal and respiratory medicine, orthopaedics) and also psychiatry, obstetrics/gynaecology, child health, radiology (especially in anatomy), and anaesthetics. Medically qualified preclinical staff are of course able to conduct some clinical teaching themselves. Altogether there is regular clinical teaching in courses in the classical basic medical sciences in twenty-eight schools.

Eight schools offer 'clinical' teaching during early courses in community medicine and in multidisciplinary community-based courses which include an introduction to the behavioural sciences. This type of teaching demonstrates the social and psychological factors in health and illness. In a growing number of schools, students have the opportunity to become involved with patients, in following up discharged patients (or out-patients) at home, or in a 'family attachment scheme'. The latter consists of a sometimes long-term attachment of a student to a selected family for observation, under the supervision of the family's own doctor and may be primarily connected with a course in 'growth and development' in order to learn about mother-child relationships, or with a

course in behavioural sciences. In fourteen schools the students visit various health institutions and generally this is part of a community-focused course: they are taken to health centres, child assessment centres, homes for the elderly, residential child care institutions, etc.

There may then be some 'bridging' arrangements, where disciplines taught at both preclinical and clinical stages (for example, pathology) may be regarded as, in part at least, 'clinical'. The 'paraclinical' disciplines have traditionally acted as a bridge between preclinical and clinical studies, and are often taught by medically qualified staff. Eleven correspondents regard their early paraclinical teaching as genuinely clinical. Similarly, there is also a number of new 'topic' courses dealing with human reproduction, neuro-sciences, haematology, human genetics, oncology, and so on, on which to integrate the basic information with clinical applications and which are taught by a team of staff from various departments, both preclinical and clinical. The clinical element in them is an essential part rather than a 'grafted-on' extra.

A few schools arrange joint preclinical/clinical sessions (or short courses) at the end of the preclinical period to lead into clinical studies. One school gives lectures in 'surgical anatomy' while students are beginning their first clinical attachments in the summer term of Year 2; another school has six sessions of 'Medical School Symposia', attended by junior clinical students as well as senior preclinical students, which are presented by preclinical and clinical staff together. Another school arranges sixteen three-hour afternoon sessions in the summer term of the second preclinical year which are known as 'integrated sessions': preclinical and clinical staff join in 'teaching the clinical aspects of pre-clinical subjects'.

Finally, there are schools where practical clinical experience is acquired during the early years. One school (Nottingham) gives instruction in first aid to all new students (another intends to introduce this); at a third school (Manchester) a voluntary extra-curricular course in first aid is available and is completed by perhaps one-quarter of all new students. However a more substantial provision for acquiring clinical expertise is in a special 'Introductory Course in Clinical Method'. Thirteen schools run these in what may be regarded as the preclinical period (see Table 14, column D): usually they are held in the summer term of the second preclinical year, occasionally in the summer vacation thereafter, although in one school (Charing Cross) it is scheduled as a part of the physiology course, and at Guy's clinical methods are taught throughout the preclinical course. Some clinical method courses are full-time; some are part-time and proceed in parallel with courses in pathology, microbiology, and/or pharmacology.

The introductory courses are all multidisciplinary with staff from several specialties taking part, and intensive, concentrating on the basic physical examination and the basic principles of the interview and

history taking. They aim also to provide an orientation to the world of the hospital and some insight into the doctor-patient relationship. Generally they combine lectures with demonstrations and small-group practice on the wards or in side rooms. Some include a tour of the hospital investigative departments. They are not specialty-oriented, although they do provide an introduction to the ways and means of the various specialties, because instruction usually proceeds through the systems of the body, one by one. Two Irish courses require each student to spend a week and two weeks respectively as a 'nurse', working on a ward for a normal shift each day, as part of his introduction to the clinical way of life.

A Scottish school (Dundee) links the early clinical training with its course in behavioural science, organized by the professor of general practice. Here the focus is more on communication, on interviewing and on the themes of primary care and patients' social and psychological background. In one new medical school the 'Early Medical Contact' scheme is supervised by general practitioners (although students also attend antenatal clinics and a birth, as well as the general practice aspects), and students in two other schools have the opportunity to attach themselves to a general practitioner and to attend his/her surgery as an observer. Correspondents in three medical schools pointed out that preclinical students may if they so wish become involved in hospital activities, attending the house officers' rounds or out-patient clinics: frequently they would do this early in the morning, in the evenings, or at week-ends.

A growing concern is for students' own health education. A handful of schools now make some provision for this during the early years of their course. One is introducing talks in hygiene and elementary personal health (including dental health); this school and a few others give instruction in family planning to preclinical students together with discussion of sexual matters. These sessions are 'extra-curricular'. First aid has already been mentioned.

5. The Curriculum: Intercalation

Intercalated and Other Non-Medically Qualifying Degrees

INTRODUCTION

It is possible for medical students to read for degrees which are not connected with the qualifying degree of MB BS, MB ChB, etc., which is required for registration as a medical practitioner. There are two types of such degree in addition to the medically qualifying one and for the purposes of this report they will be referred to as the 'intercalated degree' and the 'non-medically qualifying degree' ('NMQ degree'), although neither is medically qualifying.

Students take an intercalated degree by intercalating a period of time, normally one year, between two stages of the medical course; they then take special courses (or undertake research) as a result of which they are awarded the degree. Only a proportion of each school's students are enabled to take such a degree: other students in the class proceed with the medical course and so the intercalating students become 'out of step' with their peers. Non-medically qualifying degrees, in contrast, are normally taken by all students completing a particular part or stage of the course: they are built into the medical course and no student becomes 'out-of-step' by taking one. Either type of degree is sometimes known locally as 'the honours year'.

Thirty schools provide the opportunity of intercalating an extra degree—all except the 'clinical-only' schools, Cambridge (but see below), Nottingham, Southampton, and the Royal College of Surgeons in Ireland (see Table 15, column A). Students entering the clinical-only schools would intercalate a year before they take their clinical studies; Southampton and Nottingham regard their 'study-in-depth' years as obviating the need for an intercalated year; and the Royal College of Surgeons in Ireland, not being a university, cannot award degrees. Five schools (column B) provide non-medically qualifying degrees; three are English, two are Scottish. Three regularly offer both intercalated and non-medically qualifying degrees.

INTERCALATED DEGREES

The degree is an honours BSc degree in twenty-three schools (column C). One school's degree (Trinity College Dublin) is a BA.

One school (Sheffield) offers students the choice of a BSc and the BMedSci, and four other schools offer the latter only, under a similar title: BSc (MedSci)—Leicester; BMedBiol—Aberdeen; BMSc—Dundee; and BMedSci—Newcastle. Two other schools in Scotland who provide a non-medically qualifying degree of BSc (MedSci) (see below)—Edinburgh and St Andrews—allow some students to convert this to an honours degree by intercalating an extra year of study. A total of seven schools, therefore, make available a BMedSci or equivalent as an intercalated degree.

Oxford reported that students frequently proceed to a higher degree before continuing with their medical studies (and the possibility exists at Cambridge, and presumably elsewhere); in view of the number of students doing so (typically 14 per cent of the class) this is here treated as an intercalated degree opportunity.

Length and Position

The degree course normally lasts one academic year (or occasionally a year and a term), but higher degrees would normally require a longer period. At two schools there is variation according to the subjects chosen, it may be one year or two years. The degree is normally intercalated between the preclinical and the clinical stages, which is the most convenient point for the student and satisfies most universities' regulations, which normally require three years of study before any degree can be awarded. However, one school with an effectively compulsory premedical course reports that students have intercalated a degree during the preclinical course, and nine schools reported that students have intercalated a degree in subjects like pathology or microbiology during the clinical course, and at the London this is possible in psychology. In Ireland, students at two schools have taken the degree after completing the medical course: they intercalate it between graduation and the preregistration year. In both schools it is also possible to intercalate the degree between preclinical and clinical studies, as is normal.

Numbers

Table 15, column D, shows the mean percentage of eligible students who intercalated a degree course in each school over the two years from 1972 to 1974 (the two cohorts were awarded their degrees in 1973 and

Table 15. Intercalated Degrees and Other Non-Medically Qualifying Degrees

UNIVERSITY/INSTITUTION NOT FULFILLING NOT FULFILLING NOT FULFILLING	Intercalated degree (see text)		Intercalated course 1-3 B Sc		Average Percentage of Intercalated Students 1972/73 and 1973/74															
	A	B	C	D																
ABERDEEN	●				7															
BELFAST	●		●		7															
BIRMINGHAM	●		●		10															
BRISTOL	●		●		14															
CAMBRIDGE		●			-															
DUELIN, TRINITY COLLEGE	●				*															
DUNDEE	●				3															
EDINBURGH	●	●			19															
GLASGOW	●		●		9															
LEEDS	●		●		12															
LEICESTER	●		●		-															
LIVERPOOL	●		●		1															
LONDON: CHARING CROSS	●		●		6															
LONDON: GUY'S	●		●		26															
LONDON: KING'S COLLEGE, STRAND	●		●		18															
LONDON: K.C.H.M.S.	n/a				-															
LONDON: LONDON HOSPITAL	●		●		16															
LONDON: THE MIDDLESEX	●		●		14															
LONDON: ROYAL FREE	●		●		12															
LONDON: ST. BARTHOLOMEW'S	●		●		35															
LONDON: ST. GEORGE'S	n/a				-															
LONDON: ST. MARY'S	●		●		17															
LONDON: ST. THOMAS'S	●		●		25															
LONDON: UNIVERSITY COLLEGE	●		●		42															
LONDON: U.C.H.M.S.	n/a				-															
LONDON: WESTMINSTER	n/a				-															
MANCHESTER	●		●		10															
NAT. UNIV. OF IRELAND: U.C. CORK	●		●		1															
NAT. UNIV. OF IRELAND: U.C. DUBLIN	●		●		*															
NAT. UNIV. OF IRELAND: U.C. GALWAY	●		●		3															
NEWCASTLE	●				5															
NOTTINGHAM		●			-															
OXFORD	see text	●			14															
ROYAL COLLEGE OF SURGEONS IN IRELAND	n/a				-															
ST. ANDREW'S	●	●			13															
SHEFFIELD	●		●		*															
SOUTHAMPTON					-															
WALES / UNIVERSITY COLLEGE CARDIFF	●		●		6															
TOTAL	5	30	5	23	114															

* = less than 1%

1974 respectively). It will be seen that in three medical schools the percentage was less than 1 per cent: however, at two of them (Sheffield and Trinity College Dublin) the figure reached 9 per cent and 5 per cent by 1976. At Liverpool—whose average was 1 per cent—we were told that normally up to three students take the degree each year and the normal average is 2 per cent (the period examined was a 'freak', because of changes in the preclinical curriculum). At University College Dublin, significant numbers of students are now 'intercalating' a degree after qualification.

The geographical averages for students intercalating degrees over the two years are (excluding Leicester):

London schools	20 per cent
Schools in England, Wales, and Northern Ireland (excluding London)	8 per cent
Scottish schools	11 per cent
Schools in Eire	1 per cent

The over-all average for the two years 1972/3 and 1973/4 is 11.45 per cent, representing approximately 350 students annually. Slightly more students took up the opportunity in 1973/4 than did so in 1972/3: 11.9 per cent instead of 11.0 per cent.

Selection

Correspondents were asked how students are selected for the degree course. Four schools maintain a fixed number of places, though they are not all necessarily always filled. Twenty-five schools do not operate a maximum figure but students must attain a specified standard in relevant examinations in order to be admitted to a course. Some correspondents added that individual departments may enforce a ceiling, as their resources could not cope with more than a certain number of students, and students do not always study the subject of their first choice. At one school there is a specified maximum number for some subjects and no specified number for others. It is clear however that there is often a rough 'rule-of-thumb' target: schools prefer to have a roughly similar number of intercalating students each year, if for no other reason than to avoid 'bulges' in the clinical stage after the intercalating students rejoin the medical course.

Subjects Studied

The types of learning activity vary with the subject studied. Seven schools offer some courses which require ordinary course work only, while three (including the higher degree courses) offer some courses based entirely

on research work. Most courses in most schools require a combination of course work and independent research (twenty-seven schools).

Most courses are offered by departments within the medical school. Some may be offered within the Faculty of Science (and strictly speaking a BSc degree may be a science faculty degree rather than a medical faculty degree). In London, six schools reported that students attend other colleges or medical schools in the University of London for some courses (for example, psychology).

In London and in four 'English' schools a series of course units is taken, making the over-all degree course a highly flexible one. Students may choose which topics or subjects to combine, and the field of choice in some schools is extremely wide. Subjects for which students have opted recently are:

- Physiology, 27 schools
- Anatomy, 24 schools
- Biochemistry, 23 schools
- Pharmacology, 16 schools
- Psychology, 10 schools
- Pathology, 6 schools
- Microbiology, 6 schools
- Genetics, 5 schools
- Human Biology, 3 schools
- Immunology, 3 schools
- Biophysics, 2 schools

Students have also occasionally studied the following subjects: cellular pathology; physics; chemistry; chemical pathology; clinical physiology; cell biology, haematology, and virology; embryology; endocrinology; evolution; palaeontology; physical medicine; sociology; anthropology; and zoology. Considerably more are available in certain schools but have not been chosen recently.

Assessment; Results

Some or all of the available courses in thirteen schools are assessed by formal examination alone. In nineteen schools, some or all of the courses are assessed by formal examination and by a dissertation written by each student; both count towards the final assessment. The higher degrees may be assessed by dissertation alone. In-course assessment contributes to the final result at one school; and at another, students' performance in previous assessments is taken into account.

For a student to fail to obtain an intercalated degree for which he is reading is rare. Only two schools reported that students had failed to gain the degree during the period in question, and it was one student in each. Permanent withdrawal from the medical course after gaining the degree is almost as rare. Five schools reported this event, affecting a

total of seven students during the period: however, three reported that the students had 'left' to do research for an MSc or PhD degree, and intended to resume their medical studies eventually.

The intercalated degree is normally a classified honours degree. This is true in England, Wales, and Ireland but two Scottish schools do not distinguish between 'upper' and 'lower' second-class degrees, and two others award only pass degrees or unclassified honours degrees, although one of them also awards 'commendation' to the better students. The breakdown for all twenty-nine medical schools over the two-year period is:

First-class honours	23 per cent
Upper second-class honours	60 per cent
Lower second-class honours	16 per cent
Third-class honours	1 per cent
Unclassified honours	} very low
Pass degree	

'NON-MEDICALLY QUALIFYING' DEGREES

As stated earlier, five schools offer 'NMQ' degrees. The degree at Oxford and Cambridge is an honours BA; the two Scottish degrees are 'ordinary' BSc (MedSci), and at Nottingham the degree is an honours BMedSci. To convert their ordinary degree to an honours one, students at Edinburgh and St Andrews intercalate a further year of study.

The degree is awarded after the preclinical course has ended and before the clinical course begins at four schools; at Nottingham the degree is awarded at the end of the third year (see that school's 'Profile'). In four of the schools all medical students are awarded the degree at the appropriate time but at Edinburgh only about three-quarters of students are awarded the degree (average 73 per cent over 1973 and 1974): these are the students who have completed three years of study at the university, and those students who do not take the premedical year do not receive the degree. (They may however still take an extra, intercalated honours year and be awarded the honours degree.)

The major point of difference between the NMQ degrees lies between the English and the Scottish schools. In Scotland, the availability of the degree has no impact on the medical course: no special classes are provided, no extra study is required, and students proceed straight on to the clinical course. The degree is awarded at the end of the normal course, after the normal examinations in preclinical subjects. It is an unclassified degree.

At Oxford, Cambridge, and Nottingham however the availability of the degree makes these medical courses unique. Special learning activities are prescribed in the form of course work supplemented by tutorials

and private study, and the Nottingham course demands research work from all students also. All offer a choice of subjects; at Nottingham about six are offered at present, all standard medical school subjects; while at Oxford a wider choice is possible though most students choose within the Physiological Honours School; and at Cambridge the choice is virtually unlimited, extending into the arts and social sciences for students proceeding to clinical courses at London. (For further details, please refer to the 'School Profiles'.)

At Oxford, the course lasts four terms, including vacation study; at Cambridge it lasts one full academic year. The Nottingham course lasts one year, from the beginning of a summer vacation until the spring of the following year but the degree is not actually awarded until the succeeding summer term's clinical studies have been completed satisfactorily, to comply with university regulations. In these schools all students are assessed by examination (and at Nottingham by dissertation, too) and the degree is a classified one.

Failure is extremely rare. Withdrawal from medical studies after obtaining the degree has not yet occurred at Nottingham; it does occur on occasion but normally only when students intercalate one, two, or three years' research for a higher degree. However, at Cambridge it is not unusual; in 1974, 11 students or 5-6 per cent of the total class did not proceed to a clinical course (but some may do so eventually—the information is hard to co-ordinate, being held by the individual colleges).

DEVELOPMENTS

A total of sixteen schools are planning changes in this area. St George's Hospital Medical School, which is establishing a five-year course—at present it offers only a clinical course—will offer the opportunity of intercalating a degree between the early and clinical stages to its students. The London, whilst bound by the Regulations of the University of which it is a part, is considering the possibility of a non-medically qualifying degree for all or some students, to be awarded sometime after the end of the preclinical stage. On the other hand, one school now awarding a non-medically qualifying degree (Edinburgh) will almost certainly discontinue awarding the 'ordinary' degree when its new five-year curriculum becomes effective; however, the 'honours' (ie intercalated) degree will continue to be awarded.

Two medical schools in London intend to raise the number of places for intercalated degree studies. Both these schools and nine others are to increase the number of options available so that students will have a wider choice of subjects. One of these schools is to cease offering a degree in anatomy and instead will encourage students to take the BMedSci degree, which is a modular course containing several options.

The content and balance of their degree courses are under review in two schools who suspect that studies have become too esoteric. The courses should be made more 'relevant': 'discussions are in progress with various clinical departments . . . with a view to providing an honours degree course with a stronger medical bias'. Nottingham is also contemplating a change in emphasis to include more 'overt revision' work, or work 'designed to form a bridge' between the preclinical and clinical stages. Another possibility at this school is a modified course for weaker students leading to an ordinary rather than an honours degree.

At Cambridge the new Medical Sciences Tripos Part II will comprise about twelve papers, of which each student must choose four. 'The aim would be to consider in reasonable depth subjects which would provide some degree of bridging between clinical and preclinical teaching yet be non-essential (a difficult thing to achieve). Clinicians, non-clinicians, lawyers, geneticists, biologists, economists, etc., will contribute.'

Finally, two correspondents reported that their schools would prefer more students to take an intercalated degree, but resources are limited. Ideally, one would like all students to have the opportunity. (However, since the questionnaires were completed, circumstances have changed in many schools and it is possible that numbers of students who intercalate and the range of subjects offered have not expanded as anticipated, and indeed may have contracted. Indeed, during autumn 1976, two schools volunteered the information—it was not specifically requested—that the number of students wishing to intercalate had dropped by as much as half; however, at two other schools, the number of students actually reading for an intercalated degree had increased dramatically.)

6. The Curriculum: Clinical Years

Structure; Details; Features

STRUCTURE

The typical clinical course lasts three years. However some schools—notably in Scotland and Ireland—have a ‘mixed’ middle year which corresponds to the first clinical year in other schools, when a large element of paraclinical and possibly some preclinical teaching is found. At University College Dublin, for example, the ‘clinical’ course does not begin until Easter of Year 4. In contrast, Belfast begins the clinical course in Year 3 and ward attachments are introduced then, giving a three and a half year clinical course. Other exceptions are Oxford and Cambridge where the extremely intensive clinical courses are confined to two and a half years (103½ weeks actual teaching/learning time) and just over two years (98 weeks actual teaching/learning time), respectively.

In other medical schools with clinical courses the yearly average of time scheduled for teaching and learning ranges from 30 weeks in one school (Galway) to 48 weeks in four schools. The total time in a scheduled three-year course ranges from 90 weeks to 144 weeks. The figures are noticeably lower in Scotland (mean = 116 weeks) and Eire (mean = 110 weeks), and higher in London (mean = 133 weeks) and the remaining schools in the UK (mean = 127 weeks). (These figures refer to total learning time, and include scheduled teaching, elective work, revision, and independent study.)

Another variable is the proportion of time spent on ‘practical’ clinical experience. Some schools have a relatively high proportion of lectures, etc., in the clinical years, especially if a substantial amount of general pathology and pharmacology is taught at this stage, whereas others, and especially the London medical schools, give a greater amount of patient contact, with full-time clinical attachments from the very first clinical year. No attempt has been made to quantify these differences: however the following general description of the different types of clinical teaching arrangement is not a total oversimplification:

London schools generally offer full-time or virtually full-time clinical attachments from the very beginning. Considerable responsibility is

allowed to students at an early stage. The sub-specialties are often involved in the rotations. Full-time pathology clerkships are the rule rather than the exception so that a long course of lectures/practicals/tutorials does not interrupt the flow of clinical experience. Theoretical teaching is regarded as secondary to clinical experience, whether it occurs in a co-ordinated cycle, departmentally, or within the clinical firms.

In *Scottish schools*, on the other hand, full-time attachments do not occur until the final year or final phase. Until then, students receive clinical teaching on a part-time (sometimes less than half-time) basis. Teaching is more deliberate and in the early stages, there is rather less in-depth student-patient contact—this happens in the final year. The sub-specialties are generally less apparent in the timetable. Courses in pathology and microbiology are spread over the first clinical year, and co-ordinated lecture courses incorporating most clinical subjects take up a considerable proportion of the junior stage of the clinical course.

Schools in the rest of *England*, and those in *Wales* and *Northern Ireland*, are more variable. Some conform more closely to the 'London model', others to the 'Scottish model'. The final year is the period of greatest clinical responsibility for students, generally without any 'theoretical' teaching. Systems-based and multidisciplinary 'theoretical' instruction is generally given in the early stage of the clinical course, as is instruction in pathology and microbiology. Efforts are made to correlate and synchronize this instruction with the early clinical experience. However, the traditions and circumstances of these schools vary strikingly, and it is not easy to describe an 'English model'.

Arrangements in schools in *Eire* are more consistent, and very different from those in the other groups. In *Eire*, the medical schools have traditionally had a more 'separate' relationship with the hospitals, with 'college-based' courses in the medical schools, and 'hospital-based' courses in the hospitals, the former relating principally to 'theoretical' and the latter to 'practical' aspects of clinical teaching. However, this situation is now generally changing, with closer involvement by the medical schools in the hospital teaching.

Clinical teaching in hospitals is managed by the hospital education committees, by hospital tutors (appointed by the medical schools), and by heads of department, although there are fewer clinical departments and far fewer academic appointments in clinical subjects than is the case in the UK. Professors until recently were generally part-time, but most schools in the Republic are now establishing a number of full-time chairs. Most medical schools in *Eire* also use a number of general

hospitals for teaching, dividing the students between them, sometimes in rotation, sometimes not (see the 'School Profiles').

Theoretical teaching is normally the responsibility of individual medical school departments who hold separate lecture courses in their subjects. The medical schools are however attempting to interrelate clinical and theoretical teaching more closely. The curricula vary, but approximate more to the Scottish model than the London one. Early clinical experience tends to consist of part-time rotating attachments, concurrent with lecture-based college courses. Later clinical experience is generally full-time.

Correspondents were asked how many hospital beds were available and used for clinical teaching. However, this often proved difficult to answer and the answers could not be analysed usefully. Suffice it to say that the number of beds used 'regularly' by a medical school varies from under a thousand to many times that figure and bears no relation to the size of school or the number of students to be taught (see the 'School Profiles').

Correspondents were more successful in providing information about clinical teaching given outside hospitals. This is strongest in the schools in the UK outside London. Most schools include time spent in general practice and the course includes experience on location with a general practitioner, in the surgery and out on calls (see the report on GP in volume 2). Courses in community medicine frequently take students to visit patients at home and to visit other forms of health care delivery besides the hospital. Domiciliary and follow-up visits and introductions to local well-baby and family planning clinics or to hostels for the mentally disabled, can occur during courses in various clinical specialties. Estimates for the amount of clinical teaching received outside hospital settings (and excluding 'theoretical' teaching about primary and community care, given inside the medical school) were:

<i>Approximate period spent in clinical settings outside hospital</i>	<i>No. of schools</i>
1 week	2
2 weeks	9
3 weeks	5
4 weeks	7
5 weeks	6
6 weeks	3

In three Irish schools, the time varies: it is not likely to be more than one week however. Several schools are planning to introduce more community-based teaching. It is increasingly becoming a practice to combine all aspects of community health care into a full-time teaching

block lasting a month or longer (see the relevant discipline/specialty reports) and there is an increasing amount of follow-up and liaison teaching with the clinical specialties.

RESIDENCE

Thirty-one medical schools stipulate a minimum period of residence in hospital. Of the four who do not, three (Aberdeen, St Bartholomew's, St George's) are beset by problems of accommodation, while the fourth (Oxford) has found it unnecessary to insist on a specific period as most students live very near one or more of the hospitals in the town and 'are in and out at all times of the day and night'. Five schools including two who do not insist on a minimum period, are seriously concerned at the lack of accommodation which restricts the time their students can spend in residence, and Leicester is also concerned over how much residential accommodation will have become available by the time its students require it. Minimum and typical times spent in residence are listed in Table 16, columns A and B. Students in Aberdeen are not expected to go into residence if they are married (about 25 per cent are by that time), but those who do so spend between 24 and 52 weeks in residence.

Most often residence is required in obstetrics (28 schools). It may also be required for general medicine (16 schools), surgery (15 schools), child health (19 schools), psychiatry (7 schools), accident and emergency and/or orthopaedics (5 schools), infectious diseases (1 school), anaesthetics (1 school), coronary care (1 school), and neurosurgery (1 school). In addition, there are five medical schools where a set period of residence is required in either medicine or surgery; students may choose. Some schools offer 'selective' clinical attachments to final-year students who choose one or more of the major clinical specialties for further study—these are normally residential.

There will be considerable variation in time spent in residence, even within a medical school. Apart from continuous periods of residence there will naturally be many waiting nights, weekends, and late evening attendances in all schools. It was pointed out that general practice may also be residential if students are attached to a practice away from the school and their normal term-time address; they may be expected to be available for night and week-end calls, etc. Clinical electives are frequently residential.

The average total amount of required residence is fifteen weeks. In most schools however, students generally manage to spend more than the minimum period in residence; the average total amount of actual residence (where it was known to the Correspondent) is about twenty-five weeks. In several schools the whole of the final year (and in one school—Manchester—the 'Middle Year') is residential; students are

spread around a large number of hospitals in the medical schools' region, which in practice makes residence essential.

PATIENT-BASED TEACHING

In the majority of schools the unit for clinical teaching is normally called a 'firm' (32 schools). (As it is so common this term is used to refer to the clinical teaching unit throughout the report, for convenience.) However the teaching unit in two schools is the 'ward' (as a ward unit combining male and female patients) and in a few other schools the 'firm' is based on more than one ward. Sometimes the structure varies between early and later clinical teaching; larger units or 'teams' for the junior stage and smaller 'firms' for the senior stage. At four schools for example, clinical teaching teams which are quite large are used for the early clinical exposure. At one school (Cambridge) groups of twelve first clinical year students each under a clinical supervisor (a lecturer) will work with patients in medical, surgical, geriatric, and neurological wards, helped by the junior staff of these wards: after working for five weeks on a batch of say 50 beds, they will be moved on to another. A similar approach is practised at Dundee where students rotate under 'clinical teaching teams' of 30-40 staff representing many specialties; two schools in Ireland have broadly similar schemes. Another school—Wales—has arranged clinical subjects into a series of blocks each usually containing a number of related though distinct specialties: students rotate within as well as between blocks.

In most schools (25) the firms are single-specialty units, although frequently the medical and surgical sub-specialties are judiciously represented on 'general' firms (eight schools in particular plan this arrangement). In a few schools, practice varies depending on the stage of the course and whether the specialties involved are 'major' or 'minor'. Sometimes the 'minor' specialties or 'special subjects' are linked for administrative convenience, and students' experience in these may be quite different from those on 'general' firms. A few schools now link the medical and the surgical aspects of a system-based specialty together (for example, neurology and neurosurgery; orthopaedics and rheumatology) and they are taught by 'mixed firms'. Even where routine patient-based teaching is given by a single-interest firm, they may combine for special events such as seminars or symposia.

Correspondents were asked to indicate the number of students and the number of clinicians per firm. There is enormous variation, even when only the very major specialties are under consideration, and due to circumstances often rather than policy. It is very noticeable in ten schools that the size of the student group fluctuates according to the specialty being taken; in thirteen schools there is a distinct drop in

group size in the final year when numbers per firm are deliberately kept very low to maximize 'clinical exposure'.

Restricting the analysis to the junior attachments in general medicine and general surgery, it can be seen that:

Nine schools use firms of one or one to two consultants.

Twenty schools use firms of two or two to three consultants.

Three schools use firms of three consultants.

One school draws upon five or so consultants for each group.

Two schools use teams of between twenty and thirty consultants.

and

Thirteen schools have up to five or six students per firm.

Sixteen schools have up to ten or twelve students per firm or team (and always more than five or six).

Six schools have up to twenty, thirty, and forty students in a group (which would always be further subdivided).

The number of junior staff per firm varies even more widely. Typically it would be three or four junior staff in a standard firm. (For further details of 'firm' size, please refer to appropriate reports on the major specialties in volume 2.)

The style of patient-based teaching was described. No school stated that the majority of patient-based teaching is a special activity, separate from patient care. Twenty-one schools report that on the whole teaching is inseparable from patient care: students learn and are taught in conjunction with patient care activities and they observe and participate as (very) junior members of the clinical team. Of course, these statements are generalizations—where the major specialties conform to the apprenticeship style, some smaller specialties may distinguish between their teaching and their service activities, and 'on most firms, specific teaching rounds and tutorials are carried out—in addition to the "apprenticeship" element'. There are eleven schools where both approaches were reported to characterize different stages: correspondents were unable to state which predominates over the course as a whole. The pattern also varies from hospital to hospital as several are used by many schools. In questionnaires relating to the 'major' disciplines and specialties, respondents for the five main clinical specialties indicated the level of activity, responsibility, and participation which students exercise during their clinical attachments. As shown in that section (volume 2) of the Report, there is great variation between specialties, and between medical schools. It is apparent from these replies that there is considerable student participation during medical and surgical attachments, particularly. Please refer to these reports for further details.

The Patients

In interview, correspondents were asked about any arrangements that are made at their schools to minimize any possible discomfort, embarrassment, or annoyance to patients that results from their being 'taught on'. In the great majority of schools, students are specifically advised about their dress, demeanour, and behaviour on the wards. They are told for instance that the nursing staff must be consulted before they examine a patient. In most cases, this advice and instruction is given by the dean and takes place at the beginning of the student's clinical years. In two schools, students are given documents containing formal guidance concerning their relationships with patients (the London, Nottingham).

Respondents frequently reported that the 'comfort' of patients is not a great problem, because their clinical firms are small and it is consequently difficult for over-teaching to occur. In all, twelve respondents noted this aspect and many (23) also said that most of the daily responsibility for this aspect of teaching rests with the consultants on the individual firms. One respondent noted because of the pressure from postgraduates as well as undergraduates, the situation has to be kept under observation. Another remarked that his school impresses on students the fact that British medical students are particularly privileged in their contacts with patients, and it is vitally important to maintain this situation.

'THEORETICAL' ASPECTS OF CLINICAL TEACHING

The questionnaire inquired into the arrangements for 'theoretical' teaching of clinical subjects: answers refer to what is generally rather than inevitably the case. In seven schools most 'theoretical' teaching is given by the firm also responsible for patient-based teaching (Table 16, column C). This will change in one of these schools (the Middlesex) when the new curriculum will bring a separate topic-teaching cycle. Another of these schools (Bristol) recently abandoned its interdisciplinary theoretical instruction and reverted to firm-based teaching for this purpose, supplemented by some departmental lectures in medicine, surgery, pathology, and therapeutics. In addition to firm-based instruction in one school, St Mary's, where it is the most important form of theoretical instruction, there are also topic-teaching cycles, weekly evening lectures on topics chosen by the students and a cycle of lectures and demonstrations in therapeutics. Seven schools rely on the individual departments to give most of the theoretical instruction, separately, but normally to a whole class or year, rather than to a firm: see column D.

There are twenty-four schools where a considerable portion of 'theoretical' instruction is conveyed in an interdisciplinary format,

either by a team of staff drawn from several departments, or by means of systems-based or co-ordinated lecture courses (see column E): in twenty-one of these schools it is the principal vehicle. However, one school (St Bartholomew's) will discontinue its multidisciplinary course when its new curriculum comes into effect; the reasons are mainly logistic and students will receive most 'theoretical' instruction during their full-time clinical attachments. Furthermore, in other schools there may be smaller amounts of interdisciplinary teaching. (Interdisciplinary, etc., teaching is described in greater detail in Chapter 7.)

The relationship between the content of theoretical teaching to patient-based teaching depends primarily upon the organization of each element. In seventeen schools (column F), the two aspects are normally independent—it is not possible to correlate clinical work on the wards which is carried out in small groups with the lectures and the topic teaching (whether this is interdisciplinary or departmental), because these are given to the whole class together at another time and place. In the seven schools where most theoretical teaching is given on the firms (column C), it will of course normally be interrelated. In the remaining eleven schools, arrangements vary.

FEATURES

Having outlined the structural arrangements for their clinical teaching, correspondents were asked to describe its 'special features': the outstanding successes, the unusual practices, the events which give their course its characteristic flavour.

Six schools (column G) drew particular attention to the vertical integration which they have achieved by bringing teaching of the basic sciences into the clinical stage: basic scientists make significant contributions to clinical teaching. In one school, the final year has been planned as a totally integrating 'finale': patient-based teaching will be correlated with theoretical teaching and preclinical staff will join clinical staff, as clinicians have joined basic scientists in the early years. All teaching will be carried out by multispecialist and multidisciplinary teams, whether large group discussions or small-group clerking. The objectives are: 'Recall and reinforcement of previous teaching; synthesis and application of knowledge already acquired in different specialties; diagnosis, problem-solving and patient management; and introduction of new knowledge.'

Rather than attempt to infuse all phases of the clinical course with 'preclinical' relevance, a few schools (Aberdeen, Belfast, Leicester, University College Dublin) have created a middle year which is essentially a bridging year: it is the third year of the five-year courses and the fourth year of the six-year courses. Basic medical sciences, basic clinical

Table 16. Aspects of Clinical Teaching

	INFORMATION NOT AVAILABLE	INFORMATION COMPLETE	100% AVAILABLE	90% AVAILABLE	80% AVAILABLE	70% AVAILABLE	60% AVAILABLE	50% AVAILABLE	40% AVAILABLE	30% AVAILABLE	20% AVAILABLE	10% AVAILABLE	NOT AVAILABLE
	A	B	C	D	E	F	G	H	J	K			
ABERDEEN	-	see text			●			●	●	●			
BELFAST	34	52			●	●		●	●	●			
BIRMINGHAM	23	23			●			●	●	●			
BRISTOL	20	19	●					●	●	●			
CAMBRIDGE	12	20			●								●
DUBLIN, TRINITY COLLEGE	16	16-24			●		●						
DUNDEE	45	54			●	●		●	●	●			●
EDINBURGH	2-4	not available		●	●	●							●
GLASGOW	12	12			●								
LEEDS	21	30			●		●	●	●	●			●
LEICESTER	12	?			●								
LIVERPOOL	12	12		●	●	●	●						●
LONDON: CHARING CROSS	12	12	●										●
LONDON: GUY'S	12	26				●							●
LONDON: KING'S COLLEGE, STRAND	n/a												
LONDON: K.C.H.M.S.	24	24+			●	●		●	●	●			●
LONDON: LONDON HOSPITAL	14	14			●		●						●
LONDON: THE MIDDLESEX	13	16	●										●
LONDON: ROYAL FREE	13	22			●		●						●
LONDON: ST. BARTHOLOMEW'S	-	12-16			●	●		●	●	●			
LONDON: ST. GEORGE'S	-	B-12			●	●		●	●	●			
LONDON: ST. MARY'S	9	17	●		●	●							●
LONDON: ST. THOMAS'S	8	20-23	●										●
LONDON: UNIVERSITY COLLEGE	n/a						●						
LONDON: U.C.H.M.S.	6	26		●									●
LONDON: WESTMINSTER	8	12			●			●					●
MANCHESTER	36	45			●	●		●	●	●			●
NAT. UNIV. OF IRELAND: U.C. CURK	18	25		●			●						●
NAT. UNIV. OF IRELAND: U.C. DUBLIN	8	8-26			●			●					
NAT. UNIV. OF IRELAND: U.C. GALWAY	15	15		●		●							●
NEWCASTLE	6	40			●	●	●	●	●	●			●
NOTTINGHAM	20	28			●			●					
OXFORD	-	not known	●										●
ROYAL COLLEGE OF SURGEONS IN IRELAND	16	20		●			●						
ST. ANDREW'S	n/a												
SHEFFIELD	16	20		●	●	●							●
SOUTHAMPTON	5	23			●	●							●
WALES / UNIVERSITY COLLEGE CARDIFF	8	-		●	●								●
TOTAL	3	-	-	7	8	25	18	6	12	16	21		

* - up to 3 years - see 'School Profile'

sciences (the 'paraclinical' disciplines) and clinical subjects with some patient-based teaching are all given within the one year. Actual teaching is not integrated but it is hoped the juxtaposition will itself convey the interrelationships and some thematic unity.

In nine schools a clear distinction is drawn between the junior and the senior stage of the clinical course. Each has its own timetabling pattern, objectives, organization, and expectations. One feature is the lack of formal 'theoretical' teaching in the senior stage: in a total of a dozen schools (column H) there is no whole-class instruction; except perhaps for therapeutic conferences or pathological seminars at which attendance may well be voluntary, all the students' time is spent in full-time clinical work. Indeed in nine of these schools and seven others part or the whole of the final year is devoted to 'junior house officer' style clinical attachments. The common features are: only one, two, or three students per unit, full-time (and usually maximum full-time, ie residential) attachments, membership of the clinical team to the extent of fulfilling many of the house officer's tasks and acting as 'student assistant' in his absence, wide spread of students around ordinary, non-teaching hospitals. See column J, Table 16. Sometimes these attachments are 'selective' or 'guided' (see later). Other schools of course accord final year students a considerable measure of responsibility, but they did not regard it as substantial enough to justify the term 'junior house officer', or an equivalent.

Twenty-one schools now make significant use of distant and non-teaching hospitals—see column K. ('Significant' = all students spend one month or more in this type of hospital.) They are referred to as 'district', 'regional', or 'peripheral' hospitals; they serve local communities and give students experience of 'typical' clinical practice in Health Service hospitals. Furthermore, schools which negotiated these attachments originally to solve their overflow problems have found positive educational benefits in them.

A number of medical schools now use more than one major hospital for teaching: these are not 'peripheral' ones, but are hospitals in the city where the medical school is situated (and in the same AHA(T), where such arrangements apply) and the relationship is one of partnership. This happens in a number of London schools and here and at Belfast, Edinburgh, Leeds, Manchester, and Nottingham students are rotated around the different hospitals in a carefully planned system (although some student choice may be permitted) to give them the advantages of all the clinical experience available. Indeed, the English schools in the group particularly emphasize their policy of not allowing either teaching hospital to develop into a separate, 'mini-clinical school': all students are taught in each hospital. In contrast, Glasgow and the three medical schools in Dublin place their students in a particular one of the teaching hospitals: they spend most of their clinical period at it and come to regard it as 'their' hospital.

In the medical schools in Dublin, hospital tutors are extremely important. They are junior clinical staff, in each major specialty, who are employed by the medical school to watch over the interests of students stationed in their hospital. They are effectively junior lecturers in their subjects, but although they have clinical responsibilities and personal teaching duties, their main role in the undergraduate programme is administrative and pastoral. In a total of seven schools, including two Irish ones, the academic role of tutors in the clinical course was highlighted. A small number of students is attached to each tutor irrespective of ward attachments and the specialty being taken at the time. They supplement the departmental and firm teaching as required and monitor their students' progress: through personal contact they are able to help with any problems—academic or personal. At Oxford, for example 'each student is allocated to a tutor of his own choosing throughout the clinical course, receiving up to one hour tutorial each fortnight'.

One school (Royal College of Surgeons in Ireland) uses the problem-oriented medical record to teach students during the introductory clinical course and in the subsequent clinical years: 'the first year is devoted to history-taking, physical examination, problem-listing, initial plan, with instruction in core knowledge of medicine and surgery'. Use of the POMR then continues into the intern year: it has been much praised by staff. Other methods of teaching given praise were post-mortems—three schools emphasize post-mortem teaching; the involvement of non-medical staff in teaching students in many specialties and units, which is a feature of three courses; and heavy investment in self-instruction by audiovisual presentations such as tape/slide units—four schools. Seven correspondents mentioned the teaching activities conducted 'on site' in the hospitals to which students are attached: clinico-pathological conferences were mentioned by most, but also symposia, seminars, tutorials, case conferences, ward and departmental meetings which are more often part of the normal clinical routine and which students attend in the company of doctors, postgraduates, and other professional staff.

Four London schools drew attention to the new arrangements they have devised for the medical and surgical specialties. The motivation was to respond to the growth in the sub-specialties. Two (Charing Cross and the Royal Free) allow the medical firms to be specialized and apart from rotating students around them all, require each firm to teach all students on medical attachments for a set period of 'core' instruction in their field of interest, to give them all equal and in-depth teaching in the subject. Guy's selects a sub-specialty or two to be paired with each of the 'general' teaching firms so that students on each firm rotate through the subsidiary branch as well. The fourth school (the London) has detached certain specialties from their parent subjects and linked the medical and

surgical aspects of each one together in a single system-based teaching firm. Students take nephrology/urology, neurology/neurosurgery, and rheumatology/orthopaedics as integrated attachments.

It is interesting to see that some schools feature specialties in their curricula which were omitted from the standard list used in the Survey. For example, plastic surgery, thoracic surgery, and intensive care, are timetabled separately in two schools (Leeds and the Middlesex) having new curricula, and one or two of them in other schools as well. Normally these areas are either considered postgraduate subjects, or are included incidentally in teaching of the more basic clinical subjects and not all students would necessarily experience them. Where they do have a discrete portion of the timetable, they are probably used as 'theatres' for teaching general clinical skills rather than specialized ones. Their presence is also felt to be justified by their growing importance in clinical practice: their future role will certainly be greater than in the past. Several schools returned extra voluntary questionnaires on various 'growth' specialties: reports on them are appended to the discipline/specialty report on 'medicine'. Attachments to firms specializing in allergy and in metabolic medicine (one school each) were also reported. Two schools offer courses in tropical medicine—UCHMS and the Royal College of Surgeons in Ireland.

Six schools reported that they offer instruction in dentistry, both practical and theoretical: one of them and two others offer a course in pharmacy which introduces students to pharmaceutical practice.

Many correspondents described new developments in their clinical course which have been included in various parts of this section or another section of this Report. One of the most commonly and enthusiastically reported was the development of community activities. The community aspects of hospital illness and treatment are now stressed particularly in seven schools, at all stages of the clinical course. Liaison teaching and follow-up studies are being promoted extensively. Two of these schools are also experimenting with new block courses in 'Community Health' and 'Medicine in the Community'. Apart from their intrinsic value they are intended to help students to think always of the family, to 'de-hospitalize' them, and to give a perspective on the whole clinical course.

Miscellanea: Student Immunization; Honoraria

In view of the potential health hazards to (particularly clinical) students, correspondents were asked to outline the policy of the medical school in relation to immunization procedures available to its medical students.

In general, schools regard themselves as aware of the need to provide access to immunization procedures. Eleven respondents reported that the subject was treated very seriously in their school, and that all, or

nearly all, students received a number of immunizations. In many of these cases, the Student Health Service is given over-all responsibility for the programme. At Nottingham, where a programme of immunization has been drawn up and students are 'strongly advised' to take advantage of it, a handout has been produced describing the possible high-risk situations to students. At Liverpool, the matter is even mentioned in the handbook. In two of these schools and in two others a record is kept at school level of the vaccinations or tests that the student has had. Fourteen further respondents said that students were 'encourage' to obtain vaccinations for their own protection.

The tests and immunizations that are given are (in descending order of frequency) BCG/TB tests, chest X-rays, smallpox, diphtheria, polio, rubella, tetanus, influenza, typhoid. As is to be expected, some schools (six) are more strict with their overseas students or with students going overseas for electives: increased pressure will be exerted on these groups.

In thirteen cases, there was no identifiable school policy regarding immunization. Two of these schools, and another four, mentioned that there was likely to be a change in their policy and that an increased number of precautions would probably be recommended to students. One correspondent, however, seriously questioned the ethical aspects of 'encouraging' medical students to be immunized.

GMC Correspondents were asked in the interview about payments, if any, that were made to those 'honorary' clinical teachers who do not have a full or part-time university appointment (excluding general practitioners, for whom separate arrangements generally apply). In all, twenty-eight correspondents reported that some form of honorarium is made. The amount paid per annum to an individual varies from £50 in certain schools to about £200 in others. The sum will also vary depending upon the teaching commitment. (In some nine cases an additional sessional fee is paid for lecturing—normally between £3 and £5.)

In four schools an over-all sum is paid to the appropriate hospital in recompense for staff's time taken in teaching. The hospital is asked to distribute the money to individuals or to enter it into a special fund as is thought fit.

In two schools money is put into a fund to help towards travel and educational expenses incurred by NHS teachers; this is *in lieu* of individual payment.

ELECTIVE OPPORTUNITIES

Elective opportunities are offered in all medical schools with clinical courses, except one—the Royal College of Surgeons in Ireland: this school intends to introduce an elective period in its new curriculum. The

'field' therefore consists of thirty-four schools, although one school (University College Dublin) could not give further information as that part of its new curriculum is still undecided.

Eleven schools offer only one substantial opportunity of any type (Table 17, column A), but at Cork there are two additional voluntary electives in vacations. Eighteen offer two substantial and separate opportunities (column B) while four schools offer three such opportunities (column C). (These figures treat the 'elective' opportunities provided by the 'study-in-depth' or 'honours' years at Cambridge, Nottingham, and Oxford as electives: this category will not here be discussed in detail—see Chapter 5.)

All schools provide electives during the clinical course and the majority only in the clinical course. Four schools (Birmingham, Leeds, the Middlesex, Trinity College Dublin) also provide opportunities during the early years (the preclinical course) although in one case—the Middlesex—the students can opt not to take it (for details, see the 'School Profiles'). These are projects and extended essays which transcend subject and departmental boundaries and require independent pursuit of a chosen topic. Similarly, four schools provide elective studies during the clinical stage which are not intended to be fully and directly 'clinical'. One of these schools (Royal Free) for example requires a 'Science Elective' in addition to the separate 'Clinical Elective'.

Excluding long-term and/or part-time project work, the amount of time most frequently stipulated as elective time is eight weeks continuous full-time. Fifteen schools set aside eight weeks or the equivalent for elective purposes (Cambridge allocates sixteen weeks half-time, normally). Of the schools providing less than eight weeks of timetabled elective, two require all students to take a 'NMQ' degree. Another group of ten schools has scheduled elective time of over ten weeks, ranging up to eighteen and nineteen full weeks. One correspondent could not specify how much the average student takes: all students are encouraged to take elective experience during the vacations following each clinical year.

Research

Research or project work is an elective possibility in twenty-five schools (column D). It is actually required in six schools—Dundee, Leicester, Royal Free, Southampton, and Trinity College Dublin: the elective element lies in the choice of topic. For example students in one London school must produce a clinico-pathological report, the result of several months' 'spare-time' work which can relate to any clinical problem which interests the student; it is part of the 'critical' pathology assessment. The 'science elective' at another London school has already been mentioned: it involves research.

Table 17. Elective Opportunities (Including any in the Preclinical Years)

	NOT APPLICABLE... 7, 98	TELETYPE FOR RECORDED COPY	ON ELECTIVE	Two Elective periods	Three Elective periods	Research work is a possibility	Research work is a possibility	Number of Electives	Number of 'clinical' Electives (in addition to	Specialist Clinical								
			A	B	C	D	E	F										
ABERDEEN			●			●	1											
BELFAST				●		●	1	●										
BIRMINGHAM				●		●	1											
BRISTOL			●				1	●										
CAMBRIDGE				●		●	1											
DUBLIN, TRINITY COLLEGE				●			1	●										
DUNDEE					●	●	2											
EDINBURGH				●		●	2											
GLASGOW				●		●	2											
LEEDS				●		●	1	●										
LEICESTER				●		●	1	●										
LIVERPOOL				●		●	2											
LONDON: CHARING CROSS			●				1											
LONDON: GUY'S				●		●	2											
LONDON: KING'S COLLEGE, STRAND	n/a																	
LONDON: K.C.H.M.S.			●			●	1											
LONDON: LONDON HOSPITAL				●		●	1	●										
LONDON: THE MIDDLESEX					●	●	1											
LONDON: ROYAL FREE				●		●	1											
LONDON: ST. BARTHOLOMEW'S			●			●	1											
LONDON: ST. GEORGE'S			●				1	●										
LONDON: ST. MARY'S				●		●	1											
LONDON: ST. THOMAS'S			●			●	1	●										
LONDON: UNIVERSITY COLLEGE	n/a																	
LONDON: U.C.H.M.S.			●				1											
LONDON: WESTMINSTER			●			●	1											
MANCHESTER			●			●	1											
NAT. UNIV. OF IRELAND: U.C. CORK			●			●	1/2*											
NAT. UNIV. OF IRELAND: U.C. DUBLIN	7						1											
NAT. UNIV. OF IRELAND: U.C. GALWAY				●		●	1	●										
NEWCASTLE					●	●	2											
NOTTINGHAM				●			1											
OXFORD				●			1											
ROYAL COLLEGE OF SURGEONS IN IRELAND	n/a																	
ST. ANDREW'S	n/a																	
SHEFFIELD				●		●	2											
SOUTHAMPTON					●		2											
WALES / UNIVERSITY COLLEGE CARDIFF				●		●	1											
TOTAL			5	11	10	4	25	-	9									

* - See text

Two schools deserve special mention here, although research is not a possibility in the 'traditional' elective periods. Southampton devotes a whole year of its curriculum to 'study-in-depth' of a chosen topic, and this has perhaps more in common with an 'NMQ' degree course than with other schools' elective programmes. Three and a half days a week in term-time are set aside for the work, although considerable extra study is necessary in 'spare-time' and in vacations. A dozen options are available of which one is chosen: they are a mixture of 'preclinical', 'paraclinical', and purely clinical topics. (This school provides two separate clinical electives as well.) At Nottingham, research is required in the third year—this is described elsewhere under 'NMQ' degrees.

Several schools are introducing 'special study options', or 'assignments' which have not been in operation long enough for much information to be given (for example, at Dundee, Newcastle). They are based in the medical school as they are likely to be part-time activities with the normal clinical courses taking place concurrently. Sometimes a booklet is printed, listing the options available, which departments are prepared to accommodate interested students, and whom to contact. Students work under the supervision of a member of staff responsible for the project offered in his or her department: a report is usually produced. The purpose has been described as 'to develop a critical approach to scientific problems and to appreciate techniques of experimental science . . . careful selection is made to ensure matching interests and abilities with appropriate study projects'.

One school has found that about 20 per cent of students choose a project rather than a clinical or other type of elective.

'Clinical' Electives

Twenty-five schools provide one opportunity to take a clinical elective; eight allow two to be taken, and at Cork most students would take two, one compulsory and one voluntary (see the 'School Profile'): see column E.

In schools which provide two 'clinical' elective periods, generally one *must* be spent gaining clinical experience. Students in many such schools prefer to spend both periods on clinical work, however. Apparently no school insists that the experience must be found in a hospital (though one school insists that half of the first period of elective time must be spent under supervision in hospital), although this is relatively easy to organize and normally means that accommodation is included. Two correspondents stated that any type of 'health institution' is permissible, and indeed a growing number of students are reportedly choosing general practice as the setting for an elective.

Traditionally, students like to go away from their medical school for clinical electives, and this is actively encouraged in most schools. At

thirty-one schools at least, it is possible for students to go away for at least one elective and at twenty-seven it is known that a proportion go abroad: a particular feature in seven schools is the choice of developing countries in Africa and Asia.

Only at Cambridge (see the 'School Profile') is it difficult for students to go away from the school for the clinical elective period.

Nine correspondents indicated that their school has a fund to support overseas travel; one has one fund for general-purpose overseas electives and another fund for psychiatric overseas electives.

Five schools have standing arrangements for an annual exchange of students with foreign medical schools, usually in North America, though one mentioned South America. Within the UK, three schools (a London one and two Scottish ones) exchange some students each summer: this appears to be the only regular arrangement of this sort. Several others have developed connections with other medical schools and teaching hospitals which enable a student to visit these places, but not to the extent of formal exchange schemes. In eighteen schools, almost all students go away from the medical school for one elective or another (eight are London schools); in three schools about three-quarters do so; in six the figure is about half; and there are two schools where only 30 per cent or 40 per cent of students normally go away for an elective.

'Selective' Clinical Studies

Nine schools (column F) give clinical attachments to hospital firms which are different from traditional clinical electives on the one hand and routine clinical attachments on the other. These are always in the final year; there is a choice but the choice is restricted, both as to subject—it is usually only between the 'major' clinical specialties—and as to location; they are usually available only in hospitals 'approved' or 'recognized' by the medical school which may be used for teaching at other stages of the clinical course, and with firms whose staff have an association with the medical school. 'Selectives' are residential and students are expected to work and contribute to the clinical efforts of the unit (the medical school may specify the level of responsibility). They can be 'guided': students who are weak in a particular field can be directed to spend the 'selective' period in that field: this is true of ordinary clinical electives but the advantage of a 'guided selective' is that it comes late in the course when weaknesses are more likely to be identifiable and crucial, and the attachment is supervised by staff aware of the medical school's objectives. (Guided electives—as opposed to 'selectives'—would be taken in one of the medical school's own hospitals during an elective period when other students might go abroad.) The possibility of 'guided' electives and/or selectives was reported by ten correspondents.

'Selectives' normally last one month: three schools provide more than one, for all students. At one English school, the selective attachment is for nine weeks.

An arrangement not conceptually different from that of 'selective' clinical attachments is the opportunity to take the specified period of residence in either one or another subject. This applies to five schools. The choice in all of them lies between medicine and surgery.

'Open Spaces'

Two London schools provide classic examples of curricular 'open spaces': these are substantial periods during the final year in which students may pursue special interests, study privately and attend the open rounds and clinics. Both have several months in their final year without timetabled activities, though students are expected to busy themselves. At the London the period is eighteen weeks full-time and at Charing Cross, twenty-four: at schools in Dublin, where the arrangement is (or was) traditional, it would be part-time for much of the final year. One of the London respondents described the period:

Up to five months of the final year, usually exclusive of elective period, are unallocated. The purpose is to provide the student, in a course which has included few integrated phases, the opportunity to integrate his own knowledge by systematic study (with the educational facilities of the school at his disposal and with help from tutors), while also attending general and special clinics. The tutorial system provides a basis for 'tailoring' the final year to meet the particular needs of individual students.

Students are encouraged to make full use of the clinical material in the teaching hospital and its neighbourhood.

Administrative Arrangements

Students will normally discuss their elective proposals with a designated person before making final plans: this person may be a tutor, a special adviser, the director of clinical studies, or the dean, vice-dean, or sub-dean. Their role is to offer advice about the possibilities and the practical aspects, to suggest and approve topics for research, and to ensure that the period will be used to advantage. Students make their own arrangements for travel, accommodation, etc.

Three medical schools (Cambridge, Dundee, and Manchester) publish booklets listing the opportunities available within and through the medical school. At six others, a file is kept which students may consult for accounts of previous students' elective choices. Contacts are built up over the years—individual members of staff would help to place students with friends and colleagues in other institutions, and information is passed on by the student 'grapevine'.

Assessment

Research electives normally end with a report written by the student which is assessed as part of in-course assessment. In about a dozen schools a long-term essay, project, or dissertation is assessed 'critically' as part of the school's formal assessment procedure. In most schools, though, elective performance is not critical, but may be noted and can be used by the examiners in the Final Examinations, in the case of borderline students and candidates for honours. In some schools the students are required to write a report of their elective experience for reference by future students and advisers, rather than for assessment.

Developments

Eight schools have definite plans to change their elective arrangements. The Royal College of Surgeons in Ireland is to introduce an elective opportunity: it will be held in the final year, in any clinical subject or as research. Four schools are hoping to divert more time to elective opportunities, and therefore to expand the possibilities which would be chosen. Three intend to regulate the electives more closely and strictly than in the past, and another is contemplating similar measures. At two more, elective studies will have to be taken in the medical school and its teaching hospitals, and programmes are being prepared. In addition one of these schools may introduce 'selectives' with students being permitted to study one or more of the clinical subjects for not more than three months in centres away from the school. Another correspondent

would like to see, especially in the case of students who do electives away from the University, prior discussion with a member of the 'home' department so that the subject of the written report (which they are already required to produce) is agreed before the start; and that students are encouraged to address themselves to some problem in their reports rather than merely writing a description of their elective programme.

Electives are regarded as extremely valuable by most correspondents. Policy appears to be moving towards expanding the opportunities in length and content while at the same time exercising better control. At present, while some students show great initiative and energy, others view the elective as a holiday and come to regret later the missed opportunity. The aim is increasingly to ensure that all students spend the time productively and benefit equally.

7. The Curriculum: Interdisciplinary Teaching

Aims, Methods, and Experiences

INTRODUCTION

Comments on Information Gathering

Information on the use of interdisciplinary teaching by medical schools was gathered in two ways:

1. Through sections of the GMC Correspondent's questionnaire relating to each school's plan of course and its over-all policy.
2. Through special questionnaires distributed by the GMC Correspondent to teachers responsible for courses which the Correspondent considered to be interdisciplinary.

This section of the Report is based primarily on the special questionnaires.

While the bulk of interdisciplinary courses was readily identified, it was found in discussions with schools that the boundaries of interdisciplinary teaching were occasionally hard to define. On one hand, courses which appeared significantly interdisciplinary could consist of several components with no other connection than sharing a block of time in the timetable. On the other hand, nominally single-discipline courses may have a significant input from other disciplines as a result of informal and un-timetabled arrangements between teachers. *As a result of these factors, the information on the prevalence of interdisciplinary courses in this report is subject to greater error than its other sections. An underestimate of the extent of interdisciplinary teaching is most likely, due to a non-recognition of informal arrangements and the fact that the courses to be described in the special questionnaires had to be first identified in each school's curriculum, with the inevitable possibility of omission.*

Prevalence of Interdisciplinary Teaching

Six schools have adopted or planned curricula in which vertical and horizontal integration (clinical-preclinical and between disciplines) is a major goal. In addition, some element of interdisciplinary teaching is

found in all medical schools. In fact only one (a London clinical school) could not identify a sufficiently clear interdisciplinary section of its curriculum to merit description in the special interdisciplinary questionnaire. However, the correspondent's questionnaire for that school referred to widespread use of teaching methods, such as clinico-pathological conferences, which are of an interdisciplinary nature. Beyond the extremes mentioned, it did not seem profitable to grade schools according to their intensity of use of interdisciplinary teaching. In general terms, however, it forms the basis of substantial sections of the curriculum in a majority of schools and its use will increase with implementation of curricula now in the planning stage.

The above trend is not without exception. One school in which the majority of theoretical clinical teaching used to be interdisciplinary has reverted to single discipline teaching and another one is likely to do so. In both cases, primarily local factors operate (for example, in the case of the second school, creation of smaller clinical teaching units was incompatible with a centralized lecture course). The exceptions confirm comments made in a number of questionnaires suggesting that neither discipline-based nor interdisciplinary teaching had overwhelming advantages in the eyes of many teachers. One can expect continuing fluctuation in the extent to which these modes of teaching are used, as well as new variations in the organization of teaching attempting to eliminate the problems encountered.

Varieties of Interdisciplinary Courses

The remaining sections of this chapter will describe the structure of interdisciplinary teaching: varieties of courses; bases for integration; organizational and administrative structures; problems and developments; interdisciplinary assessment.

Interdisciplinary courses vary considerably from school to school. Not only the teaching methods and administrative structures, but even the content of such courses is more variable than the content of teaching considered on a 'discipline' basis. A major and probably enduring reason for this variation is that, unlike academic disciplines, these courses are created anew in each medical school. Therefore the school's aims, logistic problems, and even interpersonal relationships have a strong influence on the course produced. Likewise, the nature of an interdisciplinary course is liable to change as the curriculum is revised or the school's conditions change. This variability should be kept in mind in considering the inevitably simplified description of groups of courses, which follows.

1. INTERDISCIPLINARY TEACHING IN CLINICAL YEARS

(a) Theoretical Basis of Medical Practice (Systematic Courses)

As a stereotype, this is a major course in the first one or two years of the clinical stage. The teaching is mainly by lecture (one or more lecturers) and any patient-based teaching is of an illustrative nature. The course is structured by physiological system, supplemented with sections arranged by pathophysiology (for example, oncology) and other sections covering important topics (for example, geriatrics) which do not fit into the systematic scheme of the main course.

The departments involved are usually all sub-specialties of medicine and surgery, with a variable input from pathology, community medicine, general practice, obstetrics and gynaecology, paediatrics, and psychiatry.

Twenty-three schools either have or intend to introduce a course of this nature. One school has discontinued it and one school expects to discontinue it for logistic reasons, to aid in its reorganization of clinical teaching. A more detailed description of this type of course and its variations follows.

Teaching Aims. In terms of the effect of the course on the student, the main aims of interdisciplinary teaching stated in the questionnaires were:

A logical and systematic approach to disease, its aetiology, pathophysiology, diagnosis, and management (12 schools).

Integration of information presented by clinical specialties (11 schools).

Integration between clinical and pathological information (10 schools).

Integration between clinical and preclinical information (6 schools).

Overview of medicine at an early stage in the clinical course (5 schools).

Other aims were mentioned by fewer schools. Amongst these were:

To provide a balanced presentation of controversial issues through joint sessions.

To encourage independent thinking.

To help students grounded in science to approach the problems of illness, where experimental methodology is largely inappropriate.

Disciplines Participating. As a rule, the disciplines or specialties participating in systematic teaching are medicine, surgery, and pathology, together with a variable selection of others. Only in three schools was

pathology not included in the systematic course. In one of these the integration was between medicine and surgery, in the second one therapeutics was added to these disciplines, and in the third one paediatrics. On the other hand, there were two schools in which pathology was the discipline primarily responsible for the course, though with medicine and surgery participating. Of the less frequently represented disciplines, community medicine is mentioned in seven schools, pharmacology or therapeutics in five, geriatrics in four, microbiology in four. However, it is likely that teachers from these and other disciplines take part in particular sections of the courses in other schools too.

Organizational Structure. In general terms, two types of organizational structure of systematic courses could be discerned. One is a small co-ordinating committee, often composed of heads of departments of the major disciplines, who structure the course, at least in outline, and select lecturers or co-ordinators of sections of the course dealing with specific topics or systems. Other committees may be involved, but their role is less direct than that of the small central 'executive'. Seven of the twenty-three schools organized their systematic course in this way. The other typical structure is a course committee composed of a larger number of members of staff, professorial or otherwise and often including students. The committee is responsible to the faculty, often indirectly through other committees, and it itself may have sub-committees dealing with sections of the course. Sixteen of the twenty-three schools had structures approximating to this model. In one school a senior member of staff acted as an executive co-ordinator of a course managed by a committee structure.

The organization of a systematic course was felt by several respondents to be a problem, while other respondents considered that the success of their course was in part due to the organizational structure evolved. Of these, three had a predominantly 'small executive' structure, two had a 'large committee' structure, and one a 'large committee' structure with a co-ordinator.

Teaching Methods. A variety of teaching methods was reported, with lectures and large group discussions predominating in most schools. Most courses included demonstrations of patients, but no other clinical teaching.

A teaching method which is particularly characteristic of multidisciplinary teaching is a joint session in which teachers from more than one discipline participate. Eighteen systematic courses used joint sessions. Respondents for two courses reported these sessions to be the main teaching method, and another four singled them out as a specially valuable feature of their courses. Yet another school was prevented by shortage of staff from including as many joint sessions in the course as desirable.

In contrast to this, one school has abandoned joint sessions in favour of joint planning of the course, and another reported joint teaching to be valuable in periodic symposia, but not in frequent lectures.

Articulation with Clinical Teaching. Five schools reported attempts to co-ordinate their systematic course with concurrent clinical teaching, and another is planning to do so in future. In four of the schools the co-ordination relies on informing clinicians about the timetable of the systematic course, so that they could select cases accordingly. In the fifth school some of the systematic teaching, especially in medical sub-specialties, is combined with clinical teaching.

Assessment. In nine schools the systematic course was assessed as such (intermittently or at the end) and the assessment was critical for the student's progress. In other schools the systematic course did not feature in the school's critical assessment as such but was examined either as part of a wider subject, or split for assessment purposes into component disciplines.

Problems. Most respondents reported problems which affected their systematic course. These varied greatly from one school to another, as they corresponded to the characteristics of particular courses and to different schools' working conditions. In addition to general problems of limited resources, insufficient staff and large student numbers, the following were noted:

Problems arising from integration:

Timetabling to allow all specialties adequate representation, and securing agreement on the structure of the course.

Avoiding repetition, particularly when clinical and paraclinical teachers deal with the same topics.

Avoiding omissions.

Lack of staff for joint sessions.

Lack of suitable senior staff to act as course co-ordinators.

Refusal of paraclinical disciplines to participate in the course.

Problems arising from the use of heavily committed clinical teachers in a lecture course:

Difficulty of arranging co-ordinating meetings.

Non-appearance of lecturer.

Difficulty of whole class teaching at the clinical stage:

Students scattered among outlying hospitals.

Educational reservations:

Students may regard a systems-based course as more comprehensive than it really is.

Systems may replace disciplines as inflexible compartments in thinking.

Advantages of Interdisciplinary Teaching. These are largely the respondents' feeling that interdisciplinary teaching is more likely to result in fulfilment of the teaching aims stated above, than single discipline teaching would. In addition, several respondents felt that the avoidance of duplication which is possible in an interdisciplinary course produces a worthwhile saving of students' time, even when balanced against the teachers' time and effort needed to structure and manage the course.

(b) Theoretical Basis of Medical Practice: Topic Courses

Two medical schools which do not have a systematic interdisciplinary course provide series of large group discussions on important topics of general medical interest. In the case of one school the discipline basis of the series is medicine, surgery, and pathology, whereas the other school includes in the programme, medical, psychiatric, and social problems. The courses are not assessed as such.

The series are considered to be valuable—in one school these discussions and tutorials have in fact replaced a systematic course. The main problems are involving the students in discussion and the amount of time which a number of teachers must give to participate in a joint session.

Two other schools are planning to introduce topic courses in future. In one of them these will be specifically aimed at final-year students and will provide opportunities for synthesis and application of knowledge acquired and for problem solving, as well as new information.

Lastly, one school offers a series of interdisciplinary sessions dealing with medical, surgical, paediatric, and obstetric problems, but all in the context of infectious diseases.

(c) Extensive Interdisciplinary Teaching in Clinical Courses (Patient-Based Clinical Teaching)

One school is operating a multidisciplinary clinical course during the first two clinical years. In this course students are attached to clinical teams whose members are drawn from medicine, surgery, therapeutics, and a selection of sub-specialties. Students rotate daily amongst members of the team, thus being constantly exposed to the variety of available expertise. The aims of the rotation are to help students to develop a

discipline-free approach in management of disease, to facilitate co-ordination of clinical teaching with a concurrent systematic theoretical course and to make more efficient use of clinical teaching resources and patients. The problems of the course are the relative impersonality of a large team compared to a 'firm' and difficulties in assuring co-ordination between teachers in the team.

A second school is planning to introduce clinical teaching based on paired medical and surgical wards, the students rotating round several pairs during the year. In this school too, the aim is to facilitate co-ordination with systematic theoretical teaching.

A third school co-ordinates its teaching during students' attachments to clinical specialties with the teaching of related aspects of health care in the community and with exposure to the work of other related specialties (for example, radiotherapy during ENT attachment).

(d) Interdisciplinary Parts of the Clinical Course

The integration described under this heading is similar to that of the preceding sections, but concerns only single attachments, rather than the course as a whole. One school provides three joint attachments to pairs of related medical and surgical specialties. The pairs are nephrology-and-urology, rheumatology-and-orthopaedics, and neurology-and-neurosurgery. In both cases the aim is simultaneous medical and surgical presentation of the management of diseases and a demonstration of professional collaboration by the paired specialties. Teaching involves attendance at joint case conferences as well as lectures, discussion, and bedside teaching in each specialty. Joint lectures are also given. The organization of the collaborative teaching is by contacts amongst staff in both cases.

A second school has a term's attachment divided amongst general practice, geriatrics, casualty, orthopaedics, and neurology. The teaching, at least in the first three specialties, is designed to demonstrate 'that there is much medicine outside hospital and that some hospital specialties (or departments) are (or should be) responsible for care and follow-up in the community'. It is also designed to show that community health is an interdisciplinary problem.

Teaching methods include small group projects and combined seminars, particularly in general practice and geriatrics.

(e) Interdisciplinary Case Discussions as a Variety of Clinical Teaching

One school plans to introduce once weekly discussions of cases or clinical problems involving groups of ten to twelve students, their clinical supervisor and clinical teachers from a wide range of specialties.

(f) Interdisciplinary Introductory Clinical Courses

Five schools returned 'interdisciplinary teaching' questionnaires for this phase of their course, although more could have done so. In all of them the course contains clinical teaching of the techniques of history-taking and physical examination, in which medicine, surgery, and other specialties participate. Also, they all provide a lecture course or other additional teaching. In four of them this additional teaching includes an introductory course in medicine to which many specialties contribute. In one of these four schools the course is co-ordinated by the pathology department and is one of the school's major theoretical courses. In the fifth school the theoretical introductory course is primarily conducted by medicine and surgery.

Two of the schools include one or two weeks' nursing in this course, and another one offers a first-aid course.

(g) Applied Anatomy in the First Clinical Term

One school submitted a return describing a course of this nature. Its aim is to counteract the forgetting of anatomical knowledge between the preclinical course and the start of the clinical, as well as to reintroduce aspects of anatomy omitted in a shortened preclinical course.

The teaching is carried out by joint lectures in which an anatomist's presentation is followed by that of a clinician. The instruction is also related as far as possible to concurrent clinical teaching.

The participating disciplines are anatomy, surgery, neurology, neurosurgery, and orthopaedic surgery.

2. INTERDISCIPLINARY TEACHING IN PRECLINICAL YEARS

In this phase of the medical course, interdisciplinary teaching (ie teaching which transgresses 'traditional' subject boundaries) is in general terms organized in three broad areas corresponding to levels of organization: the cell, the organism and its physiological systems, and man in his environment. Schools may have interdisciplinary courses in any of the three areas, and where more than one area is covered, the courses may be co-ordinated, sequential, or independent of each other.

(a) Interdisciplinary Emphasis over the Whole of the Preclinical Stage

Several schools have adopted a policy of interdisciplinary approach over the whole of their preclinical teaching, either through co-ordination in timetabling or through special courses. Five schools have returned

questionnaires describing this over-all approach, two being for curricula not yet in operation on the date of writing. The five schools have adopted a variety of approaches to integration:

In one this consists mainly of co-ordinated timetabling between anatomy, physiology, and biochemistry, to ensure that where possible teaching is based on systems and that the systematic teaching is co-ordinated.

At a second school this co-ordination is supplemented by a series of topic courses (for example, endocrinology) which are organized and taught by interdisciplinary course teams.

Another school groups its preclinical courses into the three broad areas described above (Cell, Man, Community) which are taught in a co-ordinated manner.

The two remaining schools, which both replied for future curricula, intend to integrate their teaching around systems and focal themes. One school intends to precede a systematic course with departmental courses enabling students to acquire the necessary specialized vocabulary.

The main aims of the interdisciplinary approach were:

To avoid unnecessary duplication, and thus to save learning time.

To increase retention of preclinical material by giving an over-all view and by including clinical illustrative material.

To teach the student a logical approach to the areas covered by preclinical teaching.

(b) Interdisciplinary Courses dealing with Cell Biology

Six schools have described courses of this type, all of which have elements of cytology and a major component of biochemistry. Other subjects included vary from school to school and include elements of:

General pathology (including immunology), 5 schools.

Histology, 3 schools.

Physiology, 3 schools.

Genetics, 2 schools.

Pharmacology, 2 schools.

Haematology, 1 school.

Embryology, 1 school.

Endocrinology, 1 school.

Biophysics, 1 school.

The structure of the courses varies from one in which the contributing disciplines teach relatively independently and sequentially, to a course grouped by interdisciplinary themes (for example, 'study of intact cells')

and 'cells in culture'). The assessment of the courses is generally in terms of the courses as taught, rather than as separate disciplines.

Problems mentioned, other than general logistic ones are:

Articulation between sections of the integrated course and other disciplines (for example, in one school, histology has to be taught before gross anatomy, and this is perceived as a disadvantage).

Ensuring co-operation between departments in setting and marking multiple choice questions.

(c) Interdisciplinary Teaching Dealing with Physiological Systems (mainly Physiology)

Four schools have returned questionnaires describing this type of interdisciplinary preclinical teaching, which, however, is used in at least one other school. Anatomy and physiology form a part of all these courses, and in all of them there is a significant element of clinical teaching in the form of demonstrations. In one school a substantial proportion of the course is conducted by clinicians (paediatricians and obstetricians) and provides a direct introduction to their specialties. A variety of other disciplines take part in some schools, including pathology, pharmacology, medical biophysics, community medicine, and psychology. In two of the schools interdisciplinary teaching extends over both preclinical years, whereas in the other two it is concentrated in the second year, the first year being devoted to a study of the separate preclinical disciplines.

For assessment purposes these interdisciplinary courses replace their component disciplines.

The aims of these courses are in general terms twofold: firstly, to enable the students to relate disordered structure and function to normal, and secondly to rationalize the teaching, avoiding needless overlap amongst the various preclinical disciplines and also between these disciplines and introductory clinical teaching.

Teaching methods in these courses include a substantial proportion of joint teaching in which clinicians often participate.

The problems mentioned in replies (other than logistic ones) are:

Single discipline orientation of teachers, with consequent difficulties in course planning and teaching.

Single discipline orientation of text-books.

Difficulties in integration between years in a school which runs a 'separate' first-year preclinical course and a systematic second-year course.

Difficulties in preclinical/clinical integration in schools where the two stages occupy separate sites.

(d) Interdisciplinary Courses Covering a Single System or Topic

Several schools in which preclinical teaching is largely or wholly based on separate disciplines have returned replies describing an interdisciplinary course covering one system, or topic. Five of these courses deal with the nervous system, two with endocrinology and one with reproduction.

The courses draw on a wide variety of disciplines, including for all of them, anatomy, physiology, and relevant clinical specialties. Other disciplines are pharmacology and pathology in some of the courses on the nervous system, and biochemistry (two schools) and nuclear medicine (one school) in the endocrinology courses. One of the nervous system courses is also co-ordinated with the teaching of psychology.

One school has described a slightly different interdisciplinary course, covering one preclinical discipline (biochemistry) and one clinical (biochemical medicine). The course consists largely of endocrinology and the genetics of biochemical disorders, and is intended to serve as a bridge between the participating disciplines. For purposes of assessment some of the above courses are treated as units, while others are combined with other subjects. Aspects of the courses may be assessed in different examinations.

(e) Interdisciplinary Courses at the Level of Whole Organism (Man and Society, Behavioural Sciences)

'Behavioural sciences' courses provided by many schools are usually multidisciplinary. However, these courses are the subject of a separate section of the Report and therefore information about them is not included in this section, except where the behavioural sciences are combined for teaching with another discipline. Six courses corresponding to these criteria were identified, of which five are similar enough to be discussed together. Each of the five courses includes psychology and sociology.

These are combined with other disciplines, as follows:

Community medicine and general practice, 3 schools.

Community medicine, 2 schools.

General practice, 1 school.

In the schools where community medicine only is included, the students have other contacts with general practice in the preclinical years. The balance of the courses varies widely. One school in particular places much stress on community medicine and includes a course in epidemiology and statistics.

All these courses are assessed as joint courses.

The sixth course is a broad introductory course at the beginning of the preclinical phase, which includes in addition to elements of psychology,

sociology, and community medicine, an outline of physiology and of deviations from the norm due to growth, senescence, or disease. This course involves teachers from the preclinical medical sciences as well as paediatricians and obstetricians. It does not lead to a critical assessment.

(f) Interdisciplinary Preclinical Course with no Systematic Basis

One reply to the Survey described a course not yet implemented on date of reply, entitled 'Scientific Basis of Medicine'. The aim of this course is to provide a bridge between preclinical and clinical teaching and to draw together the separate courses in a school where the preclinical teaching is mainly divided into disciplines.

The teaching is in the form of joint presentations by several teachers, followed by discussion and the co-ordinators are drawn from pharmacology, physiology, biochemistry, and anatomy. Topics are selected on several criteria, including their relevance to the understanding of disease, and the feasibility of covering them in one afternoon. The series is intended to range widely in its choice of subject matter.

(g) Interdisciplinary Teaching concerned with Integrating Preclinical and Clinical Stages

Clinicians contribute significantly to preclinical teaching in a number of schools. Also a number of schools include patient-based clinical teaching in the preclinical stage. This section however is concerned more specifically with two courses in which students are taught specific clinical skills.

One is a physiology course, which includes in its later stages a course on clinical examination. In that school students are expected to be able to perform a clinical examination before entering the clinical phase of their studies. The second course is entitled 'behavioural sciences' and contains psychology, sociology, and general practice. The course includes a number of patient interviews, some of them televised, designed to develop the students' interviewing skills.

(h) Premedical Stage

One interdisciplinary course in the premedical stage was described. The course is entitled 'Human Biology' and has the aim of bringing pre-clinical subjects into the premedical stage. The participating disciplines are anatomy and histology, physiology, biochemistry, geriatrics, sociology, and psychology.

The course consists of topics of clinical relevance, but not necessarily connected with one another. The course is assessed, and it is planned to require a minimum performance in sections of the course corresponding to the different disciplines, to replace present cumulative assessment.

8. Curriculum Control and Development

Curriculum Control Mechanisms; The 'Deanery'; Educational Assistance to Staff

MECHANISMS FOR CURRICULUM CONTROL AND DEVELOPMENT

Schools were asked to describe the constitutional arrangements which exist to control the undergraduate curriculum: most returned detailed information.

Formal Structure

Thirty-two schools have a senior standing body which is concerned exclusively and specifically with the curriculum as a whole, from the first to final year (see Table 18, column A). It is rarely an executive body, generally having a supervisory role, receiving reports from subsidiary bodies and discussing and approving policy statements. Its recommendations would in turn have to be approved by the supreme general policymaking body of the medical school—the 'Faculty Board', 'Academic Council', or equivalent, to which it is subordinate. The remaining six schools have no such standing body, concerned solely with the total undergraduate medical course offered.

Subsidiary bodies whose concerns are restricted to certain defined parts of the curriculum are also common: eighteen schools have two or more separate standing committees, one for the 'preclinical' stage or the early years, and one for the clinical stage (column B); a few of them have a separate committee for the 'paraclinical' teaching period. They may be supervisory bodies whose purpose is to monitor the courses in their stage of the course, but they may also have executive responsibilities with authority to implement their proposals, though a major change would first have to be referred to the senior 'whole course' body. Three of these schools and ten others (total thirteen—column C) have standing bodies for each year or each component phase of teaching in their curriculum as well as for the official 'core' sections.

It is possible for a committee, working party, or board to be constituted for a complicated or for a newly introduced section of the course,

Table 18. Curriculum Control and Development

	Factor: Standing body for each course	Factor: Standing body for each 'stage'	Factor: Standing body for each 'year'	Factor: Standing body for each 'semester'	Factor: Standing body for each 'semester'	Factor: Standing body for each 'semester'	Factor: Standing body for each 'semester'	Factor: Standing body for each 'semester'	Factor: Standing body for each 'semester'	Factor: Standing body for each 'semester'
	A	B	C	D	E	F	G	H	I	J
ABERDEEN	●		●		●					
BELFAST		●								
BIRMINGHAM	●	●			●	●				
BRISTOL	●			●	●	●	●			
CAMBRIDGE	●	●		●		●	●			
DUBLIN, TRINITY COLLEGE	●	●			●		●			
DUNDEE	●	●			●					
EDINBURGH	●		●					●		
GLASGOW	●			●	●			●		
LEEDS	●		●	●	●					
LEICESTER	●		●							
LIVERPOOL		●		●	●	●	●			
LONDON: CHARING CROSS	●							●		
LONDON: GUY'S	●	●			●			●		
LONDON: KING'S COLLEGE, STRAND	●			●	●					
LONDON: K.C.H.M.S.	●			●	●					
LONDON: LONDON HOSPITAL	●		●	●	●	●				
LONDON: THE MIDDLESEX	●	●	●	●	●					
LONDON: ROYAL FREE	●		●	●	●	●	●			
LONDON: ST. BARTHOLOMEW'S	●	●	●					●		
LONDON: ST. GEORGE'S	●									
LONDON: ST. MARY'S		●								
LONDON: ST. THOMAS'S	●	●						●		
LONDON: UNIVERSITY COLLEGE	●		●					●		
LONDON: U.C.H.M.S.	●				●			●		
LONDON: WESTMINSTER	●							●		
MANCHESTER	●		●		●	●	●			
NAT. UNIV. OF IRELAND: U.C. CORK		●			●			●		
NAT. UNIV. OF IRELAND: U.C. DUBLIN		●			●					
NAT. UNIV. OF IRELAND: U.C. GALWAY	●									
NEWCASTLE	●		●		●					
NOTTINGHAM		●			●					
OXFORD	●	●		●	●	●				
ROYAL COLLEGE OF SURGEONS IN IRELAND	●	●			●			●		
ST. ANDREW'S	●				●					
SHEFFIELD	●	●			●					
SOUTHAMPTON	●		●		●					
WALES / UNIVERSITY COLLEGE CARDIFF	●	●	●		●	●				
TOTAL	32	18	13	20	27	9	17			

without having similar bodies for other sections: this is the case in ten schools (column D) where it has been found that some sections require closer control than others. In seventeen schools special bodies have been constituted in connection with multidisciplinary courses, in contrast to the arrangements governing non-integrated courses and stages. It was also found that some schools have separate working parties, etc., for student assessment: sometimes these are for the course as a whole, and sometimes for a particular stage.

Twelve schools with a senior 'whole course' body have standing subsidiary bodies for each of the major conventional stages. Thirteen schools with a 'whole course' body have standing subsidiary bodies for individual years, themes, or phases of teaching. Three schools have a structure with all three types of committee.

The degree of activity of these bodies can be gauged from their arrangements for meeting. Twenty of the schools with 'whole-course' bodies reported them to meet both regularly and frequently, at least once a term. In ten schools however these bodies meet less than once a term, and sometimes irregularly or 'as required'. The subsidiary bodies whose remit is specific to a stage, year, or phase, tend to meet more frequently; in twenty-two schools they meet termly or more often whereas in only four schools do they meet less often than this. It would not be entirely inaccurate to generalize that the smaller bodies meet more frequently and have some administrative role. Two correspondents indicated that their whole committee system operates effectively when necessary—meetings are frequent, regular, and well-attended when changes are afoot—but tends to fall into abeyance in 'normal times'.

Membership of the Bodies

Naturally the 'Deanery' is represented on the senior committee/s, and generally the professorial and/or heads of department and/or senior teaching staff are represented in strength. In thirteen schools, members of the non-academic clinical teaching staff are regularly included in the membership of the main committees. Student representation is a significant feature of the committee structure in twenty-three schools, with students as full members of major bodies. Junior and non-professorial academics play a relatively large part in the curriculum control in twenty-one schools. There are eight schools (Belfast, Birmingham, Guy's, Leeds, Liverpool, Royal Free, St Thomas's, and Southampton) where 'junior staff', health service full-timers and students are all well represented in the key committee structure.

Cross membership of the committees is a feature of twelve schools; this involves representation of one committee on another (for example, a preclinical representative will attend meetings of a clinical stage committee in order to keep it informed about relevant decisions regarding

earlier teaching and to ensure that objectives, timetabling, etc., are compatible). Similar practices can obtain between 'paired' medical schools: for example one preclinical school has appointed 'liaison officers' in each subject who correspond with their counterparts at the clinical school to which the students will proceed (the distance is too great for cross-membership of committees).

Student Participation

Student participation in curricular debate may be effected through separate bodies, either instead of or in addition to their representation on the major committees. In at least seven medical schools there are bodies composed entirely of students who comment upon curricular matters *inter alia*. At one of these, the students are keen for it to become a medical education group, specifically concerned with the undergraduate curriculum and with provision for staff membership. Ten schools in fact have joint staff-student committees, which comment on curricular matters, etc.—seven of them are exclusively concerned with the curriculum. On the whole these groups are advisory in nature; they are expected to comment on proposals referred to them, to channel legitimate grievances and solutions to the appropriate 'official' bodies, and generally to warn, advise, and comment.

However, at least two schools have staff-student bodies which are central to the system. At Belfast, the Clinical Staff-Student Consultative Committee is not only a forum for discussion, but also carries responsibility for interdepartmental courses, for clinical attachments, and for elective arrangements. In fact it is the standing committee for the whole clinical course, and is the main body for introducing new ideas. If a major curriculum revision of this stage were undertaken this committee would be charged with the task of organizing it. At the London Hospital Medical College, the Medical Staff-Student Committee is a standing sub-committee of the Academic Board, and, like Belfast's, is composed more or less equally of staff and students and meets about twice a term: the Chairman and Secretary are students. It is likely to evolve into a standing Medical Education Committee to monitor the whole curriculum.

Two new medical schools have not yet involved students in their curriculum control system—they intend to do so when enough students have arrived to make it practicable.

Curriculum Review

Correspondents were asked to describe the arrangements for reviewing the curriculum, as distinct from those designed to plan and supervise its operation.

Twenty-seven schools reported formal and regular provision for reviewing the curriculum (Table 18, column E). This need not be an annual event—a few schools appear to have a formal annual ‘stock-taking’ but others prefer to wait for longer intervals and then embark upon an exhaustive analysis. At Trinity College Dublin for instance, a detailed review is mounted perhaps every five years and the deliberations last for up to two years. In nine schools (column F) the standing bodies which are responsible for the review process are not the same as those responsible for curricular design and control described above. In most, however, the bodies are identical and ‘review’ is not really separable from the other aspects of their work.

Eight correspondents whose medical schools are in the process of implementing new curricula reported that a major concerted review will not be applied until they have been ‘worked through’; meanwhile they remain ‘under review’ and adjustments are made each year.

At six schools gatherings of the clinical teachers who are full-time and part-time health service personnel are a feature of the arrangements, which are regarded as extremely useful ways of receiving comments from people who have taught students but who have few inhibitions about criticizing the curriculum and suggesting improvements to it. The meetings are annual events and are usually also attended by senior medical school officers and/or senior clinical academic staff.

Questionnaires are regularly distributed to students in eleven schools, seeking their opinions and suggestions. Most schools make some use of questionnaires but in these eleven the practice is almost a feature of the school; they are used by several departments relating to several courses. It was clear from five replies that curricular changes are frequently made as a direct result.

The Role of Departments

Correspondents were asked to outline the role of individual departments in relation to curriculum development. This inevitably produced some generalizations, particularly because of the advent of multidisciplinary courses. However, excepting these, it appears that there are seventeen schools where individual departments are normally responsible for determining the content and presentation of courses, for updating them, and for administering them (see column G); the breakdown is—departments in twenty-seven schools are responsible for courses’ content and presentation; departments in twenty-three schools are responsible for revising them; departments in twenty-two schools are responsible for administering the courses.

There are two medical schools, both new ones, in which it was reported that the departments do not exercise any such responsibilities. In one of these (Southampton) there are no departments. Altogether

there are four schools whose departments generally do not determine the course content and presentation; three schools where they are not generally responsible for bringing the content of teaching up to date; and three schools where they do not have general administrative responsibility for courses. In four schools the answer to all questions could not be a definite one: practice varies from one stage of the course to another and from one course to another; there is no standard pattern. It was pointed out too that while departments may have considerable discretion, they must still conform to the guide-lines of the committee for the stage/section of the course in which their teaching is given. Also, the large numbers of NHS staff who conduct clinical teaching do not necessarily observe departmental policy: this limits the authority of a clinical department but by the same token also limits the control which the medical school itself can maintain over this aspect of undergraduate teaching.

Although departments may not have direct responsibility for these and other aspects of their courses, they can be heavily represented on the committees which make the decisions. There are six schools where the composition of the major curriculum committees is strongly departmental, with the head of each department normally attending in person and the discussions undiluted (or unenriched) to any great degree by the presence of junior staff, non-academic clinicians, or students. In contrast, one school has a policymaking sub-committee of its supreme body which is not only kept deliberately small but is also deliberately not representational of different departments: in this school it has been accepted that 'teaching time in each subject should be determined by those who have no vested interest in that subject'. Periodically, questionnaires are sent to all teachers to collect their views; in the case of minor changes a senior 'unbiased' professor would be asked to read them and formulate a consensus of proposals for action; in the case of possible major change the dean would do the same. However, five schools stated that minor changes such as timetabling amendments are usually negotiated directly between the departments concerned whereas in ten schools it is clear that normal practice is for even minor amendments to be discussed and ratified in committee.

The nature of the relationships between individual departments and the medical school as an institution is always a complex one: there are infinite checks and balances and combinations of procedure. Often ideas for change originate in departments and are effected through the formal committee structure:

On the purely academic basis, changes in the time allocation seem to be brought about by a consensus of opinion which accepts that developments are taking place and that the academic response should be appropriate. The student body in its clinical teaching very soon finds that concepts are discussed and new practices developed which are not represented in theoretical teaching

and (demand) that they should be included. The department itself may be anxious to do so and is faced by difficulties of pruning other parts of its work and (when it has) reached the limits of manoeuvring within its allocation of time, the stage is set for change

and the question is resolved at medical school level.

A number of correspondents indicated that probably more useful discussion takes place now within the committee structure than used to be the case, which has made decision-taking to be a more open, democratic, or at least more widely acceptable procedure. At one school, 'during the last few years . . . there has been increasing acceptance that teaching and examinations are a faculty rather than a departmental responsibility'; a similar evolution is reported from another school of the 'development of a system of governance in which inter-departmental teaching and extra-departmental educational activities (e.g. tutorial systems, self-learning devices, etc.) are represented, which allows clear communication between students and teachers up to the Academic Board and back again'.

Interdepartmental Teaching

Multidisciplinary courses have certainly affected the organization as well as the teaching patterns in medical schools. Almost all schools now have one or two such courses and a few have chosen this approach for a great deal of their teaching, and special arrangements have been devised to plan and supervise them. Eighteen schools described standing committees or working parties, each responsible for a multidisciplinary course and whose membership reflects the various component disciplines and specialties. Sometimes the chairman or secretary to the working party has an executive role with regard to the course administration. If the course is a short or single-theme one the same working party would be concerned with all aspects but in the case of a long multisystem or multitheme course, the sub-sections might well each be the responsibility of appointed co-ordinators. They can also be called 'course organizers' or 'topic chairmen'; their existence was reported from fourteen schools. One of their main duties is to ensure that integration runs smoothly and to marry together the different interests.

In preclinical teaching of the basic medical sciences, a notable development is the creation of multidiscipline laboratories; laboratories designed as multipurpose or multi-user areas, though not necessarily for all the preclinical disciplines. They are already in use or about to be introduced in a total of seven schools to varying degrees (Belfast, Manchester, Leeds, Leicester, Newcastle, Nottingham, St George's).

In clinical teaching new arrangements have been found necessary where the organization is beyond the resources of individual departments. Five schools for example have appointed 'clinical sub-deans' or

their equivalent in hospitals (other than the major 'teaching' ones) which are used intensively for teaching, and especially if they are some distance away from the centre: they look after the interests of all students sent to that hospital, whatever the specialty being studied, and liaise with the hospital authorities over facilities, etc. In Dublin, the medical schools often appoint tutors with similar duties; a tutor in each major specialty is based in the main hospitals used for teaching (see the 'School Profiles' for details).

One medical school—St Mary's—has established a Department of Clinical Studies. It is staffed by a director, who is a part-time consultant, and by a full-time administrative officer and secretary. It directs students through the clinical course allocating them to rotating attachments, arranges all non-departmental teaching, topic-teaching, electives, revision courses, etc., and is responsible for in-course assessment. There are in fact a total of four medical schools in London where a key individual is extremely important in the day-to-day running of the curriculum, though their situations are disparate.

Major Curricular Change

Correspondents were then asked whether major curricular change had occurred recently or was being projected, and if so, what mechanisms were used to enact this. Altogether twenty-seven correspondents indicated that major changes had taken place and thirteen indicated that, at the time of writing, major changes were about to do so. There are five schools where the possibility of major change was being canvassed although a firm commitment had not yet been made. The process is affecting the whole curriculum at all stages, in twenty-one established medical schools: the curriculum is being replanned in its entirety.

In ten schools existing bodies planned or are planning the new developments, and in fourteen schools existing bodies (the 'regular' committees and departments) are responsible for implementing them. However, in twenty schools new bodies and *ad hoc* organizations were, or are being, set up to plan the new developments, and in thirteen schools newly created bodies are or will be responsible for their implementation. Considerable variation in method was reported; in some cases a special body initiates discussions, formulates proposals, assesses their feasibility, adjusts them in the light of general comment, and then puts them into operation; whereas elsewhere only some of the stages of innovation will be conducted by a special body (for instance, at Edinburgh a working party produced a suggested new curriculum, the feasibility and possible implementation of which was subsequently evaluated by another special body). Both old and *ad hoc* bodies are involved in the process at eleven schools.

Eight schools created a new body (or bodies) to design a new curriculum or new course, which, having completed its initial task, has changed

its function and remained in being to monitor and assess the courses to which it/they gave birth. This is the case for example at Leicester, though eventually the system will be restructured to suit future requirements. Special committees or working parties which were set up to design and/or implement new courses at fifteen schools, however, were dissolved when their work was accomplished.

There is likely to be a radical restructuring of the committee system in eight schools very soon. In most this is coinciding with the introduction of a new curriculum which requires new systems of control, but in the case of two of the very new medical schools it is anticipated because of changing circumstances. To generalize, the new arrangements indicated will be simpler, less unwieldy, and less repetitive than the old ones; there will be a clearer distinction between active executive roles and supervisory and advisory ones, and membership will include more students and more staff chosen for their interest in teaching, fewer *ex officio* members. Four other correspondents report dissatisfaction with present arrangements, but see little likelihood of change. Eighteen schools specifically reported themselves to be content, broadly speaking, with their existing arrangements.

A number of respondents pointed out that in parallel to the 'constitutional' curriculum control and development system there may be a well-developed informal system of informal contact and exchange of ideas. Ten correspondents emphasized this—in their schools it is as important as the official system: the curriculum is 'developed' by personal contact between teachers, and between teachers and faculty officers; comment and reaction of students quickly reach the notice of staff, who can take the appropriate action; the whole atmosphere of the medical school is a vital factor. In the words of a correspondent: 'The essence of curriculum management is communication between people not between "bodies".'

THE 'DEANERY'

Information was obtained in interview concerning the nature and duration of the dean's appointment in each medical school. Correspondents were also requested to provide details concerning the nature of related officers: for example, administrative dean, sub-dean, vice-dean, etc.

In the newer schools (Leicester, Nottingham, and Southampton) particular patterns are being tried, but these may well be changed as circumstances alter and the general administrative structure of the schools becomes established.

Some Exceptions

All medical schools except Oxford, Cambridge, and Wales/University College Cardiff, have an academic dean, who may occasionally be full-time but is more frequently part-time. Arrangements at Oxford, Cambridge, and Wales/University College Cardiff are sufficiently different to be mentioned separately.

At Cambridge, there is no dean of the preclinical school: the Secretary of the Faculty Board of Biology 'B' (the body responsible for this part of the curriculum) is probably the most senior and influential officer—he is elected, normally serving for three years. In the clinical school, there is an appointed, half-time clinical dean, who has been closely involved in the arrangements for the new clinical course: the Regius Professor of Physic, who has no departmental responsibilities, is the school's academic head.

A similar situation exists at Oxford. A Board of the Faculty of Physiological Sciences is responsible for the early years of the medical course, and its elected officers have some of the authority which is elsewhere vested in a dean. The most senior person in the clinical school is the Regius Professor of Medicine, but the appointed part-time Director of Clinical Studies carries day-to-day responsibility for administering the clinical course.

There is no dean of the preclinical school at University College Cardiff, although there is a permanent, part-time Dean of Clinical Studies at the Welsh National School of Medicine. The Provost of the latter chairs a 'Joint Academic Committee' of the two institutions.

Academic Deans

The above schools will not be referred to again in this section: all the remaining schools have academic deans. However, at each of the 'pre-clinical only' schools, there is no faculty of medicine: at King's College, and University College London, there are Deans of the Faculty of Medical Sciences, and at St Andrews, a Dean of the Faculty of Science.

Thirty-two schools have a part-time academic dean (see Table 19, column A); typically, the appointment would occupy half the incumbent's time. Generally he would be elected, but in a few schools the new dean's name 'emerges', after discussions between senior staff. In two of the remaining three schools under discussion (St George's and Leeds) there is a full-time academic dean and at Southampton the dean is effectively full-time, although the situation may alter as the school becomes established.

There is considerable variation in the term of office of the dean. In nineteen schools there is a specified time limit to the office, and in most cases, the dean must be formally re-elected annually: usually the period

is of the order of three to five years. In other cases, the office may be held for longer, sometimes over ten years.

Many schools elect vice-deans to support or deputize for the dean, and elect or appoint a number of variously entitled staff members to oversee admissions, electives, parts of the course, etc. Particularly noteworthy are the 'mini-deans' or 'hospital tutors' which some schools have appointed in hospitals (often the more distant ones) which they use for teaching: see column D.

Executive and Administrative Deans

Nine schools support their part-time elected dean with a full-time (or virtually so) medical 'administrative dean', 'executive dean', or 'sub-dean'—see column C: the list includes all Scottish schools with clinical courses. (The position of the 'Dean and Registrar' of the Royal College of Surgeons in Ireland, included in the nine, is slightly different: please refer to that school's 'profile'.) The responsibility and status of these individuals varies, however.

EDUCATIONAL ASSISTANCE TO STAFF

Correspondents were asked to supply details of any form of instruction (or other assistance) in methods of teaching, learning, student assessment, and course evaluation, offered to the staff of their medical school.

Thirty-five correspondents indicated that some instruction is available from one source or another for their staff. Two of the three schools giving a negative reply do not have any provision of their own (Trinity College Dublin, and University College Dublin), although arrangements are now (autumn 1976) reported to have been made at UCD, and one other (Charing Cross) reportedly does not take advantage of what is available within its university.

Courses of Instruction

Most of the instruction available is presented in special courses run by the parent university of the medical school for teachers in any faculty and any department in the university: sometimes there is a quota for each. This type of course, at university level and usually organized by a standing committee or sub-committee of the university, is given in nineteen universities with medical schools whose staff are eligible to attend.

In London, the Institute of Education of the University of London assumes the same role, and staff from most of the institutions which teach medical students in London attend courses at the Institute.

Courses run by the University of Surrey have also been attended by a few members of staff from London medical schools.

Three correspondents reported courses of instruction arranged within the medical school. One of them (Edinburgh) offers a one-and-a-half-day conference, primarily for new teachers and a series of seminars and study groups through the year, in addition to the university's standard course: only staff in this school would attend. The Department of Medicine at King's College Hospital Medical School offers week-long educational workshops for staff of the medical school and for other interested parties—people from all over the British Isles and from overseas have attended. The third (the Royal College of Surgeons in Ireland) invited the Institute of Education at London University to arrange a weekend course for the staff of the Medical School as an experiment one year: this was very enthusiastically received, and in 1976 the Centre for Medical Education at the University of Dundee ran a similar 'workshop' for the College.

Two Scottish universities with medical schools (Dundee and St Andrews) link up with two others which have no medical schools to offer an annual course of instruction for staff from each institution who attend in roughly equal proportions. The location of the course rotates around the four universities.

Two schools in London which use the facilities at the Institute of Education added qualifications to their statements that they do not run their own course. One stated that it has an efficient network for disseminating ideas and information and stimulating interest about teaching matters, which complements in an informal person-to-person way the formal approach of the Institute's courses. The other (King's) is a preclinical college and its Department of Education is proposing to mount an annual course for teachers within the college.

Correspondents were asked to indicate who participates in running the course. In seventeen courses (maximum twenty-three—the University of London course relates to all the London medical schools) the department of audiovisual aids or its equivalent has a hand: in nineteen courses staff from the department of education are involved and in eleven psychology department staff assist. All three departments contribute to nine courses. At a dozen institutions medical school staff join the panel of speakers, demonstrators, and tutors. Eight courses enjoy the services of staff who have developed a personal interest and expertise in educational problems, from various university departments apart from those mentioned. Five correspondents mentioned visiting speakers—distinguished outsiders who are invited to contribute to a course.

Correspondents also indicated the main headings of the subject-matter covered in the courses. All the courses deal with methods of teaching; 17 courses deal with the production of learning materials for

students; 17 courses cover student assessment; and 16 courses consider methods of course evaluation. All four areas are covered in 13 courses. The aims of these courses are in both the cognitive and affective domains. The courses intend to bring teachers up-to-date with teaching methods and things such as audiovisual aids, and sometimes to give them practice in using or producing them. They are also intended to stimulate a permanent interest in educational matters; to allow participants to become more aware of teacher-student interaction; and to be prepared to analyse their own performance in the classroom. Several courses in particular consider group processes and small-group dynamics.

The courses do not repeat themselves in exactly the same format each year; they are all experimental—especially the new ones—and the speakers, the content, the sequence, and the balance of different elements are revised each year in the light of the previous year's experience. Many conclude with 'evaluation sessions' in which participants' comments and suggestions are sought.

The majority of courses run annually. Generally they are held around the beginning of the academic year in early autumn, and last three, four, or five days. A few consist of an initial 'core' with follow-up sessions. This is the case at Aberdeen where the participants regroup six months later for further advice and discussions, and also at Nottingham where a two-day introduction is followed by a weekly commitment of one full day for four to six weeks thereafter. A course is available twice annually to the staff of two schools, and no regular pattern exists at four schools: at one, the course has been available intermittently and certainly less than annually, and the other three have only had one experience of their courses—it is hoped that given enough support they will become annual events.

The number of a medical school's staff who attend these courses varies widely with the schools, and the circumstances. More 'new' medical school teachers, for instance, are likely to attend, and at the one school which mentioned that its course is compulsory for new members of staff (Sheffield), attendance is naturally high. In most other schools, about six members of staff attend a course each year.

Other Forms of Assistance

Several correspondents mentioned that individual teachers in their medical school can seek advice on specific educational matters at any time. The audiovisual aids department in the university, for example, would instruct and assist in the production of slides and tape/slide programmes; members of relevant departments and research units would be pleased to discuss psychological aspects of learning or specific student problems. (Several correspondents here mentioned the Association for the Study of Medical Education, whose published material

has it was said been useful in helping to improve teaching standards and in increasing motivation for such improvements.)

Seventeen respondents indicated that their university has provision for helping staff with teaching—an advisory system, an audiovisual aids unit, etc., which is available continuously and can be approached directly. In five medical schools open meetings, demonstrations and forums on teaching and learning are put on regularly. There are four instances where medical school and local NHS authorities jointly provide audiovisual and other assistance for clinical teaching: Southampton, for example, has a Teaching Media Centre.

At Dundee there is a department of medical education (the 'Centre for Medical Education'): this has both research and service functions, and distributes an educational newsletter to the Faculty (as does the Dean's office at Edinburgh). Others are contemplating a similar development, but one school considered establishing such a unit and rejected the idea. However, eight schools have appointed (or intend to) full-time staff in this field to carry out research to co-ordinate various activities, and to help with curriculum developments. Unfortunately, financial restraints have held back some of the more ambitious plans.

9. Student Assessment

Assessment in the Course Stages; Qualifying Degrees and Variations; Assistance to Students

INTRODUCTION

For the purpose of the Survey, subjects were grouped into preclinical, paraclinical, and clinical divisions. It is appreciated that the assessment structure in many schools does not fit neatly into this division; for example different aspects of pathology and other 'paraclinical' disciplines may be assessed at each of the three stages: topics such as the behavioural sciences will be taught and assessed at an early stage in one school, at the clinical stage in another, and at both stages in a third. However, the division will be maintained in this report as this was the way in which the information was supplied, even though sometimes with difficulty.

Information on assessment was sought principally with respect to 'critical', as opposed to informal or 'formative' assessments. A 'critical assessment' might be the final, direct assessment of a subject, part of a qualifying examination; it could also be a group of in-course assessments. Either way, a student 'failing' it (on resit) would have his continued progress through the medical course seriously considered.

It should be emphasized that the information relates to the 'ordinary' student, and does not in general include examinations only taken by borderline students and/or candidates for 'honours'.

EARLY YEARS

Concentrating on the 'classical' preclinical disciplines, correspondents indicated how far the arrangements for critical assessment were 'end-of-course' or 'in-course' in nature. Three of the thirty-four medical schools with preclinical courses operate an entirely end-of-course system (see Table 20, column A), though there may also be less formal (non-'critical') assessments, conducted in-course (for example, Edinburgh have in-course oral examinations in anatomy). Fourteen schools have arrangements which are mainly end-of-course but with a significant

Table 20. Nature of Assessment of Basic Medical Sciences

	NOT AVAILABLE UNRELIABLE INAPPROPRIATE PURELY END-OF-COURSE ASSESSMENT	90% Assessment with 10% end-of-course assessment	75% Assessment with 25% end-of-course assessment	50% Assessment with 50% end-of-course assessment	25% Assessment with 75% end-of-course assessment	10% Assessment with 90% end-of-course assessment								
		A	B	C	D	E								
ABERDEEN			●											
BELFAST			●											
BIRMINGHAM						●								
BRISTOL					●									
CAMBRIDGE		●												
DUBLIN, TRINITY COLLEGE					●									
DUNDEE					●									
EDINBURGH		●												
GLASGOW			●											
LEEDS					●									
LEICESTER					●									
LIVERPOOL			●											
LONDON: CHARING CROSS			●											
LONDON: GUY'S						●								
LONDON: KING'S COLLEGE, STRAND					●									
LONDON: K.C.H.M.S.	n/a													
LONDON: LONDON HOSPITAL					●									
LONDON: THE MIDDLESEX			●											
LONDON: ROYAL FREE					●									
LONDON: ST. BARTHOLOMEW'S			●											
LONDON: ST. GEORGE'S	n/a													
LONDON: ST. MARY'S			●											
LONDON: ST. THOMAS'S					●									
LONDON: UNIVERSITY COLLEGE			●											
LONDON: U.C.H.M.S.	n/a													
LONDON: WESTMINSTER	n/a													
MANCHESTER					●									
NAT. UNIV. OF IRELAND: U.C. CORK					●									
NAT. UNIV. OF IRELAND: U.C. DUBLIN					●									
NAT. UNIV. OF IRELAND: U.C. GALWAY			●											
NEWCASTLE			●											
NOTTINGHAM						●								
OXFORD			●											
ROYAL COLLEGE OF SURGEONS IN IRELAND			●											
ST. ANDREW'S					●									
SHEFFIELD						●								
SOUTHAMPTON			●											
WALES / UNIVERSITY COLLEGE CARDIFF		●												
TOTAL	4	3	14	13	1	3								

* but see text

Table 21. Techniques in Preclinical End-of-Course Assessments

	INFORMATION INCOMPLETE AND FURTHER ENQUIRED . . . ? : %						
	Objective-type questions	Short-written answers	Essay questions	Open-book exams	Practicals	Orals	Allyzac
	A	B	C	D	E	F	
ABERDEEN	●	●	●			●	
BELFAST	●	●	●		●	●	
BIRMINGHAM	n/a						
BRISTOL	●	●	●		●	●	
CAMBRIDGE			●	●	●	●	
DUBLIN, TRINITY COLLEGE	●	●				●	
DUNDEE	●	●	●		●	●	
EDINBURGH			●		●	●	
GLASGOW	●	●	●		●		
LEEDS	●	●	●				
LEICESTER	●	●	●			●	
LIVERPOOL	●	●	●		●	●	
LONDON: CHARING CROSS	●	●	●		●	●	
LONDON: GUY'S	n/a						
LONDON: KING'S COLLEGE, STRAND	●	●	●		●	●	
LONDON: K.C.H.M.S.	n/a						
LONDON: LONDON HOSPITAL			●		●	●	
LONDON: THE MIDDLESEX	●	●	●		●	●	
LONDON: ROYAL FREE	●	●	●		●	●	
LONDON: ST. BARTHOLOMEW'S	●				●	●	
LONDON: ST. GEORGE'S	n/a						
LONDON: ST. MARY'S	●	●	●		●	●	
LONDON: ST. THOMAS'S	●	●	●			●	
LONDON: UNIVERSITY COLLEGE	●	●	●		●	●	
LONDON: U.C.H.M.S.	n/a						
LONDON: WESTMINSTER	n/a						
MANCHESTER	●	●	●			●	
NAT. UNIV. OF IRELAND: U.C. CORK	●		●			●	
NAT. UNIV. OF IRELAND: U.C. DUBLIN	●		●		●	●	
NAT. UNIV. OF IRELAND: U.C. GALWAY	●	●	●				
NEWCASTLE		●	●	●	●		
NOTTINGHAM	n/a						
OXFORD		●	●				
ROYAL COLLEGE OF SURGEONS IN IRELAND	●		●		●	●	
ST. ANDREW'S	●	●	●		●		
SHEFFIELD	●	●	●		●		
SOUTHAMPTON	●	●	●		●	●	
WALES / UNIVERSITY COLLEGE CARDIFF	●	●	●			●	
TOTAL	7	76	24	29	2	23	24

Table 22. Techniques in Preclinical In-Course Assessments

	SELECTIVE TYPE QUESTIONS FOR PRE-COURSE / NOT ANALYSED	SELECTIVE TYPE QUESTIONS FOR INCOMPLETE / NOT ANALYSED	Basic questions	Expanded written work	Extended written	Other written project	Other written tests	practical course	Orals: all/only students	Tutors' reports		
											A	B
ABERDEEN			●	●	●	●			●	●		
BELFAST			●	●					●			
BIRMINGHAM			●		●					●		
BRISTOL			●	●			●					
CAMBRIDGE		n/a										
DUBLIN, TRINITY COLLEGE			●				●		●	●		
DUNDEE			●	●	●		●		●	●		
EDINBURGH		n/a										
GLASGOW									●			
LEEDS			●	●	●				●	●		
LEICESTER			●	●	●		●		●	●		
LIVERPOOL			●	●					●	●		
LONDON: CHARING CROSS			●	●					●	●		
LONDON: GUY'S			●	●					●	●		
LONDON: KING'S COLLEGE, STRAND			●	●	●				●	●		
LONDON: K.C.H.M.S.		n/a										
LONDON: LONDON HOSPITAL			●		●		●		●	●	●	
LONDON: THE MIDDLESEX			●	●	●		●		●	●		
LONDON: ROYAL FREE			●	●	●				●	●	●	
LONDON: ST. BARTHOLOMEW'S			●						●		●	
LONDON: ST. GEORGE'S		n/a										
LONDON: ST. MARY'S					●				●			
LONDON: ST. THOMAS'S			●	●					●	●		
LONDON: UNIVERSITY COLLEGE			●	●	●		●		●	●		
LONDON: U.C.H.M.S.		n/a										
LONDON: WESTMINSTER		n/a										
MANCHESTER			●	●						●		
NAT. UNIV. OF IRELAND: U.C. CORK			●	●					●	●		
NAT. UNIV. OF IRELAND: U.C. DUBLIN			●						●	●		
NAT. UNIV. OF IRELAND: U.C. GALWAY			●									
NEWCASTLE			●	●	●				●	●		
NOTTINGHAM			●	●	●		●		●	●		
OXFORD									●			
ROYAL COLLEGE OF SURGEONS IN IRELAND			●									
ST. ANDREW'S			●		●					●		
SHEFFIELD			●	●	●				●	●		
SOUTHAMPTON			●	●	●		●		●			
WALES / UNIVERSITY COLLEGE CARDIFF		n/a										
TOTAL			7	28	21	16	10	2	26	22	3	

in-course component (the latter could depend on one subject entirely or almost entirely assessed in-course, or on all subjects having a small component of in-course assessment): column B. In thirteen schools (column C) both arrangements are more or less equally important, taking all preclinical subjects together. There is one school where the system is mainly one of critical in-course assessment, and three schools in which the system is based entirely on in-course assessment—courses are examined in modules and only students who fail to reach an acceptable standard in these intermittent tests on aggregate would be required to take a supplementary end-of-course examination in all subjects (see columns D and E). However, the respondent for Nottingham remarked that the assessments do tend to cluster towards the end of Years 1 and 2.

Thus, while the majority of schools include some in-course assessment, it is very significant in only about half of them. Generally, the end-of-course examinations are held in more than one stage; for example, one set at the end of the first year and a second set at the end of the second year, first-year courses not being reexamined at the end of the second year.

The techniques used in assessment are detailed in Tables 21 and 22. For end-of-course examinations, they are reported under the heads of 'objective-type' questions (MCQ, etc.), short-written-answer questions, essay questions, 'open-book' examinations, practicals, and oral examinations (for most or all students—not just borderline students). For in-course examinations the headings are: objective-type questions, essay questions, prepared written work, extended projects, 'other' written tests, practical course work, oral examinations, and tutors' reports. Extended practical projects are held in biochemistry (four schools), physiology (two schools), and the behavioural sciences (sometimes together with wider social, environmental, and epidemiological topics in multidisciplinary arrangements) in five schools. At another school students may opt for a project in this last-mentioned field: if they do, it is marked 'critically'.

THE 'PARACLINICAL' DISCIPLINES

Pathology, microbiology, and pharmacology and the other pathology specialties are assessed in a variety of ways. These subjects are not necessarily assessed at the same time or even at the same stage of a course. It will be seen from the relevant discipline/specialty reports (Section 2 of the Survey Report) that pathology in its introductory aspects is often assessed when the basic medical sciences are assessed, then examined as a major subject at a more advanced level, and later once more in the final examination of clinical subjects, when students are again assessed indirectly on their knowledge of pathology.

Table 24. Techniques in Paraclinical In-Course Assessment

Institution NOT FULFILLED... 1%	Objective-type questions	Easy questions	Prepared work	Extended project	Practical project work	Oral/ written evidence	Thurs. all/most report	Thurs. a/staff	A	B	C	D	E	F	G
ABERDEEN		●	●					●	●						
BELFAST	n/a														
BIRMINGHAM		●	●	●				●							●
BRISTOL	n/a														
CAMBRIDGE	n/a														
DUBLIN, TRINITY COLLEGE	n/a														
DUNDEE		●	●	●											
EDINBURGH	n/a														
GLASGOW		●	●					●							
LEEDS		●	●	●				●							
LEICESTER		●	●												
LIVERPOOL	n/a														
LONDON: CHARING CROSS	n/a														
LONDON: GUY'S		●												●	
LONDON: KING'S COLLEGE, STRAND		●						●							
LONDON: K.C.H.M.S.	n/a														
LONDON: LONDON HOSPITAL						●									
LONDON: THE MIDDLESEX	n/a														
LONDON: ROYAL FREE		●	●					●							
LONDON: ST. BARTHOLOMEW'S	n/a														
LONDON: ST. GEORGE'S	n/a														
LONDON: ST. MARY'S	n/a					●									
LONDON: ST. THOMAS'S		●													
LONDON: UNIVERSITY COLLEGE		●	●	●				●	●						
LONDON: U.C.H.M.S.	n/a														
LONDON: WESTMINSTER	n/a														
MANCHESTER		●												●	
NAT. UNIV. OF IRELAND: U.C. CORK		●						●							
NAT. UNIV. OF IRELAND: U.C. DUBLIN		●		●				●	●						
NAT. UNIV. OF IRELAND: U.C. GALWAY		●													
NEWCASTLE	n/a														
NOTTINGHAM				●				●							
OXFORD						●									
ROYAL COLLEGE OF SURGEONS IN IRELAND	n/a														
ST. ANDREW'S		●		●				●							
SHEFFIELD		●	●			●		●							
SOUTHAMPTON		●	●					●							
HALES / UNIVERSITY COLLEGE CARDIFF	n/a														
TOTAL	17	18	11	7	3/4	12	6	1							

* optional

Similarly 'basic' pharmacology may be examined with preclinical subjects in the early years, and clinical pharmacology will be examined during the clinical course; but in some schools the two are taught and assessed as one. The balance of 'end-of-course' and 'in-course' arrangements thus varies from one stage to the other, as do the assessment techniques used. What follows is therefore an over-all and approximate view.

In seventeen schools out of thirty-eight all critical assessment of paraclinical subjects is by means of end-of-course arrangements (see Table 23, column A). In seven schools the critical assessment is mainly end-of-course but with a small contribution from in-course assessment (column B). The two possibilities are found in more or less equal balance in a further thirteen schools (column C), although the assessment of one or other subject may be more fully end-of-course (or in-course) than that of the others. In one school, all critical assessment is in-course.

It should be noted that end-of-course assessment of pathology (and microbiology, etc.) in 'preclinical only' schools does not have quite the same status as its early assessment in schools with five-year courses.

The assessment techniques used are listed in Tables 24 and 25. The schools requiring in-course project work require it in pharmacology (one school) and microbiology/bacteriology (one school); in two schools it is a 'clinico-pathological correlation exercise'.

CLINICAL SUBJECTS

Questions about assessment in clinical subjects enquired separately about 'theoretical' and 'practical' aspects. Students at twenty-eight of the thirty-five schools with clinical courses must pass in both the theoretical and the practical examinations independently in order to graduate. However students at six schools do not have to pass in each area quite independently: a marginal performance in theoretical papers can be upgraded into an over-all pass by good performance in the practical clinical examination (seriously inadequate performance could not be redeemed in this way). Leicester had not decided at the time of writing how to relate the two aspects.

For 'theoretical' aspects (see Table 26, column A), fourteen schools operate an entirely end-of-course system: another thirteen (column B) have a system which relies mainly but not entirely upon end-of-course arrangements. In six schools (column C) the two possibilities are more or less equally important. There is one school where the system is mainly in-course and cumulative and there is one school where the system is entirely in-course and cumulative (columns D and E).

Critical assessment of 'practical' aspects is confined exclusively (except perhaps for a very minor element) to final end-of-course exami-

nations in fifteen schools (column F). There are eleven schools where the critical assessment is mainly but not wholly end-of-course (column G), and eight schools where the balance of the two approaches is more even, though likely to vary with individual subjects (column H). One school relies virtually entirely on in-course arrangements (column K).

In-course assessment of clinical/practical skills by the clinical teachers to whom students are attached holds a special place in most schools' pattern of assessment. Whether or not it is part of a formal in-course assessment system, it can provide information which:

(a) identifies students not making progress who can then be asked to repeat a clinical attachment in the problem specialty, perhaps using an elective period as a 'guided elective'; (b) leads the medical school to 'advise' a student to postpone taking professional examination(s) until after further study or clinical experience; (c) assists examiners both internal and external in determining whether to pass or fail a borderline student in the final examinations and whether to award 'honours' or distinction to outstanding candidates; (d) acts as a filter between different phases of the clinical course—it can affect a student's progress through the course but not directly his graduation.

The techniques used in the two aspects of clinical assessment are shown in Tables 27 and 28. Leicester was not able to give full details, and four other schools with new curricula had not decided exactly how critical the in-course assessment would be. The methods listed are those used frequently and regularly in more than one specialty and the schools against which they are itemized are those where they are much used and/or regarded as important. Eleven correspondents added that probably all possible methods are used among the various departments and clinical units: consultants can (and do) construct their own tests.

Reports which are compiled as each student comes to the end of each clinical attachment are widespread. Nine correspondents described how the medical school—in the person of a clinical sub-dean or director of studies—collects and files these reports centrally so that they can be consulted by academic staff concerned about a student's progress and by examiners. Project or elective reports may be kept in the same file, available to external examiners on request. The structure and size of the report varies between and within schools, although a standardized card or form is the rule rather than the exception. They are not universally liked—one correspondent described his school's arrangements thus:

From time to time we have experimented in asking teachers to grade separately on a check list of six or more attributes for each student. On the whole we have found these assessments to be too subjective and most clinicians (though not all) have given them up. The return which is required following each clinical attachment grades as shown below and also gives space for comment on attendance and for 'General Remarks' on the reverse of the card. The latter is varyingly used—in some units the grading card is completed by

Table 27. Assessment Techniques in 'Theoretical' Aspects of Clinical Subjects

	INFORMATION RECEIVED BY STUDENT APPLICABLE TO... ? NOT FINALISED... ?	Objective-type questions									
		A	B	C	D	E	F	G	H	J	
ABERDEEN	?	●		●	●						
BELFAST	?	●	●	●	●						
BIRMINGHAM						●	●			●	
BRISTOL		●		●	●	●			●		
CAMBRIDGE			●	●	●						
DUBLIN, TRINITY COLLEGE		●			●						
DUNDEE		●	●	●	●	●	●		●		
EDINBURGH		●		●	●						
GLASGOW		●				●	●	●			
LEEDS		●		●	●	●		●		●	
LEICESTER	?										
LIVERPOOL		●	●	●	●						
LONDON: CHARING CROSS		●	●	●	●						
LONDON: GUY'S		●	●	●	●	●					
LONDON: KING'S COLLEGE, STRAND	n/a										
LONDON: K.C.H.M.S.		●	●	●	●						
LONDON: LONDON HOSPITAL		●	●	●	●						
LONDON: THE MIDDLESEX	?	●	●	●	●						
LONDON: ROYAL FREE	?	●	●	●	●	●	●		●	●	
LONDON: ST. BARTHOLOMEW'S		●	●	●	●						
LONDON: ST. GEORGE'S		●	●	●	●						
LONDON: ST. MARY'S		●	●	●	●						
LONDON: ST. THOMAS'S		●	●	●	●						
LONDON: UNIVERSITY COLLEGE	n/a										
LONDON: U.C.H.M.S.		●	●			●	●				
LONDON: WESTMINSTER		●		●	●	●	●				
MANCHESTER		●		●	●						
NAT. UNIV. OF IRELAND: U.C. CORK		●	●	●	●	●		●			
NAT. UNIV. OF IRELAND: U.C. DUBLIN		●		●	●						
NAT. UNIV. OF IRELAND: U.C. GALWAY		●	●	●	●	●					
NEWCASTLE		●		●	●	●					
NOTTINGHAM		●	●	●	●	●				●	
OXFORD		●	●		●			●	●		
ROYAL COLLEGE OF SURGEONS IN IRELAND		●		●	●	●		●		●	
ST. ANDREW'S	n/a			●		●	●	●			
SHEFFIELD		●		●		●	●				
SOUTHAMPTON		●	●	●	●			(not finalised)			
WALES / UNIVERSITY COLLEGE CARDIFF		●	●		●	●	●	●			
TOTAL		6	32	31	30	30	15	8	8	4	5

Table 28. Assessment Techniques in 'Practical' Aspects of Clinical Subjects

	Long cases 100% available	Short cases 100% available	simulated patients 100% available	Provided data only 100% available	Orals 100% available	General assessment in clinical teaching 100% available	Tutor's report 100% available	MCQ papers 100% available	Case studies 100% available	clinical assessment 100% available	
	A	B	C	D	E	F	G	H	J	K	
ABERDEEN	●	●			●	●					
BELFAST	●	●	●								
BIRMINGHAM						●		●	●	●	
BRISTOL	●	●			●	●		●			
CAMBRIDGE	●	●			●						
DUBLIN, TRINITY COLLEGE	●	●		●	●						
DUNDEE	●	●			●	●					
EDINBURGH	●	●			●	●					
GLASGOW	●	●									
LEEDS	●	●			●	●		●		●	
LEICESTER	?										
LIVERPOOL	●	●		●	●						
LONDON: CHARING CROSS	●	●		●	●						
LONDON: GUY'S	●	●		●	●	●					
LONDON: KING'S COLLEGE, STRAND	n/a										
LONDON: K.C.H.M.S.	●	●			●						
LONDON: LONDON HOSPITAL	●	●		●							
LONDON: THE MIDDLESEX	●	●			●						
LONDON: ROYAL FREE	?	●	●		●						
LONDON: ST. BARTHOLOMEW'S	●	●		●							
LONDON: ST. GEORGE'S	●	●			●						
LONDON: ST. MARY'S	●	●			●						
LONDON: ST. THOMAS'S	●	●			●	●		●			
LONDON: UNIVERSITY COLLEGE	n/a										
LONDON: U.C.H.M.S.	●	●		●	●						
LONDON: WESTMINSTER	●	●			●						
MANCHESTER	●	●			●	●				●	
NAT. UNIV. OF IRELAND: U.C. CORK	●	●		●	●	●					
NAT. UNIV. OF IRELAND: U.C. DUBLIN	●	●			●						
NAT. UNIV. OF IRELAND: U.C. GALWAY	●	●				●		●	●		
NEWCASTLE	●	●				●					
NOTTINGHAM	●	●		●		●				●	
OXFORD		●			●		●		●		
ROYAL COLLEGE OF SURGEONS IN IRELAND	●	●			●	●					
ST. ANDREW'S	n/a										
SHEFFIELD	●	●		●	●	●	●				
SOUTHAMPTON	●	●		●	●	●			●		
WALES / UNIVERSITY COLLEGE CARDIFF	●	●			●	●		●	●	●	
TOTAL	9	32	33	1	11	26	16	2	6	5	5

one consultant only—in most it is completed at a meeting of all the medical staff (above houseman) of the unit and in a few the senior nursing staff are also included. (Distinguished/Very good but short of distinction/Clearly more than adequate/Adequate/Marginally adequate/Inadequate—further work in the subject required/So inadequate that urgent counselling is called for.)

DEVELOPMENTS

Fourteen schools anticipate important changes in their systems of assessment: almost always the change is connected with the introduction of a new curriculum or a new stage of the course. All medical schools in London for instance are in the process of changing their systems to conform to the revised regulations of the University of London (qv). (The Regulations now permit them to opt for 'university-based' assessments at one or both of the two major stages of the medical curriculum or for a 'school-based' pattern: the latter on the whole allows a more experimental approach in the structure and methods of assessments. For details, refer to 'University of London' in the 'School Profiles'.)

Four schools planning changes will introduce more (and more critical) in-course assessment. It will contribute marks to, or exempt students from, part of the final end-of-course examination. However, two or three other schools which indicated in their initial replies that critical in-course assessment would be a strong feature of their new curricula, later reported in follow-up interviews that the original amount had been reduced, for various reasons including student reaction. Glasgow has introduced critical in-course assessment as a temporary measure to cope with special circumstances. When the premedical year was discontinued, a situation occurred in which two 'years' will graduate together: when one of these groups of students reaches the final year it will take a series of 'mini' final examinations in each major subject at termly intervals and in rotation. It is expected that most students will gain exemption from the main examinations at the end of the year. This is to prevent an unreasonable pressure on staff and patients.

Another very large medical school—Manchester—holds a 'preliminary' final examination for all students in the spring of the final year. It is an MCQ paper integrating all clinical subjects. Only students who fail it (the minority) take the traditional examinations in June. The clinical and oral examinations are spread over the intervening period. In all the schools listed in Table 26, column H, students can be exempted from a section of the critical end-of-course examinations on the basis of satisfactory in-course performance (in five of these students can be exempted from a section of the final qualifying examination).

There are now only two schools (Cambridge and Edinburgh) where the critical 'theory' assessment at all (three) stages is exclusively 'end-of-course', though Edinburgh adopts a policy of 'positive moderation',

whereby a borderline failing student can be passed as a result of good (non-critical) in-course reports. There are three further schools where the critical assessment at all stages is mainly of this type.

A development over recent years has been the retiming of final examinations. There are now sixteen medical schools whose final qualifying examinations are taken in more than one year of the clinical course. They are divided into parts, stages or sections with intervals of a year or more between (some of) them. At two of these schools some sections of the final qualifying examination are taken by each rotating group of students in turn as they complete their attachments to the major specialty in question. In addition, some schools spread the final examinations over more than one term of the final year. With only one exception all the London clinical schools hold all the final examinations in clinical subjects and related sciences during the final year, at present. There are now five medical schools whose final written examinations are completed by the end of the penultimate year of the course (Aberdeen, Bristol, Dundee, Newcastle, Oxford). Only clinical and oral assessments take place in the final year (or 'stage') itself.

Integrated Examinations

'Integrated' examinations are also becoming popular. A number of medical schools combine several subjects in joint examinations, often in the clinical years; usually, they are MCQ papers which must be passed as a whole. At one of them where all examinations beyond the first year are integrated, an 'Emendation Committee' oversees the papers and can veto any question submitted: members of the committee represent the major disciplines and specialties, and if a department submits a question which another member of the committee cannot understand, it is likely to be rejected.

Table 29 shows the level of integration of assessment in the medical schools. The arrangements for only the major subjects have been taken into account and it should be emphasized that the classification is necessarily a general one.

Column A lists schools whose basic medical science subjects are principally assessed independently of each other: in column B, the schools with integrated examinations at this stage are found. Column C indicates a 'mixed' system: a mixed pattern at either stage can mean that at one point (for example, year 1 of the preclinical course) subject-based examinations are held, but at another point (for example, year 2 of the preclinical course) integrated examinations are held; alternatively it can mean that some major subjects may be assessed in combination but that other major subjects have a separate examination. Columns D-F give a similar classification for the clinical subjects.

Schools with critical in-course assessment can hold this subject-by-subject, exactly as end-of-course professional examinations can be specific to individual subjects. In the early years some schools with integrated assessments in fact hold a series of in-course tests relating to each teaching module; these are specific to each course which is sometimes but not always multidisciplinary. The integrated nature of the assessment derives from the cumulative nature of marking. In the clinical years on the other hand, the few schools with cumulative systems of critical in-course assessment (allied with some measure of end-of-course examination) have not all been classified as 'integrated' or even as 'mixed', because the assessment series in a subject may be marked (and retaken) separately.

REGULATIONS

Almost all medical schools permit compensatory passes between subjects to some extent: only two stated that they do not. Six English schools pointed out that in integrated examination papers which are a feature of their system of assessment, compensation between subjects in the same examination is inevitable and unlimited. Several correspondents added comments and qualifications to their answer. Compensation can occur only within recognized subject groupings or separate sections of a diet of examinations, in seven schools. Compensation can occur only if the failure is a marginal one (for example, not less than 45 per cent scored in an examination for which the passmark is 50 per cent) and in one subject only, in fifteen schools, and probably more. Poor performance in the written part of an examination can be upgraded by a good performance in the clinical or practical part but not vice-versa, in two of the latter schools. In two schools introducing new curricula the only possible answer was that the arrangements will depend on the stage of the course. In seven schools the examiners' discretion is considerable: it is possible at any stage of the medical course in thirteen schools. It is possible and practised only at the preclinical stage of twelve courses; and possible and practised only at the clinical stage of six courses.

Re-Examination

Twenty-five schools generally re-examine students only in the subject or subject area which has been failed. Two schools normally re-examine them in other subjects too which belong to the same diet of examinations. However, practice varies too much in eleven schools to generalize. Six correspondents commented that the decision will depend on the degree of failure, and the number and importance of the subjects failed. Re-examination in other associated and concurrently examined

subjects takes place only in schools with integrated multi-subject assessments.

Correspondents were then asked what steps are taken if a student fails the re-examination of a subject or group of subjects. Three, reporting very new curricula, were unwilling to speculate about what would happen in future. Only three schools allow students failing an examination twice to 'carry' it as a normal response, and they are all single-stage medical schools. Sixteen medical schools never allow students to carry a subject or subjects at any stage of the course under any circumstances. The others have more flexible policies: at one school with integrated examinations, the outcome is left to the examiners' discretion; another school is more likely to allow a student to carry an examination if the second failure was due to illness. Thirteen schools reported that the decision depends on the year or the stage of the course reached; for example subjects may be carried within the preclinical or the clinical stage but a student is not permitted to proceed from the former to the latter without passing all its critical assessments. In three schools the decision depends on what subject or group of subjects is failed, for example whether it is major or minor. At two schools, of whom one normally allows students to carry a subject, the student's general academic record is scrutinized—tutors are consulted, etc.—and if over-all performance through the course has been good, the examination may be carried.

There are four schools where it is a normal event for students who have failed in the re-examination of a subject to repeat a year; two are single-stage schools. At the opposite extreme there are four schools—of whom two are also single-stage schools—where students are never permitted to repeat a year of the course. It varies in ten schools according to the stage of the course which has been reached; and at two of these schools and at five others, the examiners would try to recommend what was thought best for the individual student. Three correspondents added that administrative problems may prevent a student repeating a year instead of 'carrying' the examination and proceeding with the course, particularly in the clinical course where phases of teaching and rotations often do not coincide with an academic year, and where the size of student groups for clinical attachments must not be enlarged unduly by repeating students. Two correspondents indicated that students with a good general record would be required to repeat courses rather than withdraw from the course; two other correspondents in single-stage schools indicated that students with a bad general record would be required to repeat courses rather than carry the examination.

The circumstances in which a student may be asked to withdraw from the course also vary between schools. It is the 'normal' reaction to double failure in examination in fifteen schools, although two of these correspondents qualified their statement by adding that a student

required to withdraw would also have performed badly in other informal and critical assessments. Altogether, twelve correspondents indicated that students with a general history of poor performance and perhaps low motivation would be asked to leave the medical school, while those whose double failure in an examination was not typical of their previous form, would remain to repeat part of the course. At twelve schools, double failure at specified points in the course will lead to withdrawal whereas double failure at other points will not. At some, students can 'carry' or 'repeat' more easily within a stage of the course than at its end. There are usually regulations which stipulate the numbers of attempts which a student may make at the final qualifying examinations; in London University the maximum now permitted is four attempts.

In conclusion it should be emphasized that considerable variation exists, more so in practice than in the regulations. Comparatively few schools were able to answer these questions with an unqualified 'yes' or 'never', and most gave comments which indicated that each case is considered on its own merits. Different policies operate for different sections of the curriculum (twenty-one schools altogether). Mitigating circumstances such as illness are fully taken into account (seventeen schools) and the examiners themselves may investigate background reading, in-course assessments, project reports, and so on, which are not usually critical; examiners' discretion carries great weight in seven schools.

The development of methods of in-course assessment and the staggering of qualifying examinations (see above) has allowed preventive, remedial action to become possible and has made carrying examinations and repeating courses more practicable and more acceptable.

EXTERNAL EXAMINERS

The functions of external examiners were not investigated in any detail, but GMC Correspondents were asked very briefly to describe their over-all role in their school.

All schools involve external examiners in all or almost all of their professional examinations. They often help to set the examinations, they help to maintain the over-all standard (although not in every school do external examiners see all candidates) and they invariably arbitrate in the case of borderline students. Other functions mentioned are: to arbitrate in the case of potential honours or distinction students (three schools) and to act as a means of comparing courses and teaching methods, etc., with those of other medical schools within a university.

Fourteen schools regularly use external examiners in their in-course assessments. These are schools where a significant amount of in-course assessment is critical. Some other schools have a certain but on the

whole smaller amount of critical in-course assessment and external examiners rarely participate in this. Twelve of the fourteen schools showed that external examiners are likely to be involved in marking in-course assessment, both evaluating the results for all students and arbitrating in the cases of doubtful and outstanding students.

VARIATIONS IN THE MEDICAL DEGREE: 'HONOURS' SYSTEMS, ETC.

Most medical students on qualification receive a 'straight', unclassified medical degree. Variation in the way in which a medical school awards the final medical degree to students occurs in the possibility of awarding it with honours, or in giving 'distinction' or 'honours' in particular subjects. This is a brief review of the present situation. The question does not apply to the three 'preclinical only' schools who do not award medically qualifying degrees: it is also inapplicable to the Royal College of Surgeons in Ireland, whose students take the qualifying diploma of the conjoint Irish Examinations Board (LLMRCPI, LLMRCSI) which has no variations.

For students qualifying in the schools of the University of London, and in the Universities of Oxford and Cambridge, the medical degree does not vary—it is never awarded 'with Honours'. In all the other schools, the medical degree can be awarded 'with Honours', and in six of them (four universities), it may be given with either First- or Second-class Honours (see Table 30, columns A and B). In three schools the degree may be given 'with Honours' (the higher distinction) or 'with commendation' (column C).

Of those universities awarding degrees 'with Honours' fifteen give the commendation by a formula, or points system: this will refer to the student's performance either in the final examinations or during the medical course as a whole. Two respondents reported that their awards of 'Honours' were essentially discretionary. At Dundee the process is under review.

In schools which may award the degree 'with (undifferentiated) Honours' the usual number of students obtaining the distinction is between one and six in each year. Where two classes of Honours may be awarded, 'First-Class Honours' are awarded only occasionally, perhaps once in every five to ten years, in the National University of Ireland and Belfast; and at Newcastle and Trinity College Dublin, typically, one 'First-class Honours' is awarded each year. These schools generally award between two and six 'Second-class Honours' annually. In the three Scottish schools which may award the degree 'with commendation' or 'with Honours', the latter is generally awarded once in each year, and between two and eight commendations might be awarded.

Individual Subjects

Of all the universities awarding licensing degrees in the British Isles, fourteen may give some form of distinction with respect to individual subjects (column D). There is some variation in the subjects to which a distinction can be awarded; for example, at Manchester a distinction can be awarded in pathology, pharmacology, or in subjects in the final examination: at Leeds, however, distinction can only be awarded in the major clinical subjects and not in pathology or microbiology. On the whole distinction is awarded in subjects taken in the major examinations of the clinical course. In most schools the commendation is called a 'distinction', but in London it is called 'Honours': this situation will change under that University's new regulations when the term 'distinction' will be introduced instead.

The number of students obtaining distinctions in individual subjects varies from school to school: the range is from one student per subject per year to (typically) eight students per subject per year. In some cases the number of distinctions gained by a student is part of the 'formula' which determines whether his final degree will be given with 'Honours'.

At the Royal College of Surgeons in Ireland students qualify with a diploma, rather than a degree, as has been indicated. No 'Honours' are awarded on the diploma itself, but students may obtain 'First' or 'Second-class Honours' in the major subjects. Between one and two students obtain First-class Honours in a subject each year, and between ten and fifteen students obtain Second-class Honours.

Names of the Qualifying Degrees

For reference, the qualifying degrees of the twenty-one universities are listed in column E.

ADVICE AND ASSISTANCE FOR STUDENTS IN DIFFICULTIES

Eighteen schools operate a single system to help with both the academic and the personal problems which their students may have. They are usually founded on personal tutor schemes, or variations on these.

In replies to these questions, correspondents frequently indicated that, especially in the smaller schools, informal personal contacts are often more useful than the 'official' assistance arrangements.

Students' Academic Problems

If students fail examinations, the regulations must of course be observed, but a wide margin of discretion can be allowed in interpreting them.

Some schools also have 'progress committees' or the equivalent to investigate individual cases and make appropriate recommendations. However only a very few medical schools organize formal revision courses only for resitting students: four run annual courses in anatomy in the summer; one runs a 'crash course' in obstetrics and gynaecology; and another runs a revision course in biology and medical chemistry. Two others plan revision courses when they discover what is required as a result of new curricula. (A number of schools also run courses called 'revision courses' for all students, prior to critical examinations.)

Special arrangements are made for students who fail the final qualifying examinations in eleven schools; five offer a 'repeat term' with experience in all major specialties. One of these schools (Liverpool) uses staff in one hospital who 'specialize' in failed students: they give them an intensive programme of clinical work as 'student assistants', with tutorials, etc. Schools more usually make informal provision, with arrangements being made individually: the nature of the provision may depend on how many students have to be accommodated. In basic medical science subjects, the relevant departments would give tutorials and some laboratory exercises as required; in clinical subjects, students would be attached to a unit in the relevant specialty to work under supervision. However, in many schools the timetable makes it necessary for a student to repeat a whole year instead of one subject.

Students with academic problems may also be 'guided' in their choice of elective or selective attachment.

Thirty-four correspondents described systems for helping students personally with academic problems. In twenty-four of them the medical school itself has relatively formal arrangements, but in some the arrangements devised by the university are used as well or instead. Some universities have a special educational counselling service; one university with a new medical school has an 'alerting' system which picks up students in difficulty. Some Scottish universities run 'regent' schemes, whereby staff members become consultants to new students. Seven medical schools have 'progress committees' or the equivalent (mostly staff-only membership) which can intervene before major examinations are failed as well as afterwards, if staff observations and in-course assessment suggest that help is required. One of these schools also has a committee composed of senior students which performs broadly the same function.

A total of twenty-three schools expect appointed staff members to help with academic problems. They can be personal tutors who may or may not actually teach their students (as in Oxford and Cambridge colleges), or directors of studies or regents. Students may remain with them for the whole course, change every year, or change between the preclinical and clinical stages. Five medical schools have appointed advisers for defined stages of the course; students are not allocated to

them personally as to tutors, but all students in a stage could approach the relevant adviser. One school for example has an adviser in preclinical studies and an adviser in clinical studies (as well as advisers for the preregistration year and in postgraduate studies): both are appointed by the dean and retain their teaching responsibilities. They monitor the progress of students in their stage, noting the results of in-course assessment. The clinical adviser also helps to place students on elective attachments and in their attachments to district hospitals. The three medical schools in Dublin see their hospital tutors in this role (see the 'School Profiles').

Sixteen correspondents reported specifically that the dean's office plays a part in giving academic advice: possibly the dean himself, more often an academic vice-dean or sub-dean, will be available to help students. Fifteen correspondents reported that individual departments would be expected to arrange help with students in trouble with their studies. Departments, especially preclinical ones, often designate 'tutors' to look after students and who should identify those in special need. Some reports indicated that while students might approach an adviser, the dean, or a director of studies, the normal solution is to refer him back to the department in whose subject he has problems, and remedial help would be arranged within the department.

Four schools have no formal system for assisting specifically with academic problems; one of them intends to introduce certain arrangements soon.

Students' Personal Problems

Thirty-seven correspondents described arrangements for helping students with personal problems. The school which reported none may introduce some provision, in the near future, at the same time as better arrangements are made for helping with students' academic problems. Two other schools are not fully satisfied with present arrangements and intend to review the situation.

Students in seventeen medical schools turn to one or other of the welfare services in the university. Some of these universities (or colleges) have special counselling units; all have student health services; there are also chaplains, wardens of halls of residence, and occasionally special advisers for women students or for overseas students.

Twenty-four medical schools themselves have some formal system. One has a committee of senior students to whom problems can be referred. Twenty appoint personal tutors or directors of studies to whom students can turn. In many cases, the stage or year advisers would help with personal problems as well as academic ones: this is even more true of personal tutors who are in frequent contact with their students in tutorials, and who often get to know them well. Clinical students may

prefer to discuss problems with a member of staff in the unit to which they are attached; in several schools the department of psychiatry holds a 'watching brief'.

The 'deanery' provides advice in eleven schools—a sub-dean or assistant dean is responsible for student welfare. A development in seven schools is the system whereby a member of staff who is not part of the 'deanery' or administration is appointed on a full-time or part-time basis specifically to help medical students with personal problems of all types. He or she may be called the 'student health officer' for example. Several correspondents remarked that personal and academic problems are frequently inextricable from each other: it is generally up to the student to choose whom he should approach to obtain counsel and assistance.

10. Developments

Curricular Developments; Problems

Correspondents were asked to indicate general curricular trends; they were also requested to outline the problems hindering them in the achievement of their objectives. What follows is a general discussion of these replies, which varied considerably in their detail.

CURRICULAR DEVELOPMENTS

At the time of the Survey (1975), twenty-seven correspondents said that their school had either undergone a major curriculum change or was in the process of undergoing one. Six of these correspondents reported that considerable changes were planned for the future and a further seven also reported that major changes would take place in the future.

Fourteen correspondents said that the whole of their curriculum had been affected by the process of change.

Premedical Course

Four correspondents said that one of the major recent changes had been the disbanding of the premedical course (Middlesex, Royal Free, Leeds, and Liverpool). The correspondent at Leeds reported that the premedical course was discontinued from 1974/5. The decision was taken partly because some local authorities stopped giving maintenance grants for six-year courses, and partly because Leeds had never admitted more than a few such students and the course had not been purpose-designed—the premedical students were not well integrated into the school and frequently had difficulties in their first university year.

The use of the premedical year has been the subject of much discussion in Scottish schools where it has been traditionally used as an interface between Scottish sixth-forms and university preclinical courses. However, Glasgow and Aberdeen no longer offer a premedical year; at Edinburgh the developing new curriculum is reducing the course to five

years—the premedical year possibly being eliminated and the first pre-clinical year being modified to take into account the varying academic qualifications of the students; at Dundee the decision has been taken to introduce a five-year curriculum as the ‘normal one’, but to maintain a premedical year for a small minority of entrants.

The plan at Southampton, where the whole course is new, is that a ‘bridge course’ will be established (a premedical year, in fact) so that arts graduates for instance could join the medical course. This will commence in 1977.

Early Years; Clinical Years

Correspondents were asked about curricular change affecting the pre-clinical years and/or the clinical years.

Many of the changes that had taken place prior to the Survey were concerned in general terms with the rationalization of clinical teaching. In the past few years, medical schools have seen a need to attempt to standardize more the experience and theoretical knowledge that students obtain in their clinical years. In the past, individual firms were often given over-all responsibility for the theoretical and practical teaching of their students. An increasing trend has been to centralize and standardize theoretical training by use of a central systematic lecture course which all students must attend. Similarly, to some extent clinical experience has been rendered less variable by more central co-ordination of clinical teachers, and by rotating students around firms (see Chapter 7).

It is perhaps interesting to note, however, that one school (Bristol) has now abandoned the integrated clinical teaching that had been introduced. Both staff and students found the course too complicated and time-consuming in relation to the benefit gained. (It has been commented that the system did not operate successfully because the over-all administration had not been properly handled.) But, whatever the cause, the integrated course has now been replaced by courses and tutorials in special subjects and a (small) number of multidisciplinary seminars.

Some of the main trends in curricular development in schools where new curricula are being introduced relate to the links between pre-clinical subjects and clinical subjects, and to integration or harmonization between the preclinical subjects themselves.

Increasingly, schools are trying to bridge the gap that might exist between preclinical and clinical subjects. Many schools now include some form of patient-based experience in the preclinical years. At Bristol, for example, sixteen full afternoons during the second preclinical year are devoted to integrated sessions. At Liverpool, the Working Party on the preclinical curriculum has recommended that the pre-clinical courses be further correlated (not integrated). At Sheffield,

where a new curriculum will be implemented, one of the major changes in the preclinical years will be increased co-ordination so that the basic medical sciences may be seen as a co-ordinated whole and applied medical science will be seen as a direct development: teaching will be systems-based, as it is already at Leeds and Newcastle, for instance. There will be five overlapping themes in the preclinical years, each theme requiring co-ordinated teaching involving more than one department. At Newcastle, where a revised curriculum is planned for 1976/7, one of the criticisms of the old course was that there was inadequate personal contact with patients during the preclinical stages, and that the preclinical stages had not been given sufficient clinical emphasis.

It is sometimes said (even by deans of schools practising the arrangement) that attempts by schools to introduce 'clinical teaching' into the preclinical years is little more than a motivational gesture. At Nottingham, however, where there is considerable emphasis upon the amount of clinical experience received during the early years, the respondent said that this was not just intended as a motivating experience: while this aspect was important, clinical experience was also intended to 'leaven' the often rather dry preclinical subjects, and was also giving students a valuable exposure to the realities of medicine. Much of this teaching is conducted by the Department of Community Health. At Guy's, where a new curriculum was started in 1973, the entire course is orientated around the needs of clinical medicine—'co-ordination with a clinical end-point'.

When considering the developments in the preclinical years, account must be taken of the three schools where preclinical courses only are offered. These schools are also increasingly aware of the need to relate early teaching to clinical goals. At King's College, for example, the respondent commented that while there could be little 'vertical integration', strenuous attempts are being made at 'harmonization' within the preclinical course itself, particularly in the first year. At St Andrews, where a new curriculum was introduced in 1974, medical subjects are now taught in Year 1 (of three) and students receive an introduction to pathology, pharmacology, microbiology, psychology, statistics, and social medicine. Consultants from the nearby General Hospital at Kirkcaldy increasingly help with the teaching of the clinical aspects of anatomy, physiology, and biochemistry, and students visit the hospital in their third year.

The correspondent at the third 'preclinical' only school, University College London, indicated that only limited steps were being taken to increase integration within the preclinical course and with the clinical subjects. He did, however, comment that it was felt that a three-year preclinical course should be compulsory for all students at UCL as all would benefit from the study in depth offered by the intercalated year. It is possible that increased vertical integration will occur when UCHMS becomes the clinical faculty of UCL, as is planned.

It is therefore possible to see a definite but fairly cautious trend towards increasing co-ordination between preclinical and clinical subjects, and integration of the preclinical subjects themselves. In addition to this movement, some schools are keen to emphasize their wish to create a totally integrated curriculum. This is Newcastle's objective, and at St George's, where a new preclinical course begins in October 1976, they have rejected the view that the course should consist of independent teaching of the classical preclinical subjects, followed by a period of clinical clerkships which are not systematically related to the preclinical teaching. Instead, we are concentrating on teaching the scientific basis of medical practice, so that the student acquires an understanding of both normal and abnormal function and structure in a clinical context; he acquires his knowledge of the preclinical subjects for use in his subsequent medical career.

New subjects have been introduced into schools' curricula: particularly noteworthy are those mentioned in the GMC's 1967 Recommendations, such as psychology and sociology, statistics, general practice and geriatrics (these are discussed in detail in volume 2 of the Report). In addition, courses on and/or attachments to cancer studies (oncology/radiotherapy), nutrition, nuclear medicine, rehabilitation/rheumatology, and trauma/A-and-E/out-patients, are starting to become evident in a growing number of schools.

Changes and developments are taking place in other aspects of the medical course. In assessment methods there has, in the past few years, been an increase in the use of progressive assessment—see Chapter 9. On the other hand, at certain schools where the technique has been used to a great extent (or was planned to be) over the past few years, the movement is to reduce the amount that is used: these schools include Oxford, Glasgow, and Belfast. In some instances, staff and students have protested, feeling that they are being subjected to 'continual' rather than 'continuous' examinations, and this has interfered with the continuity of the teaching programme.

Another general trend is the increasing emphasis that is placed upon students' experience of medicine in the community, and social aspects generally. It has already been mentioned that behavioural science and clinically based subjects are being included in the early years of the medical course. At the same time can be seen a movement towards increased experience of community medicine, a heightening emphasis on the patient as an individual, and an awareness of the influences that will be operating on the patient within his family or community environment. At Sheffield, for instance, it is hoped to place a greater emphasis on the community aspects of medicine in all the teaching: it is planned that there should be direct links between community medicine and child health, obstetrics and gynaecology, and psychology. At Birmingham, where a Curriculum Review Working Party is examining the undergraduate medical curriculum, the probability is being considered of

'introducing elements of broader education in the Curriculum, so that medicine can be seen in its wider context in relation to Society'.

Some of the other changes and developments in the clinical years are related to increasing the flexibility of the course, allowing more elective periods, and avoiding 'split' clerkships. In many cases, students are being sent to peripheral hospitals for attachments, and respondents on the whole feel that this is a desirable extension of their experience, as is the increased responsibility being given to some students in their final year.

Finally, a more ambitious suggestion for change came from an Irish respondent, though it was hinted at by others. 'The basic change should be towards conducting an undergraduate school as a Health Sciences Centre. I would reorganize the faculty on this basis, using a course system so that the medical and paramedical personnel could pursue appropriate options.' The commencement of a science-oriented, hospital-based degree course in nursing within the Faculty of Medicine at Glasgow is the closest approximation to this situation that has yet occurred: there will be much interaction with the undergraduate medical course.

Length of the Course

In addition to its planned 'bridge course', Southampton proposes that the medical course could be reduced in length for some graduate entrants by allowing them to omit part of the 'study-in-depth' year. At Glasgow, there are also proposals for a reduced course: it is there suggested that appropriately qualified graduate entrants would be able to take a four-year course, and the main difference would be that a one-year preclinical course would be given. Shortened courses for appropriate science graduates can already be taken at Dundee and St Andrews.

The over-all length of the undergraduate medical curriculum has been the subject of much discussion, in addition to the provision of shortened courses for a minority of applicants. For instance, following the recommendations of the Todd Report, the Oxford clinical curriculum was redesigned to cover a period of two years and five months, in the expectation that postgraduate educational programmes would be available to allow the student to complete his education. However, such training programmes have not developed and the course is to be extended by five months. In effect, students will now receive an extra period of experience in a peripheral hospital and there will also be a revision period: in addition, the examination system will be reorganized and a less formal method of continuous assessment is to be adopted.

However, it is worth noting that the period over which a course is run is not the only guide to its 'true' length. For instance, the new two-year clinical course at Cambridge requires 98 weeks attendance, whereas the

three-year course at Galway requires only 90 weeks (although actual attendance may of course be longer).

PROBLEMS

The GMC Correspondent in each medical school was asked to outline the main problems and constraints facing the school. Respondents were asked to concentrate their answers on problems connected with or relating to teaching. A variety of problems were reported but a great many of them were a direct consequence of current financial restrictions.

A direct result of the financial cut-backs has been a delay in many of the building programmes of particular schools. In six cases the building delay is affecting the preclinical building programme particularly, and it was pointed out that the Biomedical Centre planned to accommodate the preclinical courses of King's College, St Thomas's, and the Westminster has been delayed for an indefinite period. Nine respondents indicated that the building delay was affecting their clinical building programmes, and three schools suffer from delays of different sorts affecting both preclinical and clinical facilities (the London, Oxford, Southampton).

Sixteen respondents reported a more general concern over accommodation and facilities: in ten of these schools, laboratory accommodation was a particular concern. At King's College, for example, it was estimated that the laboratory space available to anatomy was about 40 per cent of the UGC 'norm'. Two London schools considered library accommodation to be inadequate, and eleven respondents indicated that there was insufficient teaching space in hospitals—side rooms, and seminar rooms for tutorials, etc., were needed.

The financial cutbacks have exacerbated and irritated an already difficult staffing situation. Many schools had already begun to suffer from inadequate staffing allocations, difficulties had been experienced in obtaining medically qualified staff to work in the preclinical departments, and clinical commitments exerted great pressure on clinical teaching staff. Added to this then was the 'freezing' of vacant academic posts. Eleven respondents reported that they were experiencing difficulties with providing sufficient staff for clinical teaching. (Often this applied to the availability of NHS staff.) In parallel with this development there has been increasing emphasis upon the use of small-group teaching, compounding the situation. One respondent suggested that if additional staff cannot be obtained to satisfy the demands of small-group teaching, capital funds must be made available to allow an investment in individual learning techniques.

A particular problem mentioned by six respondents is the difficulty that many schools are having in obtaining medically qualified staff to

teach the basic medical sciences and, particularly, microbiology. As schools increasingly emphasize the clinical relevance of the preclinical studies, it is clearly important that the basic medical sciences are taught, to some extent, by medically qualified *and* non-medically qualified staff in medical schools. Five schools reported that they had particular difficulties with the recruitment of laboratory staff. A number of schools mentioned the difficulty of obtaining the services of appropriate staff to teach psychology and (especially) sociology.

One Scottish school—Aberdeen—is particularly severely affected with regard to staff. Many technical, administrative, secretarial, and paramedical staff have moved to the oil industry. Medical staffing levels are adequate but may deteriorate in view of the increase in housing costs. The respondent noted that the nurse staffing situation is particularly acute.

Respondents were broadly speaking content with the situation regarding clinical resources. Eight respondents however reported that they would wish to have a greater variety and number of patient beds available to them, and one respondent was particularly concerned as he saw the hospital developing into a specialized postgraduate one, without a sufficiently wide range of cases for undergraduate teaching. At Liverpool the respondent noted that the population of the centre of the city was declining and consequently the range of patients available to students was reducing. The same problem was remarked upon by several respondents from London teaching hospitals, and at Dundee, where a new teaching hospital has recently been completed, the respondent noted that the catchment areas for Scottish hospitals tended to have lower populations than in England, and particularly in his area. Consequently, the range of patients was reduced.

Other problems mentioned included the distances which students often have to travel when teaching is split between a number of hospitals and the medical school (seven replies), and increased committee work, following reorganization of the NHS (almost all replies). Whilst a number of schools feared that health service reorganization might result in a deterioration in the relative status and facilities of the teaching hospitals, a few felt that it had brought very real benefits—in particular, bringing the medical school, the community, and the community medical services closer together.

Respondents in Eire mentioned many of the problems noted above. In addition, they mentioned specifically the lack of whole-time chairs (though a growing number of full-time chairs are now being established); overly large patient-care wards; and few sub-consultant teaching posts.

A small minority of respondents complained that curricular change seemed sometimes to be undertaken for its own sake: others referred to the usefulness of Curriculum Review Working Parties and similar

bodies. However, a number pointed to the fact that without detailed and clear-cut objectives, curricular change would always be to some extent arbitrary and difficult to evaluate. Some schools are thus attempting to define course objectives more precisely, and often to establish a 'core' of knowledge.

The difficulties were summed up by the respondent at Guy's:

The major problem facing anyone planning curriculum change stems from the difficulty of determining how successful those changes prove to be. Until changes in the curriculum can be assessed in terms of the output from a medical school, theories and consequent reorganizing of the curriculum will continue to operate in a vacuum and will lead to major unsubstantiated differences of opinion so that either the curriculum will change violently upon the local educational whim or local opinion may resist all change to thwart such an aim. At Guy's we have aimed to strike the right balance but are acutely conscious of the fact that we do not know in which direction we should be heading because we recognize that, at present, we lack means of assessing our ideas.

The School Profiles

Important Note

The information presented in the 'School Profiles'—as in the rest of the Report—was collected principally in 1975. The primary reason for its collection was to provide the GMC with a picture of what was then the situation in the medical schools.

For these reasons, and because curricula, selection procedures, etc., are constantly developing, readers—particularly intending students—seeking information on the current position in any particular school should refer to its prospectus.

The School Profiles

GENERAL NOTES

The 'School Profiles' are standard-format descriptions of the curricular and assessment systems of the thirty-eight medical schools in the British Isles, together with information on matters such as selection methodologies, arrangements for curriculum control, etc.

The medical schools have asked the Survey Team to make it clear that curricula are constantly developing, and thus for the most recent and accurate information about courses, the schools' own publications, should be consulted. This information was collected principally in 1975/6.

STRUCTURE AND CONTENT

Each profile consists of two tables and some pages of further information. On the first page appears the name of the school's GMC Correspondent, the revision status of the stages of the curriculum ('recently revised', etc.), and the name of the qualifying degree. In certain cases, one or more prefatory pages are included, describing particular circumstances (for example, general comments pertaining to all the University of London Medical Schools).

Lists of the Main Hospitals Used

The list of the main hospitals used for teaching by each medical school starts each profile. For schools in England and Wales, where the distinction applies, an indication is given as to whether each hospital is in a 'teaching' area and/or a 'teaching' district.

Table A

The first table, Table A, lists the courses offered and attachments given in each academic year of the course as a whole, together with an estimate

of teaching time for each course or attachment. An indication is given of the terms in which each course is run ('Term 4' is the summer period, which may be used for teaching): the letter 'R' in these columns indicates that an attachment is a 'rotating' one—a student will take this at some point during the periods indicated, normally in rotation with other attachments so marked.

The fact that a particular subject is not mentioned in this table does not mean that it is not taught by a school: only separate courses are listed and a subject might be included within another course. However, minor 'unofficial' courses (such as optional departmental revision courses) are not included.

Table B

The first column in Table B gives the student learning time in weeks for each academic year of the course: this includes compulsory vacation activity, and examination time. The intake into each year of the course in 1974 is listed, together with projections for 1979. (Disparity between some of these figures and between the preclinical output of one school and the intake of its related clinical school, is normally explained by numbers of students repeating years and/or taking intercalated degree year studies.)

The final main column in the table then lists the 'critical assessments' in each year of the course. A 'critical' assessment is frequently a 'professional' examination, but is always one in which failure would result in serious consideration being given to a student's continued progress through the medical course; it may therefore be a formal examination, a summation of in-course assessments, or a combination of the two. The examinations listed are those encountered by the ordinary student, and any extra ones given to potential 'Honours' students and the like are not included. Furthermore, reports on students by clinical firms, featured by most schools, are not normally listed: in the case of an unusually poor student, any single such report could almost invariably be 'critical', in the sense that he could be required to repeat the attachment.

It should be noted that students from one school who are taking another school's clinical course but continuing to read for the qualifying degree of their preclinical school, often take examinations at times different from those indicated.

Further Information

In the pages following (or surrounding) the tables, information is provided about:

etc.

Selection. Policy and procedures, including any special provisions made for graduate/mature entry.

Features of the Curriculum. A commentary on aspects of the tables, including further details of integration; clinical teaching (including firm size and the relationship between 'theoretical' and 'practical' clinical teaching); time spent by students in 'Residence', in or near a teaching hospital; the provision of intercalated degree courses; students' elective experience and optional courses.

Curriculum Control and Development. An outline of the school's arrangements for curriculum control and development; the 'Deanery'.

Student Assessment. Further details (including assessment techniques) of the methodology outlined in Table B; examination regulations; the function of external examiners; advice and assistance to students in difficulties.

Developments and Problems. A brief description of the major developments in the school and the reported obstacles to these; in addition, where a school is about to go over to a new curriculum, further tables may be presented containing advance information about this.

University of Aberdeen

Qualifying Degree. MB ChB

Curriculum Stages Offered. Preclinical; clinical

Curriculum Status. Major revision 1974

GMC Correspondent. Dr J. P. Sexton (previously Dr D. A. Baird)

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

Aberdeen Royal Infirmary, Foresterhill, Aberdeen AB9 2ZB

City Hospital, Urquhart Road, Aberdeen AB9 8AU

Woodend General Hospital, Aberdeen AB9 2YS

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Aberdeen Maternity Hospital, Cornhill Road, Aberdeen AB9 2ZA

Dumfries and Galloway Royal Infirmary, Bankend Road, Dumfries DG1 4AP

Kingseat Hospital, Newmachar, Aberdeenshire AB5 0NH

Raigmore Hospital, Inverness IV2 3UJ

Royal Aberdeen Children's Hospital, Cornhill Road, Aberdeen AB9 2ZG

Royal Cornhill Hospital, Cornhill Road, Aberdeen AB9 2ZH

Royal Northern Infirmary, Inverness IV3 5SF

Woodlands Hospital, Cuits, Aberdeen AB9 1PR

Note. The 'AHA(T)' distinction does not apply in Scotland.

SELECTION

Academic considerations are paramount and no attempt is made to favour any particular personality characteristics. Past and anticipated examination performance is the most important factor in the selection process, the information in the confidential report and the applicant's order of choice of medical schools being of lesser but equal weight. Interviews are held where there are doubts about a likely candidate's health or motivation. Four or five places each year are reserved for overseas applicants, preference being given to those from Commonwealth countries without their own medical schools. One or two good honours graduates are admitted each year, and also two or three other mature entrants.

FEATURES OF THE CURRICULUM

The curriculum is a new one, introduced in October 1974. At that time, the premedical year was abandoned leaving a standard five-year course for all students. Changes were made particularly to the early years of the course.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES			ACADEMIC YEAR			
		TERMS TAUGHT 1 2 3 4	APPROXIMATE LEARNING TIME	NAME				
1	Pre-Clinical Year I	+	+	+	116 hours	Biology Chemistry/Biochemistry Physics/Physiology Anatomy Embryology Statistics	1	
		+	+	+	185 hours			
		+	+	+	248 hours			
		+	+	+	140 hours			
		+	+	+	9 hours			
		+	+	+	10 hours			
2	Pre-Clinical Year II	+	+		300 hours	Anatomy Biochemistry Physiology Behavioural Sciences Embryology Statistics Correlative Neurology	2	
		+	+		65 hours			
		+	+		112 hours			
		+	+		21 hours			
		+	+		21 hours			
			+	+		10 hours		
			+	+		20 hours		
			+	+		65 hours		
		Para-clinical and Clinical Year 1	+	+		80 hours	Pharmacology Introduction to Clinical Method Pathology (100hrs); Bacteriology (65 hrs); Chem. Pathology (15 hrs); Genetics (8 hrs)	2
			+	+		188 hours		
3	Clinical Year 1	+	+	+	(4 weeks) Major PT	Completion of Course held in Year 2 Term 3 Correlated Systems Teaching Course Child Health: separate lectures Social Medicine: separate lectures Clinical Medicine) 2 hours/day Clinical Surgery) Clinical Obstetrics Child Health (clinical work) Mental Health (clinical work)	3	
		+	+	+	10 hours			
		+	+	+	14 hours			
		+	+	+	c. 150 hours			
		+	+	+	c. 150 hours			
		+	+	+	22 hours			
		+	+	+	22 hours			
+	+	+	22 hours					
4	Clinical Year II	R	R	R	10 weeks PT	Community Medicine (40 hrs); Mental Health (88 hrs); Child Health (100 hrs); Obstetrics/Gynaecology (93 hrs); Surgery, including specialties (195 hrs) Medicine including specialties (188 hrs) Lectures in: Forensic Medicine, Medical Genetics, Medical Physics, Dentistry, Geriatrics, Therapeutics, Radiology, Anaesthetics, Dermatology Ophthalmology E.N.T. Topic Teaching	4	
		R	R	R	10 weeks PT			
		R	R	R	10 weeks PT			
		R	R	R	10 weeks PT			
		+	+	+	70 hours			
		+	+	+	30 hours			
		+	+	+	30 hours			
+	+	+	22 hours					
+	+	+	20 hours					
5	Clinical Year III	R	R	R	4 weeks FT	Child Health Medicine Obstetrics/Gynaecology Surgery Mental Health General Practice Elective	5	
		R	R	R	8 weeks FT			
		R	R	R	4 weeks FT			
		R	R	R	8 weeks FT			
		R	R	R	4 weeks FT			
		R	R	R	4 weeks FT			
		R	R	R	4 weeks FT			
		R	R	R	8 weeks FT			
6							6	

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 136 Estimate for 1979: 150	Degree Examinations (Biology, Chemistry/Biochemistry, Physics/Physiology, Anatomy) (contribution from in-course assessment).	1
2	30 weeks	(No students entered Year 2 of the 'new' curriculum in 1974; students completing Year 1 of the old six year curriculum that summer proceeded to Year 1 of the new five year course)	Degree Examinations (Anatomy, Biochemistry, Physiology) (probable contribution from in-course assessment - see text)	2
3	40 weeks	1974: 103* Estimate for 1979: 115	Degree Examinations (Pathology, Bacteriology, Pharmacology) (probable contribution from in-course assessment - see text)	3
4	40 weeks	101*	Degree Examinations. (Written papers). Medicine, etc., Surgery, etc., Obstetrics/Gynaecology, Child Health, Community Medicine, Mental Health, (probable contribution from in-course assessment - see text)	4
5	40 weeks	101*	Degree Examinations; (clinical and oral) Child Health, Medicine, Obstetrics/Gynaecology, Surgery (probable contribution from in-course assessment - see text).	5
6		90*	* Note: These students proceeding under the old six-year curriculum	6

Early Years

Preclinical teaching occupies the first five terms. Term 6—in effect, a bridging term—includes the laboratory medicine disciplines and the Introductory Course in Clinical Method. This course, and others such as pharmacology, are continued for the month of September before the main part of Year 3 begins.

Clinical Aspects

Patient-based clinical teaching is conducted on single-specialty ward units (two wards) by teams of three consultants and five juniors. The average size of a student group is: 25–30 in Year 3, 14–20 in Year 4, and 2 in Year 5. In Years 3 and 4, the clinical teaching is a separate activity, distinct from patient care, and relying on patient demonstrations, videotaped presentations, and other audiovisual aids, to illustrate the themes. In Year 5, in contrast, students achieve some responsibilities for and full participation in patient care in their 'Junior House Officer', full-time, clinical attachments.

The theoretical teaching in clinical subjects occurs mainly in the Correlated Systems Teaching in Year 3 which is a continuous, multidisciplinary course, supplemented by brief departmental lecture courses in certain disciplines in Years 3 and 4. The Correlated Systems course considers the body systems one by one and the diseases affecting them and includes contributions from pathologists, preclinical teachers, and community medicine specialists, as well as from the major clinical disciplines. Weekly case-demonstrations back up the lectures and as far as possible the clinical work in the mornings is co-ordinated with the subject matter of the afternoon's lectures. In Year 4 the patient-based teaching is not co-ordinated with the various lecture courses; there is no formal, theoretical teaching at all in Year 5.

Students would normally spend four weeks in clinical settings other than hospitals, in general practice. There is no compulsory minimum for hospital residence, and indeed no residential accommodation for students is provided by the hospital authority at Foresterhill—the student house on the site is a University building. This House has accommodation for forty students which is allocated to senior medical students, priority being given to those in their final year. Students attached to other hospitals may reside.

Intercalated Degree of BMedBiol

Students have the opportunity to take an intercalated degree of BMedBiol (Bachelor of Medical Biology), usually between Years 2 and 3. It lasts one year, and the number of places available is not specified—students must be of an acceptable academic standard. Subjects are studied singly or in combination—*anatomy, bacteriology, embryology, pathology, pharmacology, and physiology*, have been studied in recent years. In addition to course work, they all contain a project element which varies from department to department, and all are assessed by examination at the end of the course and by marks awarded to the research project. The degree may be awarded with honours or with commendation. Recently, up to ten students have read for the degree each year.

Elective Experience and Course Options

In the elective period in Year 5, students work on an approved project; they produce a report which is formally assessed. Whilst students may be advised to use the period for remedial experience in Aberdeen in a clinical discipline in which they are deficient, 35 per cent of the class go away from the Medical School and frequently go abroad. Special advisers on electives must approve the topic studied, the centre where the work will be done, and must confirm that it can be completed in the time available. This 'project elective' is a feature of the old curriculum, carried forward to the new one.

CURRICULUM CONTROL AND DEVELOPMENT

The mechanisms for supervising the new curriculum are evolving with it; it is thus too early to give details of function and composition of all the bodies concerned. In outline, though, the Faculty of Medicine (the senior body) has a standing Curriculum Committee, responsible for the whole curriculum, which forwards to it any proposals for major change. The Board of Studies, a much larger gathering which meets annually, is also entitled to receive proposals for change from the Curriculum Committee and to make comment to the Faculty.

The Curriculum Committee meets from time to time but at least annually to discuss the workings of the Curriculum. It is supported by two Co-ordinating Committees which meet each term and report to it. One member of each Co-ordinating Committee is designated Co-ordinator for each year of the course; he is responsible for the smooth running of that year. Other members of these committees represent the departments who teach in that stage, plus a student or students.

The Medical Students Liaison Committee—a staff–student body—serves as a forum for general discussion, including curricular matters.

The new curriculum was planned and implemented by the Curriculum Committee and various Working Parties, most of which were subsequently dissolved. The Co-ordinating Committees which replaced them have an essentially monitoring purpose. It is intended to review the whole curriculum formally and annually in the Curriculum Committee.

While in future the scope of departmental authority seems likely to be less than under the old curriculum, the departments will continue to determine course content and to update subject-matter. However, the arrangements for administering courses vary; some courses are departmental affairs, some are planned by the department and the year co-ordinator in partnership, and others, such as the Correlated Systems Teaching in Year 3, are the direct responsibility of the year Co-ordinating Committee.

The Deanery

The (part-time) Dean of the Faculty of Medicine is elected by annual ballot of the whole Faculty. He may be re-elected twice, and most deans hold office for three years. The Dean is supported by an appointed, whole-time Executive Dean.

Miscellaneous Topics

The Departments of Education and Psychology offer a training course for staff at Aberdeen University. It is an annual event, and numbers of staff attending from the medical school total nine over the last two years.

In the medical school, plans are in hand to exchange videotape material with clinical departments of other medical schools.

STUDENT ASSESSMENT

Early Years and Clinical Subjects

The formal student assessment system uses both end-of-course and in-course assessments: the balance between them has not been fully determined, nor have the methods to be used in the assessments. At each stage of the course some in-course assessment will be 'critical', making a contribution to the degree examination result, and some will be 'formative', functioning as feedback to the department and students concerned. Heads of department have wide discretion in choosing techniques for in-course testing generally, and these may therefore vary widely.

While the exact balance between in-course and end-of-course assessments has not yet been finalized, the former will be particularly important in assessment of the preclinical and clinical subjects; paraclinical subjects will rely rather more upon end-of-course examinations. Students must reach the required standard in both the written, theoretical part of the Final Examination at the end of Year 4 and the 'practical' clinical part at the end of Year 5 independently; end-of-year assessments throughout the year will count towards the latter.

Regulations

Compensatory passes are permissible at any stage of the course if a student fails marginally in only one subject. Normally, re-examination—if required—is in the failed subject only. Double failure in examination leads to withdrawal unless there are mitigating circumstances such as ill-health; in such circumstances a student would repeat the year, or retake the examination yet again as an external candidate.

External examiners are involved in all major examinations, moderating the over-all standard and arbitrating over marginal and distinction candidates.

Advice and Assistance to Students

First-year students are assigned to 'Regents' whom they may approach at any stage of their course for academic or personal advice. They may also consult any of their teachers, or the Executive Dean, who in the past has devoted a considerable part of his time to student counselling. A student who fails a degree examination is interviewed by the Students' Committee, a Faculty Sub-Committee, to establish the reasons for failure. They then make appropriate recommendations. (These arrangements are mainly concerned with students in their first two years, as this is the time, it is felt, when most effective help can be given to those with academic difficulties.) Revision courses are not normally provided, however.

The University has a Student Health Service, chaplains, an adviser to women students, and wardens and sub-wardens of halls of residence.

PROBLEMS

There is a general lack of staff and of suitable accommodation, most seriously in clinical teaching facilities. The impact of the oil industry on Aberdeen has been to produce a staffing crisis in the hospitals, affecting nursing, secretarial, technical, and almost all other ancillary posts. Widespread bed closures have been made. The planned expansion of student intake to 150 has therefore been postponed, and greater use has to be made of hospitals outside the area, mainly in Inverness and Dumfries. This practice, though very popular with students, creates other problems of distance and control.

The nursing situation has now, however (summer 1976), improved to the extent that while some bed closures continue, all the medical beds and most of the surgical beds are in use again. Nevertheless, the staffing situation is such that the opening of a major extension to the Royal Infirmary is causing some problems which may, in turn, restrict the availability of clinical teaching facilities.

DEVELOPMENTS

A period of consolidation is commencing, to enable the medical school to absorb and establish the new curriculum successfully and to face up to the problems of its environment. In part because of these, even greater use than at present will in the future be made of audiovisual aids: colour closed-circuit television has been introduced for post-mortem teaching and will be extended further, and an increasing number of departments are producing their own television programmes.

STOP PRESS

A new 150-seat lecture theatre is being built at the medical school in anticipation of the further planned expansion (see above) of student numbers sometime in the future.

Queen's University of Belfast

Qualifying Degree. MB BCH BAO

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Established course

GMC Correspondent. Professor P. Froggatt (previously Dr R. B. Cole)

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

Royal Victoria Hospital, Grosvenor Road, Belfast BT12 6TA

Belfast City Hospital, Lisburn Road, Belfast BT9 7AB

Mater Infirmorum Hospital, 47-51 Crumlin Road, Belfast BT14 6AB

Ulster Hospital, Dundonald, Belfast BT16 0PH

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least six Students at any Time

Altnagelvin Hospital, Londonderry

Craigavon Area Hospital, Craigavon, County Armagh

Waveney Hospital, Ballymena, County Antrim

Royal Belfast Hospital for Sick Children, Falls Road, Belfast BT12 6BE

Royal Maternity Hospital, Grosvenor Road, Belfast BT12 6BB

Purdysburn Hospital, Saintfield Road, Belfast BT8 8BH

Northern Ireland Fever Hospital, Purdysburn, Belfast BT8 8BH

Downshire Hospital, Downpatrick, County Down

Holywell Hospital, 60 Steeple Road, Antrim

Note. The AHA(T) distinction does not apply in Northern Ireland. All hospitals listed are 'recognized for teaching' by the University.

SELECTION

The objective is to select those candidates who have the maximum probability of completing the course satisfactorily and to reduce those who will not to a minimum. Attempts are made to achieve a mix of ages and backgrounds.

Greatest consideration is paid to the academic qualities of applicants: in the case of school-leavers, the grades obtained at O and A-level; in the case of graduates or students transferring from science or dental courses, their performance in university examinations. Other things being equal, applicants from Northern Ireland are favoured, and recently the proportion of local candidates accepted has risen. Rather less important are the confidential reports, but these may be decisive if they are unfavourable. In filling the last few places other factors may come into play, such as the school attended, age, the order of preference given to the medical school, and whether the applicant has a close relative who is a doctor or a Queen's graduate.

All graduate and other mature applicants are interviewed, as are students from within the university who propose to transfer to the medical course (the latter generally constitute 2 per cent of the annual entry). Only some of the successful school-leaver entrants are interviewed; in these cases, where further information is required, the interview performance is of crucial importance. However, until 1972 all local applicants and many British ones were given interviews.

It is hoped to increase the number of graduate entrants; presently these constitute about 1-2 per cent of the intake.

Since 1972, it has not been mandatory for all students to take the first year of the course; a proportion of particularly well-qualified applicants have been permitted to enter Year 2 directly. By 1977-8 the proportion of 'accelerated' students should have reached one-third or more of the total annual intake. A study is in progress to compare the 1971 cohort of students who entered Year 1 with the 1972 cohort who were 'accelerated' into Year 2; the outcome may affect selection procedures in the future.

FEATURES OF THE CURRICULUM

The six-year course includes four years of clinical teaching, making full use of the plentiful hospital beds and facilities.

Early Years

The 'premedical' year is not a conversion period for inappropriately qualified applicants but, at least until recently (see above) has been an integral part of the medical course for students who have studied science subjects at school but not to First MB standard. Since 1966 some highly qualified entrants have been exempted from one or more of the subjects taught in this year, and nearly all of them have chosen to take a course in psychology instead.

Clinical Aspects

Year 3 is a mixed year and the meeting-ground for preclinical, paraclinical, and clinical disciplines. The classical basic sciences are taught in terms of their medical application, with clinical illustration where appropriate. From September, the Introductory Clinical Course gives 1½ hours of instruction and practice each day in history-taking and the clinical examination, so that from January students are able to undertake their junior clerkships. Again, these occupy 1½ hours each day, and progress is supervised by tutors to whom the students' weekly case-histories are submitted.

The main vehicle of 'theoretical' teaching is the Co-ordinated Lecture Course; this is run in the fourth year. It is based mainly on disease entities and problems but also partly on systems of the body; contributions come from Pathology (systematic and applied), Clinical Microbiology, Applied Pharmacology, and Therapeutics, and also various clinical departments. The course is interdisciplinary: the teaching is generally by means of one-man, one-subject lectures. The Clinical Staff-Student Consultative Committee is responsible for the over-all sequence; course co-ordinators for component topics or systems are responsible for detailed arrangements. In general, the theoretical teaching is not related to the clinical work being undertaken at the same time. In Year

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		1	2	3	(4)			
1	Pre-medical	+	+	+		140 hours	Biology Chemistry Physics Psychology (most students)	1
		+	+	+		125 hours		
		+	+	+		115 hours		
		+	+	+		125 hours		
2	Pre-clinical	+	+	+		300 hours	Anatomy Biochemistry Physiology Behavioural Science 1 (Psychology component exempted for students achieving high grades in pre-medical psychology examinations)	2
		+	+	+		170 hours		
		+	+	+		230 hours		
		+	+	+		80 hours		
3	Applied Pre-Clinical/ Introductory Clinical	+	+	+		60 hours	Applied Anatomy Applied Biochemistry Applied Physiology Behavioural Science 2 Pharmacology and Therapeutics Introductory Clinical Course Neuroanatomy Clinical Lecture Course Principles of Pathology Basic Microbiology (Junior Medical Clerkship (Junior Surgical Dressership Occupational Health/Introduction to Epidemiology	3
		+	+	+		36 hours		
		+	+	+		83 hours		
		+	+	+		25 hours		
		+	+	+		54 hours		
		+	+	+		62 hours		
		+	+	+		48 hours		
		+	+	+		30 hours		
		+	+	+		37 hours		
		+	+	+		51 hours		
		+	+	+		112 hours		
4	Senior Clerkships	+	+	+		380 hours (over 40 weeks)	Part-time Senior Clerkships/Dresserships in Medicine (8 weeks), Surgery (8 weeks), Nervous Diseases (4 weeks), Bones and Joints (4 weeks), Fevers (4 weeks), Cardiology (4 weeks), Metabolism (4 weeks), Casualty and Geriatrics (4 weeks)	4
		+	+	+		260 hours		
		+	+	+		54 hours		
		+	+	+		13 hours 4-8 weeks		
5	Major Specialties	R	R	R		10 weeks ½ time	Child Health (with Medical Genetics) Mental Health Community Medicine Dermatology 'Special Clinics' - ENT, Ophthalmology, V.O. Clinical Pathology (Haematology/Clinical Biochem.) General Practice Social Medicine: Lectures Forensic Medicine: Lectures	5
		R	R	R		5 weeks FT		
		R	R	R		3 weeks FT		
		R	R	R		3 weeks FT		
		R	R	R		5 weeks FT		
		R	R	R		20 hours		
		R	R	R		2 weeks FT		
		+	+	+		15 hours		
+	+	+		16 hours				
6	Pupilships	+	+	+		16 wks FT	First Pupilships' (see below) 'Pupilships', continued: Anaesthetics (2 weeks), Child Health (4 weeks) GP (2 weeks), Medicine (4 weeks), Mental Health (4 weeks), O & G (12 weeks), Surgery (4 weeks) 'Selective' - or directed - attachments (12 weeks) Applied and Clinical Pathology Therapeutics Tutorials Revision	6
		+	+	+		28 wks FT		
		+	+	+		20 hours 10 hours 2-4 wks FT		

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	27 weeks	1974: 124 Estimate for 1979: 80	First Medical Examinations	1
2	27 weeks	1974: 140 Estimate for 1979: 135	2nd MB Examinations (Anatomy, Physiology, Biochemistry, Behavioural Science) (some contribution from in-course tests)	2
3	28 weeks	140	Class tests in most subjects: must be passed before Part I Finals can be taken	3
4	48 weeks	1974: 145 Estimate for 1979: 132	Final MB Part 1A (Pathology, Microbiology, Therapeutics and Pharmacology)	4
5	48 weeks	116	Final MB Part 1B (Forensic Medicine, Social and Preventive Medicine)	5
6	35 weeks	116	Final MB Part 2 (Written, clinical and oral)	6

6, there is almost no formal or centralized theoretical teaching; students are expected to attend the symposia, CPCs, team meetings, etc., which take place in the hospitals. Since 1975, clinical pathology and therapeutics tutorials are held in the medical school, for which students are 'released' from their pupilships for one whole day per fortnight. The Pathology Department runs 'open' lunch-time post-mortem displays and discussions making use of colour TV, for students at any stage of the course. In the hospitals, senior registrars and registrars with university contracts as senior tutors and tutors make the arrangements for organized undergraduate teaching such as tutorials, and generally supervise the programme.

Patient-based teaching is conducted by single-specialty firms of 2-3 consultants and 4-5 juniors. The number of students in a group varies enormously with the stage of the course and the specialty: in Year 3, there are twelve students in each group for elementary clinical work, but in Year 6 the full-time residential pupilships attach only one or two students to each firm, using hospitals throughout Northern Ireland. These 'pupilships' follow the apprenticeship model with students fully involved in patient care and learning from their personal involvement, in contrast to Years 3, 4, and 5 when teaching is on the whole a special and separate activity.

Five weeks full-time is spent on a combined general practice and community medicine course; students are attached to community physicians and spend time with the community services, as well as joining GPs to see them in action. There is a further residential period in general practice in the final year, of two weeks. Eight months is the stipulated minimum of residence but most students spend about twelve months resident in hospital or on the hospital site.

Intercalated Degree of BSc

Students must reach a high enough standard in the Year 3 examinations before being accepted to read for an intercalated degree: resources put a limit to the numbers although most if not all students hoping to take the degree are usually accepted (8-10 a year). The degree is in the Faculty of Science, and anatomy and physiology are the only subjects which have been studied up to the present; biochemistry and pathology have now been added and further possibilities are under discussion. Students undertake both course work and research work and are assessed by dissertation and by formal examination.

Elective Experience and Course Options

Of the two elective periods, the earlier one may be taken away from the medical school and scholarships are available to supplement travelling expenses. Students generally make their own arrangements but regular visits are made to some hospitals, etc., abroad as contacts are developed over the years. About 40 per cent actually leave Belfast, the others remain to do electives sponsored by the clinical units and laboratory medicine departments, and some undertake research projects.

The second elective period is in the final year. As well as the compulsory subjects listed, up to three months of residential pupilship may be in specialties chosen by the student; these must be in Belfast or other Northern Ireland hospitals. One or more may be 'guided' (the student is advised to work in a specialty in which he is weak) or spent studying privately or revising.

CURRICULUM CONTROL AND DEVELOPMENT

Since 1968 there have been no major reallocations of time or emphasis within the curriculum but minor alterations have been made after negotiation between the Dean and the departments and committees concerned. The Board of the Faculty of Medicine authorizes and approves the outline of the curriculum and any changes to it, and may give guidance on particular matters when requested or on its own initiative. There are two standing sub-committees of the Faculty Board concerned with teaching, the Board of second- and third-year studies, and the Clinical Staff-Student Consultative Committee. The former meets annually; membership comprises the Dean, all members of departments contributing to second- and third-year courses, and six students. There is an Executive Sub-Committee for each year which has administrative and monitoring functions; these meet four times a year. The Clinical Staff-Student Consultation Committee is a very active body with an administrative role (supervision of the Co-ordinated Lecture Course, other interdepartmental courses, the rotating attachment programme and the Year 4 electives), an innovatory role (it is the body most likely to bring forward new ideas and to enact them) and a dialogue role (as a forum of discussion). It meets six or seven times a year; membership comprises seven staff (including the Dean, but no other professors), two consultants representing the major departments and hospitals, and seven students from Years 3 to 6.

There is no standing committee specifically charged with reviewing the whole curriculum; it is however probable that one will appear in the near future. Meanwhile there are several methods of ascertaining staff and student reaction and of incorporating their suggestions: the teaching hospital clinical staff 'forum' (annually, the clinical teachers in the four main hospitals meet the Dean and the Chairman and Secretary of the Clinical Staff-Student Consultative Committee to discuss all aspects of clinical teaching); departmental staff committees (these meet at least termly and involve all members of a department, to discuss teaching as well as research and resources); and questionnaires (the Year 2 and 3 Executive Sub-Committees and the Clinical Staff-Student Committee regularly issue questionnaires to the students of each year: the findings frequently influence their deliberations and decisions).

The individual departments administer courses, with the exception of interdisciplinary ones, and update them, sometimes after being prompted by other bodies. The content of the courses and their presentation are scrutinized and harmonized by the standing committees and sub-committees (see above) and when the curriculum is under revision, by the Faculty Board and any *ad hoc* Curriculum Committee.

The Deanery

The part-time Dean is elected or re-elected annually by Faculty: postal balloting has been introduced for the election. No maximum term of office is fixed currently but a five-year one may be imposed. The Dean is assisted by a Deputy Dean who is also elected.

Miscellaneous Topics

Eighteen staff from the medical school have attended the course of instruction for teachers run by the University's Department of Education, over the last

two years. This course is held annually in September and new staff are advised to attend it before their first academic year begins.

The medical school encourages departments to experiment with teaching and assessment techniques.

STUDENT ASSESSMENT

Early Years

Critical assessment at all stages of the course is almost entirely in the nature of end-of-course examinations. The exception is physiology in Year 2, where in-course tests (objective-type and essay questions; practical course work) contribute a maximum of 30 per cent of the marks to the end-of-year examination. (End-of-course assessment techniques include essay, objective and short answer questions, and practical tests.) However, the use of in-course assessment to monitor students' progress is increasing: all departments keep records and most departments and clinical firms conduct tests of varying degrees of formality during or at the end of the students' period with them. Class tests which are held in a number of subjects in Year 3 are not critical in themselves, but must be passed before Part Ia Finals may be taken.

Clinical Subjects

The relationship between the 'practical' and 'theoretical' aspects of the Final Examination means that failure in the 'practical' clinical examination in medicine, surgery, and obstetrics and gynaecology results in failure in the whole subject, but marginal failure in the written papers may be redeemed by extra marking gained in the 'practical' clinical examination. The latter includes the use of long cases, short cases and simulated patients, whilst the 'theoretical' aspects are assessed by means of objective-type, short-answer and essay questions, and oral examinations.

From June 1977 the structure of Finals Part II will be of wider scope but reduced load. Medicine and surgery will share a common MCQ or MEQ paper, ophthalmology and ENT will no longer be examined separately, written and oral examinations will look for wider knowledge, for example of pathology, general practice, epidemiology; the clinical case examinations will be held earlier in the year; and orals will be given only to borderline and potential honours students. A student failing the Final qualifying examinations would spend a further residential period of attachment to the relevant clinical units.

Regulations

If a student fails an examination, a compensatory pass may be awarded if the fail was a marginal one. Following failure in a major examination, students are normally re-examined only in the failed subject. The consequences of failure in a resit examination vary with the students' circumstances and the stage of the course; withdrawal is more likely in the early years, but in the clinical years, students may be permitted to 'carry' subjects.

External examiners are involved in devising the major end-of-course examinations, in moderating the over-all standard, and in arbitrating in marginal cases. They take no part in the in-course assessment.

Advice and Assistance to Students

The Dean, as Adviser of Studies, interviews students who are not making proper progress, and in appropriate cases he might ask departments to arrange extra tuition. The Faculty Students' Progress Committee does much the same on a more formal basis but in addition may require students to repeat a year or withdraw altogether if for example, they fail to meet a specified target on re-sitting examinations—although students may appeal against a decision to the Central Students' Progress Committee. For students with personal problems, the following are all available to help and it is up to the student to decide which, if any, to approach: the Dean (as Adviser of Studies), the Student Counselling Service, the Students' Representative Council, the Student Health Service, the chaplains, and the deans of residences.

Revision is arranged for individual students by the Faculty Students' Progress Committee on an *ad hoc* basis.

PROBLEMS

The medical school has no major problems regarding resources. In the curriculum, with its very strong clinical and laboratory medicine traditions, it has been difficult to infiltrate the newer and less 'practical' topics such as behavioural science and social medicine.

Reorganization of the NHS has affected the medical school by substituting four areas for one board and thus increasing the bureaucracy it encounters. It has not affected undergraduate teaching directly, however, nor has it affected the system of 'joint appointments'. This unique system dates from 1952, and makes the University and the NHS joint employers of all clinical (and medically qualified preclinical) staff who wish to take up sessional clinical work. Indeed, the close relationship with the NHS has led to a very large amount of residential accommodation being provided for students on hospital sites; in the Belfast general hospitals alone there is sufficient accommodation for 95 resident students at once.

DEVELOPMENTS

The intake has already reached the target set for 1977-8; current financial constraints might lead to numbers being cut back temporarily by perhaps 5 per cent. The proportion of students who are allowed 'accelerated' entry will increase until 35 per cent of all new entrants are 'accelerated'; thereafter the proportion may continue to rise or be held constant depending on the perceived effects.

All the medical school's own accommodation is post-1954 and most is post-1968. Building plans include a clinical extension to the Medical Biology Centre (for 1976); a new central library, with satellites, to serve all medical and allied staff in Northern Ireland, and medical students (it will be University-based and funded in part by the NHS); and three professorial units with 150-seat lecture theatres, library and student and administrative facilities, 'embedded' in the new Belfast City Hospital (from 1978).

University of Birmingham

Qualifying Degree. MB ChB

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Established course

GMC Correspondent. Professor A. P. D. Thomson

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†Queen Elizabeth Hospital, Queen Elizabeth Medical Centre, Birmingham B15 2TH

*†General Hospital, Steelhouse Lane, Birmingham B4 6NH

*†Birmingham Maternity Hospital, Queen Elizabeth Medical Centre, Birmingham B15 2TH

*†Birmingham and Midland Hospital for Women, Showell Green Lane, Birmingham B11 4HL

*†Children's Hospital, Ladywood Middleway, Birmingham B16 8NT

*†Midland Nerve Hospital, Elvetham Road, Birmingham B15 2NJ

*Dudley Road Hospital, Dudley Road, Birmingham B18 7QH

*East Birmingham Hospital, Bordesley Green East, Birmingham B9 5ST

*Selfy Oak Hospital, Raddlebarn Road, Birmingham B29 6JB

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

*Birmingham Accident Hospital, Bath Row, Birmingham B15 1NA

*Birmingham and Midland Ear and Throat Hospital, Edmund Street, Birmingham B3 2HH

*Birmingham and Midland Eye Hospital, Church Street, Birmingham B3 2NS

*Royal Orthopaedic Hospital, The Woodlands, Northfield, Birmingham B31 2AP

*Skin Hospital, George Road, Birmingham B15 1PR

Midland Centre for Neurosurgery and Neurology, Holly Lane, Smethwick, Warley, West Midlands

* Within AHA(T).

† Within teaching district.

SELECTION

Selectors at Birmingham pay great attention to applicants' academic ability, motivation, personality, and physical and mental health. In selecting applicants for interview, greatest importance is given to the confidential referee's report: any evidence of psychiatric illness, and to a lesser extent, physical illness, may crucially affect a candidate's chance. The order of choice is also very important: normally only those making Birmingham their first or second choice are interviewed. Between one-fifth and one-sixth of all applicants are interviewed, which includes 99 per cent of successful applicants. A follow-up study is in hand to investigate possible correlations between the interview

findings and the students' subsequent progress. Selection procedures may be changed accordingly.

Up to 10 per cent of the places may be given to mature students, who must however be under 30 years of age.

FEATURES OF THE CURRICULUM

Early Years

At the start of the junior preclinical year a compulsory course in biology is given to students not in possession of an A-level pass in Biology.

While the major preclinical disciplines (anatomy, physiology, biochemistry, pharmacology) tend to be taught separately, they are subject to 'integrated timetabling'. They are planned together and then administered by a single teaching office, under the supervision of the Secretary of the Basic Medical Sciences Committee.

A feature of the preclinical curriculum is the teaching of aspects of pathology (haematology and immunology).

The Department of Social Medicine is responsible for the 'Medicine as Science and Service' course and for part of the 'Social Context of Medicine' course. In addition, a voluntary 'Family Attachment' scheme has begun. Students can be attached to families (ideally three-generation families) for a three-year period, to observe child development, to observe and live through family crises and to appreciate the social conditions which prevail.

Clinical Aspects

Fifty hours of seminars, lectures, and films in the four main courses in the preclinical course are devoted to illustrative clinical material. Most is conducted by clinical lecturers, the rest by medically qualified preclinical staff. Patient demonstrations are given, and the broad aim is to show the relevance of the basic medical sciences to clinical practice.

Half the class receive the Introductory Clinical Course in July at the end of Year 3, the other half in September before Year 4. It deals with the elements of clinical method.

The unit for clinical teaching in hospitals is the single-specialty firm, usually of two consultants and three juniors. The size of student groups on a firm ranges from, in Year 4, 6-8 students to, in Year 6, 2-4 students. The size of the firm and its student group vary with hospital, specialty, the stage of the course, and departmental resources. Most clinical teaching is carried out within the firm as an integral part of patient care. In their final year, students achieve the status and responsibilities of 'junior house officers' in full-time attachments.

The main vehicle of theoretical teaching is the Co-ordinated Studies course held in the afternoons from March of Year 4 to December of Year 5. It is based on systems, topics, and stages of development and each afternoon session involves two or three speakers from different specialties, under a convener. Case discussion with student participation has been introduced. The course aims to promote understanding of the interrelationships of specialties and to present material not readily found in text-books, etc.; its content is not normally closely related to the morning's clinical work. The

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT	1	2	3			
1	Pre-medical	+	+	+		157 hours	Biology Chemistry Physics	1
		+	+	+		209 hours		
		+	+	+		166 hours		
2	Junior Pre-Clinical	+	+	+		136 hours	Anatomy Biochemistry Physiology Medicine as Science and Service Biology (compulsory for students without 'A'-level biology) Haematology, Immunology Cellular Genetics	2
		+	+	+		192 hours		
		+	+	+		207 hours		
		+				50 hours		
		+				15 hours		
3	Senior Pre-clinical	+	+	+		380 hours	Anatomy Biochemistry Physiology Pre-clinical Pharmacology Statistics Immunology Human Growth and Variability Social Context of Medicine Introductory Clinical Course: $\frac{1}{2}$ class in July $\frac{1}{2}$ class in Sept.	3
		+	+	+		55 hours		
		+	+	+		179 hours		
		+	+	+		42 hours		
		+				15 hours		
		+				10		
		+				8 hours		
		R	R	R		49 hours 4 weeks FT		
4	1st Clinical Year	R	R	R	R	21 weeks $\frac{1}{2}$ time	Junior Medical Clerking Junior Surgical Dressing Pathology and Bacteriology Clinical Pharmacology Social Medicine Co-ordinated Studies Introductory Obstetrics and Gynaecology	4
		R	R	R	R	21 weeks $\frac{1}{2}$ time		
		+	+	+		169 hours		
		+	+	+		30 hours		
		+	+	+		55 hours		
5	2nd Clinical Year	+	+			52 hours	Co-ordinated Studies Pathology and Bacteriology Clinical Pharmacology Social Medicine Paediatrics Orthopaedics and Trauma Neurology/Cardiology Dermatology/Oncology/Ophthalmology/Geriatrics/Venereology/EHT	5
		+	+			140 hours		
		+	+			25 hours		
		+	+			20 hours		
		R	R			8 weeks $\frac{1}{2}$ time		
		R	R			8 weeks $\frac{1}{2}$ time		
		R	R			8 weeks $\frac{1}{2}$ time		
	+				8 weeks $\frac{1}{2}$ time			
	Final Clinical Year	R	R			8 weeks FT		
6		R	R	R		10 weeks	Final Year Rotations Commence (see below) Final Year Rotations: the outstanding four blocks of ten weeks each are taken:	6
		R	R	R		40 weeks	Medicine (10 weeks) Surgery (10 weeks) Obstetrics/Gynaecology (10 weeks), Psychiatry (10 weeks), Paediatrics (5 weeks)/General Practice (2 weeks)/ Infectious Diseases (2 weeks)/Anaesthetics (1 week)	

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 8 Estimate for 1979: 20 (max)	1st M.B. Ch.B.	1
2	29 weeks	1974: 161 Estimate for 1979: 160	In-course Tests Review of In-Course Tests (see text: students normally exempt further examination)	2
3	31 weeks	157	In-course Tests Review of In-Course Tests (see text: students normally exempt further examination)	3
4	44 weeks	1974: 153 Estimate for 1979: 160 (The number of students from Oxford and Cambridge is likely to be similar)	In-course Tests	4
5	50 weeks	150	In-course Tests Summation of Assessments in: Pathology and Bacteriology Social Medicine and Clinical Pharmacology	5
6	40 weeks	152	In-course Tests Final M.B. Ch.B. (see text: students normally exempt this examination)	6

paraclinical department and some clinical departments (Obstetrics and Gynaecology, Paediatrics, Psychiatry, and others) serve separate lecture/theoretical courses which are directly linked with the themes of their own current practical or clinical teaching. A few specialties also appoint 'tutors' to assist with their students.

The clinical course includes up to some twenty-three weeks of compulsory hospital residence in the final year. Students' experience of clinical settings outside hospitals includes two weeks full-time spent in general practice.

Intercalated Degree of BSc

Courses in anatomical studies, biochemical studies, and physiology are available, for which students register in the Faculty of Science and Engineering. The courses involve research and formal course work, and assessment relies on both dissertation and examination. Scholarships are available for award to selected students. Typically about fifteen students take an intercalated degree each year though in the immediate past, numbers have fallen.

Elective Experience and Course Options

Although some elective time is set aside for students in the preclinical years, the eight-week period of Elective Studies during April and May of Year 5 is a significant feature of the clinical course. The Tutor for Elective Studies must approve students' choice of elective, which need not be restricted to a medical subject, but normally involves some type of clinical experience, or a research project. General practice is chosen by one-third of the students. Many students go away from Birmingham and some go abroad. Occasionally the elective period is used by students to revise or repeat parts of the course in which they have proved deficient. All students are required to write a report of their activities, and while not 'critically' assessed, the report may be considered for a bonus mark at the end of the clinical course.

CURRICULUM CONTROL AND DEVELOPMENT

The Board of Undergraduate Medical Education is the standing body concerned with the curriculum as a whole; it reports to the Board of the Faculty. It ensures, through its sectional committees, that all parts of the curriculum are properly integrated, keeps a general watch on teaching methods and also on the academic aspects of the School's selection policy. Members of the Board—which meets five times a year—include the Dean, the Admissions Tutor, the Senior Tutor, the Postgraduate Dean, the Chairman of the Medical Executive Committee of the Central Birmingham Health District, a nominee of the Faculty of Science and Engineering, the Chairman of and one member from each of the three sectional committees, representatives of teaching hospital consultants and of junior doctors, and two students.

The Board is supported by three sectional committees: the Basic Medical Sciences Committee, the Clinical Sciences Committee, and the Clinical Practice Committee. These meet as frequently as the Board of Undergraduate Medical Education does, so as to report to it. Membership of each of these is similar: heads and/or other members of the departments teaching in that stage of the course, one student and a representative of the other two sub-com-

mittees. The Clinical Sciences and Clinical Practice Committees also have representatives of teaching hospital consultants. The three sectional committees are responsible for the structure and content of their stage of the course. They may set up timetabling committees for detailed planning of some curricular innovation, and from time to time *ad hoc* working parties are constituted, which may actively plan and administer courses (for example, the 'Co-ordinated Studies Working Party') or consider the role of a particular topic in the curriculum on a long-term basis (for example, the 'Oncology Working Party'). Membership varies but students are always included. The Basic Medical Sciences Committee has a four-man Executive Sub-Committee to keep the four major preclinical courses broadly in step with each other, and a Teaching Office to produce timetables, etc.

Individual departments are responsible on the whole for the content and presentation of their teaching, but after close consultation with other departments and with the appropriate committee. Responsibility for administering courses varies. For example, the teaching and assessment of pathology in its widest sense is co-ordinated by the Division of Pathological Studies through its Executive Sub-Committee, comprising all the pathological departments. During the last few years however there has been increasing acceptance that teaching and examinations are a faculty rather than a departmental responsibility.

The arrangements outlined above are considered more than adequate for monitoring the curriculum and for reviewing time allocations. The goodwill and co-operation between individuals and departments naturally helps towards this. However, a new body was required to undertake a major curriculum review and so the 'Curriculum Review Working Party' was instituted to 'examine the undergraduate medical curriculum including the pre-medical and pre-registration years, and to make recommendations for any desirable changes. The Working Party is expected to familiarize themselves with curricula elsewhere in Britain and abroad, and in particular to consider the question of reciprocity with curricula in EEC countries.' The Working Party has five members, mainly younger members of staff, chaired by the Head of the Department of Medicine, with a student observer. It has distributed a large and comprehensive questionnaire to all staff in the medical school and to senior and junior staff in the Region's hospitals.

The Deanery

The part-time Dean is always an eminent clinical member of the Faculty, and is appointed by the Council, on the recommendation of the Vice-Chancellor, after consultation within the Faculty. He serves, typically, for a period of five years. There is also an Executive Dean, of professorial rank; this appointment is permanent and full-time. There are no Sub- or Assistant Deans, but there are five 'tutors'. The Senior Tutor is at present the Executive Dean. The other tutors are the Admissions Tutor, two Tutors to Preclinical Students, and the Tutor for Elective Studies.

Miscellaneous Topics

The University runs an annual course on teaching methods, etc., which two or three members of staff from the medical school attend. The medical school

itself has an 'Educational Services Unit', under a Director, which provides audiovisual equipment for teaching, produces materials such as self-learning programmes for any departments on request, and is engaged upon research and development.

STUDENT ASSESSMENT

The examination system is one of 'critical' continuous assessment. Each student is exposed to a total of sixty assessments, excluding any in-course tests which are not 'critical'. In the preclinical stage the system is more one of 'intermittent examination' whereas the clinical assessments are continuous. A great variety of testing methods is used. A Working Party recently reported on the system, concluding that it works reasonably well and suggesting minor improvements.

Early Years

Twenty-one assessments are held over the two preclinical years: the marks are cumulative and at the end of each year students with unsatisfactory totals must take a viva voce examination in June, and if still unsatisfactory, a formal written examination in September.

Clinical Subjects

Twenty assessments are held in clinical sciences, some of which are carried forward for consideration at the end of Year 6. The in-course assessments for the three paraclinical disciplines and social medicine are summed in March of Year 5 when an end-of-course oral examination in clinical pharmacology is also given to all students. Supplementary examinations are held in May for students referred in these subjects. An MCQ test on the Co-ordinated Studies course is held on its completion in Year 5, together with examination on a broader range of topics, mainly general medicine.

Nineteen assessments are held in clinical practice. Students must reach an acceptable standard in both 'theoretical' and 'clinical' aspects, although different departments attach different importance to the two aspects. Each specialty adopts its own procedures, which include essay papers, MCQs, case-histories and oral tests of factual knowledge, and judgements of students' performance in the clinical situation. Students are assessed during each of the ten-week blocks in the final year, and their performance during this period, and, in the case of medicine, during earlier years of the course in this specialty, determines whether or not they are called for further clinical examination at the end of the clinical course, either as pass/fail or honours/distinction candidates. In such instances the elective report is brought into consideration.

Regulations

Compensatory passes are permissible: at the preclinical stage there are precise rules as to the extent; in later stages compensation is at the examiners' discretion. In the preclinical stage unsatisfactory students are re-examined in all subjects, in later stages in a failed subject only. Students failing a referred examination twice are normally asked to withdraw from the course. However, it is possible for a student to repeat a year, usually in the preclinical stage,

and if there are mitigating personal circumstances. It may also be permissible to carry a subject, but usually only a paraclinical subject because of the nature of the timetable.

External examiners are kept informed about the in-course assessments, but are only sometimes involved in them. They take part in all supplementary examinations and in selecting honours and distinction candidates.

Advice and Assistance to Students

For students with academic problems, the Tutors for Preclinical Students, the Senior Tutor/Executive Dean and individual personal and course tutors are available. The Senior Tutor interviews all students who are identified as poor or backward in their studies and the Faculty Executive Committee interviews all students in danger of being asked to withdraw or repeat a year. A formal revision course in anatomy is arranged for resitting students; in other disciplines and specialties individual tuition or supplementary clinical attachments are arranged.

To assist students with personal problems there is a multiplicity of resources, co-ordinated by the Senior Tutor. He is assisted by a lecturer in the Psychiatry Department. The University has a Student Health Service, a Welfare and Lodgings Service and a chaplaincy.

PROBLEMS

The principal problems of the medical school result directly from the 'freeze' on academic and other posts, and financial cutbacks generally. Some departments are suffering more severely than others.

NHS reorganization has benefited the medical school in opening up more hospitals for clinical teaching. However, expanding into district hospitals has meant greater reliance on NHS clinical staff for teaching, and a need to upgrade their facilities, something difficult to achieve in present circumstances. While reorganization has inevitably complicated the channels of communication, the worst dangers of bureaucratization have been avoided, and good relationships have been maintained between the various health authorities on the one hand, and the Faculty and University on the other.

DEVELOPMENTS

April 1976 saw the appearance of the Report of the Medical Curriculum Review Working Party. The Report has recommended a radical overhaul of the curriculum, advocating a course integrating more fully the preclinical and clinical stages, with emphasis on 'core-course plus options' and 'systems teaching'. The Report has stimulated, within the Medical School and beyond, a lively debate which has continued into the 1976/7 Session. It is too early to judge to what extent the recommendations of the Report will be accepted and implemented.

There are no plans at the present time to increase student numbers.

University of Bristol

Qualifying Degree. MB ChB

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Premedical: established

Preclinical: revised 1974

Clinical: revised 1976

GMC Correspondent. Professor C. S. Grunsell

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†Bristol Royal Infirmary, Marlborough Street, Bristol BS2 8HW

*†Bristol General Hospital, Guinea Street, Bristol BS1 6SY

*Frenchay Hospital, Frenchay, Bristol BS16 1LE

*Southmead Hospital, Westbury-on-Trym, Bristol BS10 5NB

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

*†Bristol Maternity Hospital, St Michael's Hill, Bristol BS2 8EG

*†Bristol Royal Hospital for Sick Children, St Michael's Hill, Bristol BS2 8BJ

In addition, the figure indicated might be approached at the following hospitals, none of which are in a 'teaching' area:

Taunton and Somerset Hospital, Taunton

The Plymouth General Hospital, Plymouth

Royal Devon and Exeter Hospital, Exeter

* Within AHA(T).

† Within teaching district.

SELECTION

Highest importance is attached to academic performance of prospective medical students. Evidence of a broad educational background at least up to O-level is also required, and considerable attention is paid to the confidential report. There is a tendency to make more 'unconditional' than 'conditional' offers, partly because of the difficulties of predicting numbers with such highly qualified applicants and partly because of a growing preference for students who have taken a year off between school and university. Only a minority of applicants are interviewed, these being mature students, overseas students, those with possible health problems and those where the headmaster's report indicates difficulties in communication.

A very small number of graduates and overseas students are admitted each year. Overseas students tend to come from countries with no medical school provision for them.

FEATURES OF THE CURRICULUM

Bristol runs 'premedical', 'preclinical', and 'clinical' courses. The unusual feature of the premedical course is that any student who is exempt from one of the main subjects may take a two-term course in nursing; this is proving very successful.

Early Years

The preclinical course is strongly scientific with some use of clinical teachers for certain lectures; some clinical biochemistry lectures are given and clinical and preclinical departments collaborate to provide a co-ordinated topic-based course at the end of the second preclinical year. During the anatomy course, prosected material is now used to a great extent. Small-group tutorials are a particular feature of the teaching in the main preclinical subjects.

Clinical Aspects

The number of lectures is small and attachments to firms are therefore virtually full-time. The first clinical year involves mainly the study of medicine and surgery, but there is also a period of eight weeks of ENT, ophthalmology, dermatology, and oncology. In the second clinical year, the other main specialties are covered, and a particular feature is the clerkship in clinical pathology (two months full-time). Each 'firm' contains 20–24 students who are divided into groups of five and spend equal periods in the four clinical pathology departments in the teaching hospital. The third year consists of three major components: a 'Supplementary House Officer' placement in a district general hospital; a course on 'Medicine in the Community' (teachers from the clinical departments co-operate with GPs in providing opportunities to study families); and an elective period of nine weeks.

The course of 120 integrated teaching sessions introduced a few years ago and run over five terms, has been discontinued, following criticisms by staff and students. It has now been replaced by subject tutorials in the first clinical year and monthly multidisciplinary symposia in the second.

Theoretical teaching in clinical subjects is mainly carried out within the individual firm—there are individual lectures in medicine, surgery, pathology, and therapeutics and the specialties are expected to undertake their own instruction during the student's attachment to them. At the present time, medicine and surgery are relating the theoretical to the 'practical' by tutorials, but because of duplication of these, they may not be acceptable in the long term. On each firm—to which there are normally six to eight students attached—there are generally two consultants and three or four juniors.

Experience in non-hospital clinical settings would be the equivalent of approximately four to five weeks full-time. Students are expected to be in residence during the clinical clerkships in medicine and surgery for at least a week each and also during the eight-week obstetric attachment. They would also most likely be in residence during the final year district general hospital attachment.

Intercalated Degree of BSc

Students have the opportunity to take an intercalated degree between the preclinical and clinical stages; while there is no fixed number of places,

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				NAME	ACADEMIC YEAR	
		TERMS TAUGHT	1	2	3 (6)			APPROXIMATE LEARNING TIME
1	Pre-Medical Year	+	+	+		176 hours 176 hours 168 hours 120 hours	Biology Chemistry Physics Nursing (subsidiary course for students exempt one or more of the other courses; no formal examinations)	1
2	First Pre-Clinical Year	+	+	+		144 hours 152 hours 144 hours 96 hours 48 hours	Anatomy (and Genetics) I Biochemistry Physiology I Behavioural Science Pathology I	2
3	Second Pre-Clinical Year	+	+	+		144 hours 120 hours 160 hours 104 hours 48 hours	Anatomy II Physiology II Pathology and Microbiology Pharmacology Integrated Sessions	3
4	First Clinical Year	+	R	R	R	1 week FT 2 x 8 wks FT 2 x 8 wks FT 2 wks FT 2 wks FT 2 wks FT 2 wks FT 16 hours 4 hours 4 hours	Introductory Clinical Course Medicine (including Radiology) Surgery (including Radiology) Dermatology Ophthalmology ENT Oncology/Venereology Pathology lectures Haematology lectures Chemical Pathology Lectures	4
5	Second Clinical Year	R	R	R	R	8 wks FT 8 wks FT 8 wks FT 4 wks FT 8 wks FT 4 wks FT 4 wks FT 4 wks FT 18 hours	Mental Health Child Health Obstetrics Gynaecology Clinical Pathology Anaesthetics Trauma Neonatology Symposia	5
6	Third Clinical Year	R	R	R	R	9 wks FT 9 wks FT 9 wks FT 4 wks	Medicine in the Community (incl. 2 wks F.T. G.P.) Supplementary House Officer (Selective) Elective Conclusion - Forensic Studies, Therapeutics, etc.	6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 11 Estimate for 1979: 12	First MB ChB Examination	1
2	30 weeks	1974: 134 Estimate for 1979: 120	Second MB ChB Section I (in-course assessment in certain subjects: may contribute to or exempt from a written examination)	2
3	30 weeks	116	Second MB ChB Section II	3
4	49 weeks	1974: 129 (including 3 'non-Bristol') Estimate for 1979: 120 (including 2-3 from Oxford, Cambridge, London)		4
5	48 weeks	121	Part I Final MB ChB (All Subjects): Written Papers. (Note is taken of end-of-term gradings in Years 4 and 5).	5
6	36 weeks	120	Final MB ChB: clinical and oral examinations only	6

students must attain a specified academic standard to be accepted. Recently between fifteen and twenty students each year have taken an intercalated degree. The degree is taken in the Science Faculty and students may study anatomy, biochemistry, physiology, medical microbiology, or cellular pathology; a recent addition to the list of options is pharmacology. The course lasts one year and involves research and course work; assessment is by dissertation and examination.

Elective Experience and Course Options

The elective period at Bristol is of nine weeks duration during the final year. It is mainly used to acquire clinical experience; nearly all students go away from the School for the elective and about 80 per cent go abroad. While students' performance is assessed during the electives, this is not a part of the School's formal assessment system. Students also select the hospital for their 'Supplementary House Officer' placement.

CURRICULUM CONTROL AND DEVELOPMENT

The Board of Medical Studies has over-all responsibility for the curriculum and establishes policy. It has a total membership of 146 and meets five times a year. The Medical Curriculum Committee has responsibility to enact policy laid down by the Board and it also effects minor amendments to the timetable. However, when a fundamental review of the curriculum was put into effect in 1967 and a more recent revision took place in 1974-5, a special committee (the Medical Curriculum Review Committee) was established; this body consulted departments and negotiated for a suitable distribution of time. The membership was restricted to a small number of key people. There is a separate sub-committee for 'Medicine in the Community' which has responsibility for the organization of this course.

There is an annual meeting of clinical teachers and lecturers and also a medical school Staff-Student Liaison Committee.

Each department is responsible for the content and presentation of its own teaching. Suggestions for change are brought from the departments to the Board of Medical Studies and the Medical Curriculum Committee. It is felt that the present mechanism for reviewing and developing the curriculum, that is through the departments themselves, is quite effective.

The Deanery

The Dean, who is part-time, is elected by Faculty Board; he is re-elected after one year and does not normally serve more than two. The medical, veterinary, and dental groups in the Faculty alternate, by convention rather than statute, in providing the Dean. There is a Preclinical Dean and Clinical Deans at four of the hospitals used for teaching; all of them are part-time, elected posts, with (at present) no maximum term of office.

Miscellaneous Topics

The Medical School draws upon University resources for such things as an Audiovisual Aids Unit, a Student Counselling Service, and a Student Health Service. An annual course on teaching and assessment methods, run by the University, is regularly attended by a few medical school staff.

STUDENT ASSESSMENT

Early Years

In the basic medical sciences courses, assessment is by end-of-course and in-course methods. In biochemistry, in-course assessment exempts all but the weak students from the end-of-course examination; in the behavioural sciences 40 per cent of the final mark is contributed by in-course assessment. The in-course assessments consist of objective-type tests, essay questions, and (in the behavioural sciences) an extended project. End-of-course examinations are taken in all other preclinical subjects and in the paraclinical subjects, and methods used include objective-type questions, short written answer questions, essays, practical examinations, and orals.

Clinical Subjects

Assessment in the clinical years utilizes both in-course and end-of-course systems. In-course assessment in the first two clinical years is by general assessment on firms; the marks gained are, together with those obtained in a class examination at the end of the first clinical year, carried through to Part I of the Final MB ChB examination where they may contribute up to 50 per cent of the total. Two written essay papers and an MCQ paper are taken at the end of this second year. This concludes the 'theoretical' written clinical examinations. The Final MB ChB, taken at the end of the third clinical year, is a 'practical' clinical examination: it consists of long cases, short cases, and oral tests of clinical knowledge. The format of this examination is under review.

Regulations

Compensatory passes may be permitted during the preclinical course and in Part I Finals; compensation is not allowed in the rest of the final examination. Re-examination is required only in a failed subject in the basic medical sciences, but if either part of the final examination is failed it must be taken again as a whole. A preclinical student failing a resit examination in a subject would normally be required to withdraw from the course, unless there were mitigating personal circumstances; a clinical student so failing would be required to repeat a year or part of it. However, it is not permitted to sit the Final MB ChB Examination more than twice.

External examiners take part in setting the examination paper in most end-of-course examinations and always moderate the over-all standard and arbitrate in marginal cases. External examiners may also be involved in the in-course assessments.

Advice and Assistance to Students

A personal tutor scheme is in operation: students are allocated to a member of staff who may be approached on personal or academic matters. Later on, students may change tutors or decide not to have one at all. However, academic matters, especially in the early years, are likely to be dealt with by departmental tutors. In addition, the preclinical and clinical deans become involved with students' problems, especially personal ones.

The University runs a student counselling service which is operated by volunteers from the University staff.

PROBLEMS

The major problems at the moment result from the present financial stringency, particularly its effect on available manpower to maintain the tutorial system which is considered a vital aspect of the School's teaching. If present staffing trends continue, funds will be needed for development of audiovisual aids and independent learning techniques. Staffing cut-backs have serious consequences for personal contacts between staff and students, and technical support (particularly important for practical classes) is also severely affected. Also, the diminishing number of medically qualified personnel in preclinical teaching has serious consequences for the 'relevance' of preclinical courses; the present separation between preclinical and clinical studies is felt to be too rigid, and an increase in the proportion of non-medically qualified preclinical teachers might accentuate the distinction.

With respect to accommodation, the teaching laboratories in particular are felt to be insufficient.

There is at present little scope for students to follow up a particular interest—though the more able students are encouraged to read for intercalated degrees.

Financial constraints have prevented the establishment of a special course for Science graduates wishing to enter medicine who have done much of the study leading up to the Second MB.

DEVELOPMENTS

The clinical academic units and hospital facilities have not expanded greatly despite the developments in the preclinical school. However, while many of the teaching hospitals are old and have a shortage of side-rooms and seminar rooms, redevelopments are in progress and the situation is improving.

At the present time attempts are being made towards greater integration between the preclinical and clinical aspects of the course.

University of Cambridge

Qualifying Degree. MB BChir

Curriculum Stages Offered. Preclinical; (clinical)

Curriculum Status. Preclinical: revised 1975

Clinical: commences 1976

GMC Correspondent. Dr T. M. Chalmers

The information in this section was collected in 1975.

See Important Note on p. 134.

Note

The preclinical course at Cambridge is a three-year degree course. Students commencing as medical students would probably follow the course of study outlined in the charts overleaf, selecting from a wide variety of options in the third year.

However, there are other possibilities: for instance, it is possible—and common—for students to enter the University to take a Natural Science (or certain other) Tripos, and then after one or possibly two years to join the medical course, by taking appropriate course units: in such circumstances, there would be very much less freedom of choice in the third year.

As the clinical course proper had not commenced at the time of data collection, details of this part of the curriculum must be regarded as tentative.

Major Hospitals used for Undergraduate Teaching

*†(New) Addenbrooke's Hospital, Hills Road, Cambridge CB2 2QQ

*†(Old) Addenbrooke's Hospital, Trumpington Street, Cambridge CB2 1QE

*†Chesterton Hospital, Union Lane, Cambridge CB4 1PT

Ipswich Hospital (all wings), Ipswich, Suffolk

*†Maternity Hospital, Mill Road, Cambridge, CB1 2AR

New Lister Hospital, Coreys Mill Lane, Stevenage, Hertfordshire SG2 0LD

Newmarket General Hospital, Exning Road, Newmarket, Suffolk CB8 7JG

Norwich and Norfolk Hospital, St Stephen's Road, Norwich, Norfolk NR1 3SR

*Peterborough District Hospital, Thorpe Road, Peterborough PE3 6DA

Later on, hospitals in the following towns will also be involved:

Bedford

Bury St Edmunds

Chelmsford

Colchester

Luton/Dunstable

Stoke-on-Trent

* Within AHA(T).

† Within teaching district.

SELECTION

The most important factor in selection at Cambridge is academic performance. The individual colleges have control over their own admissions, however. In most colleges, admissions tutors and directors of medical studies interview all likely candidates. Candidates for many colleges take a 'Cambridge Colleges Examination' in the November before *or* after they have taken A-levels. There

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES			ACADEMIC YEAR		
		TERMS TAUGHT (1, 2, 3, 4)	APPROXIMATE LEARNING TIME	NAME			
1	Medical Sciences Tripos Part IA	+	+	+	200 hours approx.	Anatomy	1
		+	+	+			
2	Medical Sciences Tripos Part IB	+	+	+	120 hours approx.	Anatomy	2
		+	+	+			
3	"Part II" (see text)	+	+	+	24 weeks FT	Natural Sciences Tripos Part II - ONE of several options e.g. Pathology, Physiology OR Medical Sciences Tripos Part II - FOUR of thirteen options (plus dissertation) OR Medical Sciences Tripos Part II (General) - TWO of several options OR Natural Sciences Tripos Part II (General) - TWO of several options OR Various other options (see text)	3
		+	+	+			
4	Clinical Phase I	+	+	+	2 weeks 20 weeks c. 130 hours	Introductory Course First: clinical appointments Subject-based course	4
	Clinical Phase II	R	R	R			
5	Clinical Phase III	R	R	R	8 weeks 8 weeks 8 weeks 8 weeks	Obstetrics and Gynaecology Paediatrics Psychiatry Neurology, General Practice	5
		R	R	R			
6		+	+	+	c. 200 hours	Subject-based Courses	6
		R	R	R			
6		R	R	R	8 weeks 8 weeks	Subject-based Courses Ophthalmology, Dermatology, Elective ENT, Orthopaedics, Elective	6
		R	R	R			
6		R	R	R	13 weeks 13 weeks	Senior medical appointment Senior surgical appointment	6
		R	R	R			

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	24 weeks	1974: 220 Estimate for 1979: 236	Medical Sciences Tripos Part IA	1
2	24 weeks		Medical Sciences Tripos Part IB	2
3	24 weeks		Medical Sciences Tripos Part II (General) or Medical Sciences Tripos Part II or Natural Sciences Tripos Part II or Natural Sciences Tripos Part II (General)	3
4	48 weeks	1974: 0 Estimate for 1979: 100		4
5	48 weeks		Final MB Part I Final MB Part II	5
6				6

is also a First MB examination which can be taken by candidates (for example graduates, of whom a number enter the course each year) who have not got the orthodox entrance qualifications. The main change in the admissions policy over the past few years has been a gradual move, on the part of some colleges, to select increasingly from among the pre-A-level candidates; it is recognized that many schools cannot offer the third sixth-form year.

For entry to the clinical course, candidates must be preparing for a degree and will have completed, before entry, three years of medical study after First MB or equivalent. It is however hoped that it might be possible in the future to arrange for students from other medical schools seeking admission to the Cambridge clinical course, who had done only two years of preclinical study, to be admitted to the Part II (General) year of the preclinical course (ie Year 3).

FEATURES OF THE CURRICULUM

From 1976, Cambridge will offer its own two-year clinical course, in addition to the established preclinical one. (At present, only 4-7 students enter a clinical course at Cambridge each year: these are generally 'exceptional' people, and special, individual arrangements are made for them.) However a large number of students enter the preclinical course and for the foreseeable future, a large proportion of the entry will proceed to their clinical studies in other schools.

Early Years

The preclinical course at Cambridge is a three-year degree course. Students commencing as medical students would probably follow the courses of study outlined in the charts, selecting from a wide variety of options in the third year. However, it is possible—and common—for students to enter the University to take a Natural Science (or certain other) Tripos, and then after one or possibly two years to join the medical course, by taking appropriate course units. In such circumstances, there would be very much less freedom of choice in the third year.

In the new arrangements for teaching in the first two years, which commenced in October 1975, the sub-division between preclinical and clinical subjects is preserved, though teaching in pharmacology begins in the second half of the first term of Year 1, and pathology teaching may begin in the second year. Biometrics has no special course devoted to it but genetics, psychology, and social aspects of medicine are now included. Extensive use is made of college-based individual 'supervision' teaching: this does not appear in the tables, which therefore underestimate total teaching time.

A new feature is an interdisciplinary course in neurobiology, whose overall aim is to help the student to understand the nervous system. A series of lectures runs concurrently with a set of practical classes. The principal contributions are made by the Departments of Anatomy, Physiology, and Experimental Psychology; smaller contributions are made by the Departments of Pharmacology and Biochemistry and by clinical staff from Addenbrooke's Hospital. It is planned to include from 1976 an interdisciplinary course in reproductive biology; anatomy, physiology, and several other disciplines will

contribute. The broad aim of the course will be to give the student an appreciation of the diverse factors involved in reproductive physiology and human reproduction. It is also planned to teach microbiology and chemotherapy in a short interdisciplinary course.

The preclinical course described is that taken by the vast majority who enter Cambridge as medical students. There is a limited amount of scope for accepting as medical students those who have entered the University to read, for example, natural sciences. It is possible for a small number of such students to take their preclinical subjects in an unorthodox order, none the less emerging after three undergraduate years with the necessary Second MB qualifications.

Clinical Aspects

There is some involvement of clinical teachers in the preclinical course, and some colleges run 'Clinical Forums'. In the new clinical course teaching will be continuous—students will be allowed only four weeks holiday: theoretical teaching will break for one week at Christmas and for six weeks in the summer. Most of the theoretical teaching will be independent of clinical teaching.

In the first phase, following the Introductory Course, students will embark on their first clinical appointments. Half a day a week will be spent in the out-patients' department. Supervised clinical clerking will be undertaken by groups of twelve students each working under a lecturer ('Clinical Supervisor'); they will move to a different group of beds every five weeks, thus seeing patients in various different units.

In addition to ward rounds and case conferences there will be weekly seminars (case-discussions) for groups of twelve students. Many clinical teachers will contribute to the programme. Discussions will be problem-orientated rather than system-based so that this teaching will not duplicate the aims of the subject-based course (see below).

Phase II consists of rotational appointments and includes a sixteen-week half-time elective chosen from a wide range of clinical and laboratory-based options.

In parallel with these activities in Phases I and II, 'Subject-Based Courses' will be offered, which will present an integrated view of particular topics: this is the main vehicle for 'theoretical' clinical teaching. It aims to help the student understand the phenomena of diseases and the principles of treatment in terms of their scientific basis. Probably all hospital and university clinical departments will be involved and there will also be some outside contributors. A Steering Committee has been established and has appointed a convener for each course who in turn have nominated a chairman for each session. Each session will last three hours and the format will be varied to include lectures, seminars, tutorials, practical work, demonstrations, and individual and small-group learning programmes.

Phase III will consist of attachments to general medical and surgical firms (though students may spend some time in a specialized unit), with about half a day a week spent attending lectures, etc.

In addition throughout the course there will be daily post-mortem demonstrations, weekly grand rounds and fortnightly clinico-pathological conferences and therapeutic conferences. Great emphasis will be placed upon clinical involvement, and in the on-going discussion groups, group interaction

will be used as a means of increasing the student's awareness of the doctor-patient relationships.

It is expected that students will spend the equivalent of three weeks in clinical settings outside the hospital. They will spend about twenty weeks in residence, made up by a two-week period in Phase I, four weeks each in obstetrics, paediatrics, and neurosurgery/accident and emergency in Phase II, and up to six weeks in Phase III.

Elective Experience and Course Options

In the new clinical course there will be a sixteen-week half-time elective between the middle of Year 4 and the middle of Year 5. This elective can be taken in a hospital department, in a university department, in the community or in a research institution; special courses may be taken, to 'exploit the particular advantages of Cambridge in the scientific field'.

In the preclinical course, a feature is the freedom given to students to take a wide variety of courses in the third year. They may follow the Medical Sciences Tripos Part II (General) or the Natural Sciences Tripos Part II (General); both contain options including pathology, which may for various reasons not have been taken earlier. Alternatively, students may take NST Part II in a single medically related subject, such as anatomy, biochemistry, genetics, pathology, pharmacology, physiology, or psychology. Also, if students are proceeding to a three-year clinical course (for example at London) they are not restricted to medical subjects in this year and may follow a course of study in such subjects as social science, archaeology and anthropology, history of art, or even Norse or Celtic.

From October 1976, it is planned to offer, in a new Medical Sciences Tripos Part II, an opportunity to study in depth four out of thirteen available subjects which would be non-essential yet provide some degree of bridging between preclinical and clinical teaching. Clinicians, non-clinicians, lawyers, biologists, geneticists, economists, and others will contribute. Students taking this course are required, in addition, to submit a dissertation or a report on a research project in a field relating to one of the courses which they are offering.

Intercalated Degree

Part II of the Natural Sciences Tripos in for example anatomy, biochemistry, pathology, pharmacology, physiology, or psychology is taken by many Cambridge medical students (see above); the courses are similar to BSc (Hons) courses offered as intercalated degrees in other universities. All students satisfactorily completing the preclinical courses are awarded the degree of BA (Honours). A student may opt to read for a higher degree, however.

CURRICULUM CONTROL AND DEVELOPMENT

In the preclinical school the Faculty Board of Biology 'B' is the body responsible for the curriculum; however, faculty boards do not hold ultimate authority and under certain circumstances their decisions may be upset by a ballot in the Regent House, comprising all the academic staff of the University. The Faculty Board Membership consists of all heads of departments; six

nominated members, six members elected by Faculty; one representative of Biology 'A', one representative of Clinical Medicine; three student members (plus two student observers); and two members appointed by the Council of Senate. The Board maintains a very close interest in teaching arrangements, while departments carry major responsibility for the content, presentation, and updating of teaching, and course administration.

The Faculty Board of Clinical Medicine carries general responsibility in the clinical school. The new curriculum was planned in outline by the Clinical School Planning Committee (of the General Board), but a Curriculum Committee of the Faculty Board of Clinical Medicine is being established with the responsibility of keeping the clinical course under regular review.

A Medical Education Committee, with representatives from the Faculty Boards of Clinical Medicine and Biology 'B', considers the interrelationship between preclinical and clinical parts of the course. It also administers the regulations for the MB BChir degree.

The Deanery

In the preclinical school there is no dean, and departments have conducted their teaching quite independently. Now there is a move towards more centralization, and the Faculty Board of Biology 'B'—often through its Secretary and Chairman—makes a greater number of the teaching arrangements. Consequently, although financial matters are largely dealt with by the Council of the School of Biological Sciences, the Secretary of the Faculty Board is becoming increasingly important. He is elected by the Board, normally for three years.

In the Clinical School there is a half-time Clinical Dean appointed by a specially constituted Appointments Committee. The appointment is subject to annual renewal. He sits on the major committees and has an interest in and overview of the Medical School curriculum as a whole. It is planned to appoint a Sub-Dean to act as a link between the Clinical School and the various outside hospitals and to supervise pre-registration training.

The Regius Professor of Physic is the academic head of the Clinical School. He has no departmental responsibilities. He carries the major responsibility for strategic planning. External liaison is shared between the RPP, the Clinical Dean, and the Postgraduate Dean.

STUDENT ASSESSMENT

Early Years

The decision has been taken not to use in-course assessment. Many feel that if continuous assessment were used, then it would have to be within College supervisions; the student might then be tempted to be more reticent in revealing his difficulties and uncertainties. Examinations are therefore held at the end of each of the three years. Techniques used in them include essays, 'open book' examinations (mainly in practical examinations), practical examinations and oral tests.

Satisfactory performance in Parts IA and IB of the Medical Sciences Tripos exempts the majority of students from the Second MB examinations. These latter now have the effective status of resit examinations.

Clinical Subjects

In clinical subjects, a decision has also been taken not to use in-course assessment as part of the formal examination system. However, there will be frequent informal assessments (including an informal examination in clinical methods after the first six months); these will be used to find out whether learning objectives have been achieved and to evaluate the teaching programme. Both 'theoretical' and 'practical' aspects of clinical subjects are examined in the final examination, and have to be passed separately. The theoretical examinations use short written answer questions, patient-problem and data interpretation questions, essays and orals, while the 'practical' clinical examination involves long cases, short cases, and oral tests of clinical knowledge. Both Part I and Part II of the Final MB Examination are taken in the final year, in March and September respectively.

Regulations

Compensatory passes are permitted by the regulations for the preclinical years, but in practice this mechanism is not used. In the Final MB, compensatory passes between subjects will not occur as the examination is integrated.

In the preclinical years, re-examination is in a failed subject only, students not being required to retake other subjects examined at the same time; students are not normally allowed to 'carry' subjects or to repeat a course—unsatisfactory students are asked to withdraw. In the new regulations for the Final MB the integrated nature of the examination requires students to pass, fail, or retake it as a whole.

As a rule, external examiners are used in all examinations serving as professional examinations. They play a full part in all aspects of examining for both preclinical and clinical subjects, taking part in setting examinations, maintaining the over-all standard, and arbitrating in marginal cases.

Advice and Assistance to Students

Both preclinical and clinical students are members of a college. Each college has a 'Director of Medical Studies' who will give advice and help to students on academic matters. Colleges also arrange supervision which takes the form of an hour's tutorial in each subject, weekly. For clinical students, academic supervision will be less formal, and from the clinical departments. Colleges also have tutors who will assist with students' personal problems; and there is a University Counselling Service. Revision courses are offered only by the Anatomy Department, at the end of the first year of the course, for unsuccessful students.

PROBLEMS

Facilities are generally good, but preclinical laboratory accommodation for pharmacology is a most pressing need; research facilities for the department are located on the new Addenbrooke's site—about three miles from the central area of preclinical departments. Libraries are attached to departments and tend to reflect the preoccupations of the discipline. Thus, subjects such as genetics do not perhaps obtain sufficient coverage. The Clinical School has a

shortage of beds available to it for the planned intake of clinical students; quite distant hospitals will need to be needed for teaching. Also, because of building delays, some new departments in the Clinical School will not be able to occupy their final accommodation until 1980 onwards.

Many preclinical staff are responsible to both their college and the University, and this can result in a very heavy teaching load. In the Clinical School, NHS staffing is not generous, especially at junior levels. Reorganization of the NHS has had little effect on the School: however some communication links could be improved.

There are problems also of administration. In the preclinical school, the departments form the basis of the administrative structure—there is only a part-time Faculty Board Secretary to act as co-ordinator. Co-operation is therefore hindered by the lack of administrative machinery to effect inter-departmental co-operation. Again, because the Colleges are the social foci in Cambridge, members of different departments often never meet. It is difficult to foster common aims and policies under such conditions.

With respect to the curriculum, perhaps the greatest problem is the great concentration of subject-matter which must be taught in the first two years. This in itself produced another difficulty; a great deal of the teaching is based on college supervision, which operates effectively with the more old-fashioned large block courses; as greater flexibility and more subjects are introduced into the medical course, it becomes more difficult to organize college-based teaching.

DEVELOPMENTS

The most significant development is the introduction of the clinical course in October 1976: this course is described above.

Recent changes in the preclinical years include the inclusion of eight lectures in medical genetics; the inclusion of a short course on social aspects of medicine; the transfer of the teaching in pharmacology from the long vacation to the main teaching terms, and allocation of more time to the subject; and the introduction of somewhat more integrated teaching between the Departments of Anatomy and Physiology in the second year. Associated with these, there have been changes in the examination arrangements which now bring genetics and pharmacology into the Tripos examination for all medical students.

There is pressure on the Faculty Board of Biology 'B' to increase the number of medical students. Increased student numbers would create needs for new staff, equipment, and buildings which might well be hard to meet at present.

University of Dublin: Trinity College

Qualifying Degree. MB BCh BAO (Dublin)

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Established course

GMC Correspondent. The Dean of the Faculty (throughout the Survey, the Correspondent has been Dr M. Cullen, to whom the School wishes to express its appreciation)

The information in this section was collected in 1975.

See Important Note on p. 134.

Note

Because of the differences between Health Service arrangements, the relationships between the medical schools and their associated hospitals are different in the Irish Republic and the UK, and medical schools form their own attachment to hospitals.

The arrangements at TCD are somewhat different from those in the other medical schools in the Republic, and are changing: they are described under 'Developments' at the end of this Profile.

General Hospitals used for Undergraduate Teaching

Adelaide Hospital, Peter Street, Dublin 8

Dr Steevens' Hospital, Steevens' Lane, Dublin 8

Meath Hospital and County Dublin Infirmary, Heytesbury Street, Dublin 8

Mercer's Hospital, Mercer Street, Dublin 2

Royal City of Dublin Hospital, Baggot Street, Dublin 4

St James's Hospital, James's Street, Dublin 8

Sir Patrick Dun's Hospital, Grand Canal Street, Dublin

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

National Children's Hospital, Harcourt Street, Dublin 2

Rotunda Lying-In Hospital, Parnell Street, Dublin 1

St Patrick's Hospital, James's Street, Dublin 8

Note. AHA(T) arrangements do not apply in the Republic of Ireland. Hospitals are recognized by the Minister of Health as teaching hospitals.

SELECTION

Academic considerations predominate when applicants are being considered for Trinity College Dublin; the medical school likes to attract a proportion of the 'cream of the school-leaving population'. In addition, about 8 per cent of successful applicants are from overseas and about 20 per cent from Northern Ireland.

The University of Dublin Matriculation Examinations may be taken as well as, or instead of, the usual school-leaving examinations and ten students or so enter the medical school each year as a result of taking it. Selection is primarily based upon school-leaving certificate grades, supplemented by the use of the confidential reports, particularly in marginal cases. Interviews are held in a few special cases for the purpose of clearing up doubts as to suitability for medicine.

There is now no great emphasis on science subjects for Republic of Ireland school leavers, but to be considered for admission, a candidate must have at least one 'B' and 'C' in science subjects. This is part of a controlled move towards more flexibility. A study is in progress to establish what, if any, correlation exists between school-leaving examination results and performance in the various examinations during the medical course, with particular reference to certain subjects. It is likely that this will lead to further changes in the selection policy. The changes made already are based on the findings that no correlation exists between individual subjects at school and the same subjects in the premedical year.

No set number of places is reserved for graduates or other mature students, but they are considered for entry, and a number of outstanding graduates are admitted each year, as well as one or two 'late vocations' from the business world and elsewhere.

FEATURES OF THE CURRICULUM

The premedical year is retained to bring the varied intake to a common level of competence in the appropriate science subjects, ready to start the medical course proper. Elective projects are available for 'marginal' students and a study group is examining how to achieve better integration of the year with the medical curriculum. As a first step, the orientation session for new students now takes place at St James's Hospital under the professors of medicine and surgery.

Early Years

The two years of the preclinical course include instruction in the behavioural sciences, genetics, and statistics, in addition to the classical disciplines. In the preclinical years some patient demonstrations are given to illustrate certain points and students may attend a number of optional clinics in medicine and surgery, held on Saturday mornings in term time; these are intended to stimulate interest and to give a better understanding of anatomy, biochemistry, and physiology as applied in clinical practice. In the summer term of Year 3, the Introductory Course in clinical method runs for five half-days each week in tandem with formal teaching in the paraclinical disciplines.

Clinical Aspects

The unit for patient-based teaching is the firm, which may be single-specialty in the case of small firms (one consultant, two juniors) or mixed in the case of professorial units which are larger and include representatives of sub-specialties. A small firm takes two to three students at a time, a larger one takes five students. Teaching is not a separate special activity because students learn from observing and participating in patient care.

Patient-based clinical work is co-ordinated with theoretical teaching by the full-time clinical professors who have over-all responsibility for clinical teaching. They organize a co-ordinated course based on systems as well as separate projects based on their own departments. There is a weekly clinico-pathological conference, as well as department-based case-studies. The most common formal teaching method is the lecture; sometimes, when dealing with

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT						
		1	2	3	4			
1	Pre-Medical	+	+	+		155 hours	Biology	1
		+	+	+		245 hours	Chemistry (including 90 hours optional tutorials)	
		+	+	+		149 hours	Physics	
2	1st Medical Pre-Clinical I	+	+	+		258 hours	Anatomy	2
		+	+	+		142 hours	Biochemistry	
		+	+	+		115 hours	Physiology	
					50 hours	Histology		
					9 hours	Genetics		
					21 hours	Statistics		
					27 hours	Pharmacology		
					6 hours	Clinical Medicine: demonstrations		
3	2nd Medical Pre-Clinical II	+	+	+		143 hours	Anatomy	3
		+	+	+		59 hours	Biochemistry	
		+	+	+		166 hours	Physiology and Histology	
					3 - 4 hours	Clinical Demonstrations		
					48 hours	Pharmacology		
					22 hours	Behavioural Sciences		
					8 hours	Medical Sociology		
					40 hours	Microbiology		
					30 hours	Pathology (Introduction)		
					9 weeks PT	Elective Project		
					8 weeks ½ time	Introduction to Clinical Medicine and Surgery		
4	3rd Medical Clinical I	+	+	+		28 hours	Medical Microbiology	4
		R	R	R		120 hours	Pathology	
		+	+	+		2 weeks ½ time	Pathology clerkship	
					c. 70 hours	Pharmacology (Clinical Pharmacology and General Therapeutics)		
					24 hours	Psychiatry lectures		
					44 weeks ½ time	Clinical Instruction: Medicine, Surgery and some specialties.		
5	4th Medical Clinical II	+	+	+		38 weeks (min) PT	(Clinical Medicine, Clinical Surgery, Paediatrics, Psychiatry, Obstetrics, Anaesthetics, E.N.T., Neonatal Paediatrics)	5
		+	+	+		55 hours	Social Medicine	
		+	+	+		30 hours	Medical Jurisprudence	
					10 hours	Applied Physiology		
					8 weeks	Final Year attachments commence		
					Up to 8 weeks	(Voluntary) Elective		
6	5th Medical Clinical III	R	R	R		36 weeks (min)	Final year attachments continue: Paediatrics (4 wks), Medicine and Surgery (20 wks min), including specialties	6
		R	R	R		1 week	General Practice	
		+	+	+		6 sessions	Psychiatry	

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	21 weeks	1974: 84 Estimate for 1979: 83	Pre-Medical Examination	1
2	28 weeks	1974: 102 Estimate for 1979: 90	(in-course assessments) Review of In-course Assessment	2
3	37 weeks	80	(in-course assessments) Review of In-course Assessment: most students are exempt from the First Medical Examination as a result. First Medical Examination	3
4	46 weeks	1974: 85 Estimate for 1979: 80	Second Medical Examination Part I (Pharmacology) (contribution from in-course assessment) Second Medical Examination Part II (Pathology and Microbiology)	4
5	46 weeks	79	Final Medical Examination Part I (Social Medicine and Medical Jurisprudence)	5
6	30 - weeks	75	Final Medical Examination: Parts II, III, & IV (Medicine, Surgery, Psychiatry, Paediatrics, Obstetrics/Gynaecology) (written papers) Final Medical Examination Parts II, III, & IV (clinical, practical and oral)	6

a controversial aspect, two or more teachers (for example a physician and a surgeon) come together to express their views and then throw open the debate to the whole class. Concentrating the lectures into a multidisciplinary sequence like this has left the final year free of formal teaching so that students can enjoy full-time clinical experience. Self-instruction programmes are becoming widely available and all clinical students now have access to 'home-made' and purchased tape-slide units.

Up to 5 per cent of the students' total clinical time is spent in non-hospital clinical settings, including an attachment to a general practice, and some time at the university practice.

The stipulated minimum period of residence is four months. Typically, students spend up to six months 'living in', and as many of them live very near their hospital, they spend much of their free time there.

Clinical teaching has been very decentralized and courses in one hospital not necessarily duplicated in another. Students have identified with the hospital in which they spend most of their time and receive most of their general instruction, while going elsewhere for some specialties. But with the appointment of an increasing number of full-time professors, lecturers, and tutors there has been better supervision and co-ordination of the teaching programme.

Intercalated Degree of BA

To be accepted for study for a one-year intercalated degree (called a 'moderatorship'), students must reach a sufficient standard in the subject they propose to study. Recent subjects have been biochemistry and physiology (taken between Years 3 and 4), and pathology and pharmacology (taken during or at the end of the clinical course). Research work and course work is required; the assessment is by formal examination alone. In recent years very few students have taken a 'moderatorship' but now the typical number will be four.

Elective Experience and Course Options

Attendance at Saturday morning clinics by preclinical students is optional although students would be expected to attend at least some. In the summer term of Year 3 three half-days a week are set aside for 'independent study'. Some students do nothing in particular, some choose a research project, and others attach themselves to a clinical department.

The elective in Year 5 must be taken by all students; they are expected to gain further clinical experience which need not be in hospital but usually is. Up to 70 per cent go away from the medical school; the USA is the most popular destination followed by Europe and Africa. Students are positively encouraged to go abroad.

The Medical School can arrange one-week electives in general practice.

In the final year students may 'freelance' by joining the ward rounds or clinics of any consultant in any of the hospitals, disregarding on these occasions the official timetable of their residential clerkships.

CURRICULUM CONTROL AND DEVELOPMENT

Periodically the curriculum at Trinity College Dublin is redesigned in whole or in part and currently it is under review once more. However, the machinery for review has been found to be unwieldy, and it is being reviewed also.

At present, the Faculty of Medical and Dental Sciences, to which all full-time and part-time staff belong, has over-all responsibility; it meets once each term. Its Executive Committee is responsible for putting the Faculty's policy decisions (curricular and non-curricular) into effect, and this committee meets monthly.

Two *ad hoc* working parties have been appointed by the Executive Committee: the Preclinical and the Clinical Curriculum Committees. Each consists of three lecturers and one student. Since 1973, they have met frequently and have interviewed all teaching staff to ascertain the present position, and the priorities for change, and the acceptability of various possible measures.

A residential weekend conference open to all Faculty members took place recently to discuss goals for medical education, and a one-day seminar with representatives of the community (the 'Consumer') has been held.

The Deanery

The 'part-time' Dean (about four-fifths of his time is devoted to the Deanship) is elected by Faculty for an initial three-year term of office and may be re-elected for a further three years. While there is a part-time Vice-Dean who is elected on the same basis as the Dean and whose principal function is to deputize for and assist the Dean, there is also a full-time Registrar who is a professional administrator recruited from the business world who is responsible for the administration of the Faculty which has been decentralized from the Central University Administration. The post has been a great success and is a valuable resource.

Miscellaneous Topics

The Medical Library is now equipped with self-instructional booths, and a number of clinical departments (for example, psychiatry) produce their own videotapes and tape-slide programmes.

STUDENT ASSESSMENT

The system is a mixed one with the balance of in-course and end-of-course assessment varying through the course.

Early Years

At the end of each of the preclinical years the marks gained from class tests (objective questions and orals) and practical work are summed and a decision taken whether to exempt a student from formal examination (objective questions, short-answer questions, and oral examinations) in September. Unsatisfactory in-course assessment in a single major subject means taking the whole of the supplementary examination. In the paraclinical subjects, examined in Year 4, in-course assessment counts significantly towards the

pharmacology result but not for pathology and microbiology; the end-of-course examinations in these two subjects make use of essay, practical, and oral techniques.

Clinical Subjects

In the final end-of-course examination the 'practical' and 'theoretical' clinical examinations must be passed independently, but a marginal performance in the theoretical element could be upgraded by success in the 'practical' clinical element. The written examination—a common MCQ paper for all major clinical subjects except obstetrics and gynaecology—is held at the end of the spring term; the clinical, oral and practical ('provided data', etc.) examinations are held in May/June.

Case-histories written up during the medical and paediatric clerkships are handed in to be marked as part of the final examination; this is the only significant contribution of in-course assessment. However, firms make subjective judgements of students' abilities during the clerkships, tutors (hospital registrars) also note their progress and the medical professorial unit keeps a more formal record; taken together, these may be used by the external examiners in the case of borderline students.

Regulations

There are no specific rules regarding compensation arrangements; compensation is, however, possible at the examiners' discretion. At the second attempt at an examination in a clinical or paraclinical subject, normally only the failed subject is retaken, but in a preclinical subject all subjects taken concurrently would be reassessed. 'Carrying' subjects is only permitted in the case of pharmacology, pathology, microbiology, social medicine, and medical jurisprudence; otherwise failure by a student on a resit examination would lead to his being required to withdraw from the course, unless circumstances were exceptional and there were facilities available to repeat the relevant year.

External examiners assist in the setting of some end-of-course examinations, and moderate the over-all standard and arbitrate in marginal cases in most of them; they are rather less closely involved in the in-course assessments. The external examiners have great discretion at all stages of the course.

Advice and Assistance to Students

Each student has a full-time member of staff who acts as his Tutor through the whole course. These Tutors need not be medical; and they should not be confused with hospital 'Tutors' (qv) who are junior doctors entrusted with teaching and some administrative duties in connection with the undergraduate programme in their hospital. The student's Tutor can call upon the Dean of Studies or on medical colleagues to help when necessary.

Informal tuition within a department can be arranged for students falling behind with their studies, but formal revision courses are not held.

PROBLEMS

A minor problem is the diffuse nature of clinical teaching; seven general hospitals are used for teaching and lines of communication are therefore

complex and extended. The large proportion of part-time staff makes the curriculum control and development procedures cumbersome—no-one has enough time to take executive responsibility but everyone likes to be involved in discussion. Also, the departments retain powers of decision and implementation. But there is hope of a full-time appointment in medical education.

Although scheduled clinical teaching group sizes are small, some teaching exercises (particularly those run by popular consultants) are very crowded, owing to the latitude given to students to attach themselves to whom they wish for ward rounds or clinics in the final year.

DEVELOPMENTS

The TCD Medical School, founded in 1662 (as the 'School of Physic') has a long association with six of Dublin's oldest 'voluntary' hospitals serving the sick poor of the City of Dublin. About ten years ago these hospitals came together under a unified management structure in an organization called the 'Federated Dublin Voluntary Hospitals' (FDVH). While this is the largest hospital group in the country, the individual hospitals are small, and the purpose of amalgamation is to rationalize the service of the group at one location which would be still within reach of the poorer sections of the population. The problem of finding a suitable location was solved when St James's Hospital (with the approval of the Minister of Health) joined the Trinity College/FDVH Group. St James's has a very large open campus, and it is planned to develop there a major University Medical Centre with a wide range of medical and surgical specialties. These plans have the support of the Ministry of Health, and the academic units of medicine, surgery, and psychiatry are located there already. A major rebuilding programme is due to start shortly, with the building of the new pathology laboratories to meet the service and the academic needs of histopathology/morbid anatomy, microbiology, haematology, biochemistry, and immunology.

The managements of the Medical School and its hospitals are closely interwoven. All hospital consultants are members of the Medical Faculty with full voting rights. Hospital medical committees are represented on the Medical School Executive Committee, and the Chairman and the Chief Executive of the hospital group are members of the School Policy Committee. The Dean and other senior academic clinicians are members of the governing bodies of the hospitals. The Medical School is represented on the selection committees for all consultant posts in the hospitals, and the hospital group appoints one-third of the members of selection committees for academic posts. The student body is represented on the Executive Committee of the School, and has contributed constructively to planning and to day-to-day decision-making.

There is a well-established tradition of clinical leadership provided by the Medical School, and it has long been the ambition of the School and its hospitals to have strong academic units in the major clinical areas. Full-time Chairs now exist in Medicine, Surgery, Paediatrics, Obstetrics/Gynaecology, Psychiatry, and Social Medicine with supporting full-time lecturer staff at consultant and registrar level. The five branches of pathology are headed by full-time academics who are responsible also for the hospital service work.

Each of them runs a laboratory within which service, teaching, and research are totally integrated.

A feature of the management philosophy of the School is the active liaison which is encouraged between the Clinical and the Preclinical Departments. Collaborative research projects exist linking, for example, the basic science departments of biochemistry, microbiology, and physiology with their clinical counterparts. In fact, in microbiology, the basic science and the clinical departments have recently merged in a joint venture between the Medical and Science Faculties to form one integrated department of microbiology under joint management.

A new science block on the campus to include the basic medical sciences is planned for the 1980s. In the clinical area, the medical school has purchased and is developing a teaching general practice. Over the next ten years a large new general hospital will be built on St James's site, and will house the departments and patients of the present small hospitals. In the future, Trinity College hopes to form a joint clinical school with University College Dublin, which would improve and rationalize the opportunities, particularly for postgraduate training.

Finally, the School is engaged in a study of aims and objectives in medical education as a basis for a new curriculum which will harness the resources of the School to provide the maximum educational benefit for its students. In this study, the School is being assisted by a group representing various community interests which is attempting to identify what the 'consumer' perceives to be the role and place of the doctor in modern society. The present curriculum review is focusing on the perceived deficiencies in the present curriculum:

- (a) Its objective of a fully-qualified practitioner rather than a multi-potential basic doctor.
- (b) The emphasis on acquiring knowledge, almost excluding skills and attitudes (this has been due to the growth of knowledge, the growth of specialization, and the examination system).
- (c) The rigid division into premedical/preclinical/clinical.

Likely changes will include the expansion of behavioural sciences and clinical teaching in the early years, and some continuation of basic scientific teaching into the later years.

Whilst no over-all change in student numbers is planned, the number entering the pre-medical year may be adjusted. Partly this is due to the increasing number of applicants who are suitable for direct entry into the preclinical years, but it is also a reflection of declining 'wastage' throughout the course.

University of Dundee

Qualifying Degree. MB ChB

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Premedical: established

Preclinical: revised 1971

Clinical: revised 1973

GMC Correspondent. Dr W. P. Dallas Ross

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

Ninewells Hospital, Dundee DD2 1UB

Perth Royal Infirmary, Perth PH1 1NX

Bridge of Earn Hospital, Bridge of Earn, Perthshire

Straththro Hospital, Brechin, Angus DD9 7QA

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Dundee Royal Infirmary, Barrack Road, Dundee DD1 9ND

King's Cross Hospital, Clepington Road, Dundee DD3 8EA

Royal Dundee Liff Hospital, Liff, by Dundee DD2 5NF

Strathmartine Hospital, by Dundee, Angus DD3 0PG

Note. The AHA(T) distinction does not apply in Scotland.

SELECTION

The main criterion for selection to the course at Dundee is academic achievement, but the confidential report on the UCCA form is also considered important. Only where there is doubt is a candidate interviewed, but in these cases the interview is crucial; on average about forty applicants are interviewed each year. Within the same area of academic attainment, local or other Scottish candidates are favoured. The percentage of candidates from Scottish schools varies between 60 per cent and 75 per cent.

There is no specific quota for overseas students but up to three might be admitted each year. Similarly, there is no quota for graduates, although some ten a year are admitted. Graduates in biological sciences may under certain circumstances take an accelerated, four-year course.

FEATURES OF THE CURRICULUM

The medical curriculum at Dundee has recently undergone a number of substantial changes; this has resulted in clinical experience being gained by students earlier than was previously the case. The first cohort of students to complete the new curriculum qualify in 1976.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES			ACADEMIC YEAR
		TERMS TAUGHT 1 2 3 4	APPROXIMATE LEARNING TIME	NAME	
1	Pre-Medical	+ + +	210 hours	Biology, including some Biostatistics and Genetics Chemistry Physics	1
		+ + +	243 hours		
		+ + +	240 hours		
2	Pre-Clinical Year 1	+ + +	99 hours	Cells and Tissues (Embryology, Histology, Cytology) Gross Anatomy Biochemistry Physiology Biophysics Biostatistics	2
		+ + +	162 hours		
		+ + +	207 hours		
		+ + +	189 hours		
		+ + +	36 hours		
3	Pre-Clinical Year 2	+ + +	12 hours	Applied Medical Sciences (Anatomy, Physiology, Growth and Development) Basic Pathological Sciences Applied Biochemistry Pharmacology Behavioral Sciences Biophysics	3
		+ + +	174 hours		
		+ + +	99 hours		
		+ + +	90 hours		
		+ + +	159 hours		
4	Clinical Course 1st Year	+ + +	156 hours	Co-ordinated Systematic Course in Medical Studies Clinical Studies (see text); Medicine, Surgery, Communicable Diseases, ENT, O + G, Ophthalmology, Paediatrics, Respiratory Diseases, Applied Pathological Sciences Bacteriology Approved Summer Studies	4
		+ + +	406 hours		
		+ + +	182 hours		
		+ + +	108 hours		
5	Clinical Course 2nd Year	+ + +	10 weeks FT	Approved Summer Studies	4
		+ + +	110 hours		
		+ + +	312 hours		
		+ + +	30 hours		
	+ + +	120 hours (total)			
+ + +	2 (PT)	Co-ordinated Systematic Course in Medical Studies Clinical Studies, continued. Pathology: post mortems. Lectures in: Obstetrics/Gynaecology, Child Health, Psychiatry, Communicable Diseases, Therapeutics, Geriatrics, Forensic Medicine, Community and Occupational Medicine 5th Year Assignment	5		
6	Clinical Course Final Year	R	18 weeks FT	Commencement of Final Year Attachments (see below)	6
		R R R	30 weeks FT		
Continuation of Final Year Attachments: Surgery, including Orthopaedic and Traumatic Surgery and Anaesthetics (8 wks); Medicine including ophthalmics (5 wks); Obstetrics/Gynaecology and Perinatal Paediatrics (8 wks); Child Health (8 wks); General Practice/ENT/Clinical Laboratory Studies (8 wks); 'Selected Studies' - an Elective - (8 wks)					
* This is a continuous course, commencing in July.					

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 61 Estimate, not known for 1979	First Professional Examination	1
2	30 weeks	1974: 115 Estimate for 1979: 115	Second Professional Examination (Anatomy, Biochemistry, Physiology) (major contributions from in-course assessment; exemption frequent from some examinations)	2
3	30 weeks	111	Third Professional Examination (Basic Biological Sciences, Applied Medical Sciences, Behavioural Sciences, Pathological Sciences) (major contribution from in-course assessment; exemption frequent from some examinations)	3
4	40 weeks	1974: 109 Estimate for 1979: 110	Fourth Professional Examination (Medical Studies Part I: Applied Pathological Sciences) (major contribution from in-course assessment)	4
5	30 weeks	95	Fifth Professional Examination: written papers (Medical Studies Part II: Obstetrics/Gynaecology, Child Health; Community and Occupational Medicine, Psychiatry). (major contribution from in-course assessment)	5
6	48 weeks	96	Sixth Professional Examination: Clinical and Oral	6

Early Years

A substantial proportion of the preclinical teaching is interdisciplinary. 'Applied Medical Sciences' covers sub-courses in clinical anatomy, growth and development, applied physiology, medical biophysics, and endocrinology. As the title suggests, the course is intended to relate the scientific basis of medicine to clinical situations. While the over-all planning of the course is the responsibility of the Early Years Sub-Committee, detailed content planning is undertaken by the participating departments.

The over-all aims of the behavioural science course are to help the student bridge the gap between the scientific approach of the early years and the clinical emphasis of the later years, and to help the student understand the concept of the multifactorial causes of illness. The main themes of the course are medical sociology, medical psychology and clinical methods, and departments concerned with organizing and teaching it are Community and Occupational Medicine, Psychiatry, and General Practice; the head of the Department of General Practice co-ordinates the work. Patient contact forms a part of the course and students visit GP surgeries frequently. There is teaching of interviewing skills, in collaboration with the Department of Audiovisual Aids. Students undertake projects.

The aim of the applied biochemistry course is to bridge the gap between biochemistry and biochemical medicine; clinicians participate in its teaching.

Clinical Aspects

There is quite considerable clinical teaching in the preclinical years—clinical demonstrations are given and three-quarters of the teaching in the third year is conducted by paraclinical and clinical teachers.

During the fourth and fifth years in all subjects other than psychiatry, clinical teaching is organized by a system of Clinical Teaching Teams (in the sixth year, students are attached to firms in the conventional way). Each clinical teaching team, of which there are three, consists of between 26 and 34 members of academic and NHS staff, from a large number of specialties. All students rotate between all teams in groups of seven to eight, and much of the day-to-day organization is conducted by the Joint Clinical Teaching Office.

Theoretical teaching on clinical subjects is given in a Co-ordinated Systematic Course in Medical Studies (CSC), and there are also some departmental lectures.

The aim of the CSC course is to enable the student to develop the ability to apply the principles of scientific medicine to the treatment of patients. The design of the course is also intended to encourage students in independent thinking and as preparation for continuing education; it is systems-based. The CSC course has replaced lecture courses in medicine, surgery, and therapeutics, and a number of specialties. Responsibility for organizing the course rests with the heads of the Departments of Medicine, Therapeutics, and Surgery, but an individual co-ordinator is responsible for each topic or system. The Joint Clinical Teaching Office services the course. To relate practical clinical teaching to the course, the clinical teaching teams are asked where possible to base some of their clinical teaching on the current CSC topic.

Intercalated Degree of BMSc

The one-year intercalated Honours degree course at Dundee may be taken by students attaining a specified academic standard, and is followed between Years 3 and 4. Typically, up to six students take such a degree each year. The degree may be taken in anatomy, biochemistry, general pathology, and genetics, but it is hoped to add further options. Learning activities include research and some course work, and the degree is awarded on the basis of a dissertation and an examination.

Elective Experience and Course Options

A number of elective opportunities is offered at Dundee. During the first (premedical) year, students with exemptions in major subjects choose another course. In the second and third (first and second preclinical) years a minority of students undertake a project.

During the summer vacation period at the end of the fourth year, all students take a ten-week period of 'Approved Summer Studies', of which not less than five weeks must be spent in clinically oriented experience. During the fifth year, students must complete an assignment as a part-time activity. A list of prepared topics are available, or they may put forward one of their own for approval. A report of the assignment is written and assessed as part of the Medical Studies Part II examination. In Year 6, all students spend an eight-week elective in a clinical specialty; while some students undertake this period in Dundee, a large number go to other centres in the United Kingdom or overseas. This period is known as 'Selected Studies'.

CURRICULUM CONTROL AND DEVELOPMENT

The Faculty Board of the Faculty of Medicine and Dentistry has final authority over the curriculum. Its 'Undergraduate Medical Education Committee' (UMEC) makes recommendations on all aspects of the curriculum and deals with all general matters concerning it. Members of UMEC are appointed as individuals, and a balance is maintained of seniority and interests; student observers attend all meetings. UMEC was mainly responsible for implementing the new curriculum and continues to be concerned with its running. UMEC has three sub-committees; the Early Years Curriculum and Assessment Sub-Committee and the Later Years Curriculum and Assessment Sub-Committee implement the policy of UMEC for the appropriate years, monitor and review the curriculum, arrange assessments and examinations in consultation with heads of departments, and make recommendations to UMEC. The third sub-committee is the Policy and Planning Sub-Committee: its main function is to debate major policy, and to make long-term recommendations.

UMEC and its sub-committees are permitted to constitute working parties, and a number of these have been in existence. In addition, there are two 'steering groups': the Steering Group for the Co-ordinated Systematic Course and the Steering Group for Clinical Teaching Teams.

For single-subject courses, heads of the departments concerned are responsible for content and presentation. If a course involves more than one department, the course is organized by a committee for that course, acting for UMEC, and in consultation with the heads of department concerned.

The Deanery

The part-time Academic Dean of the Faculty is elected by Faculty Board; the appointment is annual, and has a maximum tenure of four years. The Medical School also has a full-time Administrative Dean, with professorial status.

Miscellaneous Topics

The Universities of Dundee, Heriot-Watt, St Andrews, and Stirling annually run joint training courses for lecturers. In 1974, two Dundee medical staff members attended. The course covers teaching methods, assessment, course evaluation and design of learning materials.

In addition, the Centre for Medical Education in the Medical School, unique in the British Isles, runs courses and seminars on subjects of interest and is available to offer help and advice to individuals and departments. It also circulates a newsletter to members of Faculty.

STUDENT ASSESSMENT

At all stages of the course there is a fairly high proportion of in-course assessment. This was largely introduced concurrently with the new curriculum.

Early Years

In the preclinical years, assessment is based on both end-of-course and in-course assessment, roughly equal in importance. In the end-of-course examinations a variety of assessment procedures are used: objective, short written answer and essay questions, also practical and oral examinations. In in-course assessment, objective and essay questions, prepared written work, extended projects, assessment of practical course work and orals are used. Paraclinical subjects are tested mainly by in-course methods, including objective and essay questions, and prepared written work. End-of-course assessment techniques used include objective questions, questions requiring short written answers, essays, and practical examinations.

Clinical Subjects

A major part of the 'theoretical' clinical examination is by in-course assessment. There are termly MCQ examinations each contributing one-third to the total for Year 4; the summation of these tests is called the Medical Studies Part I examination. A similar system operates for Year 5, when the assignment report is also taken into account.

In Years 4 and 5 there is informal 'practical' clinical in-course assessment, using a variety of techniques, some experimental. In the sixth year, there is the formal 'practical' clinical examination; this involves long cases, short cases, and orals. 'Theoretical' and 'practical' assessments must be passed independently.

Regulations

Compensatory passes are permitted at all stages of the course, though with quite different conditions at different stages of the course. Students who fail an examination are normally required to retake that examination only—but

examinations are frequently multi-subject. 'Carrying' subjects is not normally permitted and retaking a year is rarely allowed except in extenuating personal circumstances; the case of a student who fails upon re-examination is examined by a Limitation of Studies Committee.

External examiners are involved in most examinations, in the maintenance of standards and in arbitration in marginal cases. They may also be involved in setting examinations. External examiners, while being required to be familiar with the in-course assessment procedures, are involved only in some of them.

Advice and Assistance to Students

A 'Regent' scheme provides the students with advice and support for both academic and personal problems for their first year at the University. Regents—who are University staff members—are expected to supervise their students' general progress, to give their students such advice as may be necessary and to assist students as far as possible with the difficulties of adjusting to university life. Also, there is a 'Senior Man' scheme where a third-, fourth-, or fifth-year student takes a freshman as his responsibility for general academic and (in particular) social aspects of life at university. During later years of the course, help would be provided either from the Dean's Office, the departments, or the Student Health Service.

The programme of Approved Summer Studies in the fourth year takes account of the possible needs of students for revision work towards resits in August. Also, the programme for the start of the sixth year takes into account the needs of students taking fifth-year re-sits. Apart from this, academic assistance to students who have failed examinations is on an informal and individual basis.

PROBLEMS

One of the main constraints on clinical teaching at Dundee is the availability of patients. The teaching hospitals have a far lower 'population base' than those attached to other British medical schools. All available hospitals are therefore used in order to provide sufficient clinical material. There is the consequent problem of devising a curriculum which makes efficient use of the clinical resources available, and many staff members feel that, with the present rotation of students around the clinical teaching teams, this has not yet been achieved. Again, because the population of the area is small, the number of some sub-specialty staff to which the medical school has access is low, and these people carry a particularly heavy teaching and clinical burden.

A logistic difficulty exists in the physical separation of the Basic Medical Sciences building, the Clinical Medical School, and the Faculty Office.

DEVELOPMENTS

The structure of the curriculum is continually undergoing change; however, the only major change at present being contemplated is a move from a six-year curriculum to a five-year one, as the normal curriculum. A working party has reported on this proposal and it has recently been approved: in future, the first year will be designated the premedical year, and will be taken by only a small minority of students.

University of Edinburgh

Qualifying Degree. MB ChB

Curriculum Stages Offered. (Premedical); preclinical; clinical

Curriculum Status. Premedical: established: possibly to be phased out

Preclinical: established

Clinical: established

GMC Correspondent. Professor A. S. Duncan

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

Royal Infirmary of Edinburgh, Lauriston Place, Edinburgh EH3 9YW

Western General Hospital, Crewe Road, Edinburgh EH4 2XU

City Hospital, Greenbank Drive, Edinburgh EH10 5SB

Eastern General Hospital, Seafield Street, Edinburgh EH6 7LN

Leith Hospital, Mill Lane, Edinburgh EH6 6TH

Northern General Hospital, Ferry Road, Edinburgh EH5 2DQ

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Elsie Inglis Memorial Maternity Hospital, Spring Gardens, Edinburgh EH8 8HT

Liberton Hospital, Lasswade Road, Edinburgh EH16 6UB

Princess Margaret Rose Orthopaedic Hospital, Fairmilehead, Edinburgh EH10 7ED

Royal Edinburgh Hospital, Morningside Place, Edinburgh EH10 5HF

Royal Hospital for Sick Children, Sciennes Road, Edinburgh EH9 1LF

Royal Victoria Hospital, Comely Bank, Edinburgh EH4 2DN

Simpson Memorial Maternity Pavilion, Lauriston Place, Edinburgh EH3 9EF

Victoria Hospital, Dunnikier Road, Kirkcaldy, Fife KY2 5AH

Note. The AHA(T) distinction does not apply in Scotland.

SELECTION

At Edinburgh, the policy is to select candidates with high academic potential. However, the confidential report is given considerable importance in the selection process. Interviews are not part of the normal admission procedures, but doubts about an applicant's health, etc., may be followed up by interview or personal inquiry. Regularly, a few students gain entry directly to the second year of the course by taking the first-year examinations as external candidates.

A few places are reserved for overseas candidates (about 3 per cent) and graduates (for example, from Oxford or Cambridge) are sometimes admitted to the course. The ratio of Scottish to other UK entrants is maintained at roughly 3 : 2.

The Medical Education Research Group is mounting a research exercise to investigate the possible role of personality tests and other aids in selection for entry to medical school.

FEATURES OF THE CURRICULUM

The introduction of the present curriculum commenced in 1963. The two main stages—preclinical and clinical—are firmly separate. The BSc (Med Sci) is awarded at the end of the second preclinical year (see below).

Early Years

About one-third of entering students are exempted from the whole of Year 1 (the premedical year equivalent) but many more are exempted from one or two of its courses, in which case they study one or two of fifteen or so options: the most popular of these by far is 'Psychology and Sociology in Relation to Medicine'.

A behavioural science course has also been introduced in the second preclinical year: it is an addition to the 'classical' subjects taught at that time.

Clinical Aspects

In the preclinical course, a certain but not significant amount of clinical teaching takes place, mainly during the physiology course, to illustrate clinical aspects. In addition, voluntary clinical experience is organized by the students in the form of informal attachments to general practitioners, and visits to hospital wards and clinics: this takes place on Saturday mornings and at 8 am on weekdays.

For later clinical teaching, the size of each student group changes from 12 to 14 students in Year 4, to 1 to 4 students in the Final Phase (Years 5–6). The unit for clinical teaching is a ward unit, or 'charge', normally single specialty, consisting of 2–3 consultants and 4–5 junior staff. Patient-based teaching is carried out within the unit, principally as an extension of patient care.

The main vehicle of theoretical teaching about clinical subjects is the 'Nature of Disease' course which runs through Year 4. All clinical disciplines are represented, and pathology and bacteriology also are heavily involved. Lectures are co-ordinated, to follow a sequence of body-systems; there are also symposia on a variety of clinical problems. The practical classes in pathology and bacteriology, on one hand, and the part-time clinical work on the other, are correlated as far as possible with the themes under consideration in the formal teaching.

The clinical course includes two to four weeks' compulsory hospital residence, and eighteen full afternoons out of the hospital environment, in general practice and community medicine. It is very unusual for students to spend more than the minimum period in residence due to lack of accommodation.

The final term of the sixth academic year is the Revision Term. Most of the teaching is intended to provide revision; attendance at any lecture or other teaching session is voluntary. Various clinical departments provide bedside teaching or other forms of instruction and there is a five-week course of lectures in therapeutics.

Degrees of BSc (Med Sci)

The non-medically qualifying degree of BSc (Med Sci) is awarded to all students successfully completing all subjects taken in the first three years of

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT						
		1	2	3	(4)			
1	Pre-Medical	+	+	+		140 hours	Biology	1
		+	+	+		220 hours	Chemistry	
		+	+	+		160 hours	Physics	
(also options for exempted students: see text)								
2	Pre-Clinical	+	+	+		390 hours	Anatomy	2
		+	+	+		150 hours	Biochemistry	
		+	+	+		230 hours	Physiology	
3	Pre-Clinical	+	+			54 hours	Neuro-anatomy	3
		+	+			40 hours	Practical Anatomy	
		+	+	+		124 hours	Biochemistry	
		+	+	+		180 hours	Physiology	
		+	+	+		180 hours	Pharmacology	
		+	+			80 hours	Pathology	
		+	+			100 hours	Bacteriology	
		+	+			54 hours	Behavioural Sciences	
4	Clinical Year 1	+	+	+		285 hours	'Nature of Disease': lectures etc.	4
		R	R	R		20 weeks PT	'Nature of Disease': Clinical Medicine } total	
		R	R	R		10 weeks PT	'Nature of Disease': Clinical Surgery } c.300 hr	
		+	+	+		120 hours	'Nature of Disease': practical work in Pathology and Bacteriology	
					+	6 weeks FT	Elective	
5	Clinical Year 2	+	+			24 weeks FT	Rotating lectures/clinical work in: Anaesthetics (12 hrs); Child Life and Health (110 hrs); Clinical Chemistry (12 hrs); Community Medicine (60 hrs); Dermatology (35 hrs); Forensic Medicine (33 hrs); General Practice (60 hrs); Obstetrics/Gynaecology (90 hrs); Ophthalmology (18 hrs); ENT (36 hrs); Psychiatry (90 hrs); Venereal Diseases (20 hrs). Dental Disorders (optional) Medical Statistics/Computing (optional)	5
				+		4 hours		
			+		10 hours			
6	Final Phase	R	R			19 weeks FT	Commencement of 'Final Phase' attachments (see below).	6
		R	R			29 weeks FT	Final Phase attachments continue: Medicine (18 wks) Obstetrics/Gynaecology (4 wks) Child Life and Health (4 wks) Psychiatry/Surgical Neurology (3wks/1wk) Surgery (8 wks) Elective (8 wks) Orthopaedics (4 wks)	
	Revision Term			+		5 weeks FT	Revision Classes in all clinical disciplines	

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	31 weeks	1974: 108 Estimate for 1979: 0	First Professional Examinations	1
2	31 weeks	1974: 160 Estimate for 1979: 150-155	Second Professional Examinations	2
3	31 weeks	172	Third Professional Examinations (Pathological Sciences; Physiological Sciences)	3
4	37 weeks	1974: 151 (including 1 student from Oxford) Estimate for 1979: 150 (possibly including some students from Oxford/Cambridge)	Fourth Professional Examinations (Pathology and Bacteriology)	4
5	44 weeks	153	Final Professional Examination in Psychiatry or Community Medicine Final Professional Examination in Community Medicine or Psychiatry.	5
6	34 weeks	122	Final Professional Examination Part II (major subjects)	6

the course: it cannot be awarded to students who entered Year 2 directly. No specific additional course of study is necessary, but failure in the assessment of a first-year option would preclude the award of this degree, though not the eventual award of the MB ChB. (When a five-year course is introduced—see later—this degree will no longer be awarded, although the opportunity to take an Honours BSc (Med Sci)—see below—will be retained.)

Students may intercalate one year's study at the end of Year 3 to convert the BSc (Med Sci) ordinary degree to an Honours degree (or in the case of direct entrants to the second year, to obtain an Honours BSc (Med Sci) degree). Occasionally, this period is taken between Years 4 and 5 if pathology or bacteriology is studied. A fixed maximum number of places is allocated to selected students, normally about 15 per cent of the total number in the year. Subjects chosen recently include anatomy, bacteriology, biochemistry, human genetics, pathology, pharmacology, and physiology. The courses include both research and course work, and are assessed either by examination alone or by dissertation and examination, depending on the subject. A possible change under consideration would be to offer clinical as well as preclinical/paraclinical subjects for study.

Elective Experience and Course Options

Two periods of elective study are taken, one of six weeks (summer vacation after Year 4) and one of eight weeks (during Final Phase, Years 5–6). Both elective periods are expected to be used to further the student's clinical experience, and generally students leave Edinburgh for these periods and may go abroad. There are standing exchange arrangements with the Middlesex Hospital (one student annually) and Illinois University (one student annually). Students work alone or in pairs, compensating for the fact that some classes are larger than the School wishes.

As mentioned above, a considerable variety of options is offered to students who, whilst taking Year 1, are none the less exempted one or more of the major subjects. In addition to psychology and sociology, subjects available range from philosophy and fine art to languages and computer science.

CURRICULUM CONTROL AND DEVELOPMENT

Over-all responsibility for the curriculum rests with the Faculty of Medicine (a body equivalent to the 'Faculty Board' in other institutions). The Faculty itself is responsible to the University's Senatus Academicus. It holds its meetings about three times a term.

The Board of Studies in Medicine consists of all teaching staff in the Medical School. Six student representatives attend its meetings. The formal responsibility of the Board of Studies is to oversee the management of the curriculum. In practice, however, because of its great size the Board of Studies delegates the details of apportioning time between subjects, and making any adjustments, to a series of sub-boards of studies. There is a Sub-Board of Preclinical Studies, and others for subsequent stages of the course. All teachers involved in a particular part of the course are members of the appropriate sub-board. The sub-boards include student representatives among their membership. Each of the sub-boards has an Executive Committee. All

heads of department involved in a particular part of the course are members of the Executive Committee of the appropriate sub-board.

The Faculty of Medicine is required to consult the Board of Studies in Medicine on all proposals for significant changes in the curriculum. The Board of Studies may itself initiate proposals.

The present system of management of the curriculum is felt to inhibit somewhat regular or continuous review of the curriculum as a whole. The normal arrangement is for departments to determine, up-date, and administer the content of their courses themselves. Some departments related to each other in subject-matter or in the timetable have established formal contact, on an *ad hoc* basis, for co-ordination of effort. The interdepartmental 'Nature of Disease' course in the fourth year is reviewed and modified annually. The sub-board of studies concerned redistributes the time to the individual subject committees which plan the composition of the course in the light of new developments and students' comments.

A major reappraisal of the curriculum has been undertaken by a small, specially appointed Curriculum Review Working Party. After its report was accepted by Faculty and the Board of Studies it was referred to a Feasibility Committee for detailed planning. A spin-off from this major review is likely to be a new, standing curriculum or medical education committee which would be active in promoting global and on-going curriculum review.

The Deanery

The Dean is a part-time appointment, elected—and re-elected annually—by Faculty for a normal term of three years. In contrast, the Executive Dean is a permanent full-time appointment; the present Executive Dean (1976) is also Professor of Medical Education. Another full-time permanent appointment is that of Associate Dean (Planning). The other part-time Associate Dean (Academic) is responsible for academic matters, which include student welfare; he is an academic member of staff elected by Faculty on a year-by-year basis, but with no maximum term of office.

Miscellaneous Topics

The University runs an annual course on teaching methods, etc., on which about five places are available for new medical school staff. Intermittently, the medical school itself has run a one and a half day conference on teaching methods for staff in the medical, dental, and veterinary schools, and for non-university clinical teachers. This may become a regular annual event. The medical school also sponsors two or three open meetings or 'seminars' each term, often with visiting speakers, and a series of study groups under the general umbrella of 'Teaching and Learning'.

There is no department of medical education or the equivalent: it is felt that such activities should be sponsored in all departments but serviced and stimulated by a central co-ordinator with staff on a sessional or informal basis drawn from the main departments. However, a Medical Education Newsletter is regularly published, and the University has an audiovisual service, and the medical school has medical illustration and videotape production facilities. The new medical library will have elaborate self-learning equipment. There is a voluntary Medical Education Research Group.

The Examinations Committee has a Sub-Committee on Objective Testing to improve design and standardize format of objective-type papers.

STUDENT ASSESSMENT

At each stage (preclinical, paraclinical, clinical) the critical assessment is nominally exclusively 'end-of-course' in nature: there is no formal inclusion of in-course assessments. However, at all stages and in all subjects a policy of 'positive moderation' operates: a student's performance throughout the course is borne in mind by examiners and may influence the final mark or grade awarded after examination, most particularly in borderline cases.

Early Years

In the preclinical subjects, essay tests and practical examinations are the main assessment techniques. 'Positive moderation' may result from class tests using mainly MCQs and essays. In paraclinical subjects similar procedures are used, though slightly more varied in their nature.

Clinical Subjects

Specifically, the grading cards which are completed at the end of each fourth year and the Final Phase clinical attachment are likely to be taken into account at the time of the Final clinical examinations. It is not necessary for a student to pass the 'theoretical' and the 'practical' clinical components of Finals independently: the practical part of each examination (long cases, short cases, and orals are used) must be passed and may compensate for a marginal fail in the other aspects, where objective-type tests, essay examinations, and orals are involved: the reverse does not apply. In some cases, therefore, the grading arising from the clinical attachments, especially those in Final phase, can be very critical.

Regulations

Except as noted above, 'compensatory passes' are not permitted. Students are normally re-examined only in subjects actually failed, although at Finals they may be required to resit subjects marginally passed in addition to those failed. Repeating a year is permitted only once during a student's career, and the decision to exclude or to allow a student to repeat is made on the merits of each individual case.

External examiners are involved in all 'critical' examinations and no student is failed or awarded distinction without the external examiners' full participation. External examiners are not involved in in-course tests and examinations.

Advice and Assistance to Students

Students are encouraged to seek advice on academic problems from members of the academic staff, in the first instance in the subject causing the trouble. In addition, all students are assigned to Directors of Studies in their preclinical years and again in their clinical years. The sixteen Directors of Studies are deployed by the Associate Dean (Academic) who may himself be approached

by students directly. For personal problems, any of the above may be contacted as there is often overlap. In addition, special counsellors are available in the medical school. Furthermore, the University has a Student Advisory and Counselling Service, a chaplaincy, and a Student Health Service.

No specific revision courses are run but failed students are given individual advice, and a programme of tutorials, practical classes, or attendance at clinics may be arranged as appropriate.

Students obliged to withdraw from the medical course are strongly encouraged to receive career counselling and efforts are made to ensure they do.

PROBLEMS

The population of Edinburgh is felt to be low to support a very large medical school. The projected rise to 200 students will make even more desirable the use of non-hospital-based clinical teaching and use of outlying district hospitals, in addition to re-timetabling to iron out some of the peak student load periods which now occur. The distribution of clinical facilities is also a handicap: both the two main teaching hospitals are scheduled for complete rebuilding and the repeated postponement has greatly lowered morale. NHS reorganization has delayed several joint projects and generally made liaison more complicated though links have been and still are very friendly.

With respect to staffing, duplication due to the scattered hospitals, and the dissipation of resources due to creation of small specialist departments in a number of the hospitals, mean the situation is not as favourable as the staff-student figures might imply.

DEVELOPMENTS

A proposed ultimate intake of 200 students is entirely dependent on new buildings and has not been finally approved by Faculty or the UGC. Phasing out Year 1, the premedical year, has already begun. Twenty students who would previously have entered Year 1, have been taken into Year 2 and given extra tuition in chemistry in September, directed reading, etc. As the accelerated entry expands the premedical places will contract. There is a feeling that a special premedical course for a small proportion of the intake should be retained.

The reduction to a five-year span is connected with the curricular review currently in progress, but is to a certain extent being implemented before the curricular changes in the medical course proper have been finalized. The new curriculum will be based largely on behavioural objectives, drawn up by the Curriculum Review Working Party and designed to imbue the course as a whole. In addition, individual departments have been encouraged to produce their own more detailed objectives. The provisional objectives are as follows: The student should acquire and the the curriculum afford him the opportunity to develop:

1. The knowledge, skills and attitudes needed in preparation for subsequent professional training in any field of medicine.
2. The ability to elicit and assess information, to make accurate observations, and to select appropriate investigative procedures.

3. The ability to identify health problems, and to analyse them in physico-chemical, biological, psychological, and social terms.
4. Knowledge of the resources of other health-care professions and of the community and the ability to make appropriate use of these resources in dealing with health problems.
5. Knowledge of the role of the medical profession in prevention, care, and rehabilitation.
6. A capacity for change and development in professional practice.
7. A capacity for continuing a life-long medical education.
8. A capacity to communicate effectively with colleagues irrespective of the nature of their specialty and with patients irrespective of the nature of their illness.

An equally valuable complement to this positive objective-defining approach was effected when many individuals and departments forwarded views about the present curriculum, which were summarized into a list of deficiencies which the new curriculum should correct. For example, the overcrowded two terms in Year 5 of special subjects, which is confusing to staff and students alike, and the lack of genuine, built-in clinical contact in the early years, were particularly identified.

It is not yet known whether the assessment system will change with the syllabus. It is already more 'objective', with the increasing use of MCQs, etc., and more flexible, with the practice of positive moderation.

STOP PRESS

The following important changes have taken place since the information reported above was collected:

(a) The first paragraph on 'Developments' (above) mentions the proposal to increase the intake of medical students to 200 each year. The intake to 200 has now been approved by the Faculty of Medicine and the new building necessary for the increased number of students has been accepted in principle by the University Grants Committee.

(b) Since the information in Table 18 (Curriculum Control and Development) in the earlier part of the Report was compiled, the Faculty of Medicine has set up an Undergraduate Medical Education Committee with the responsibility for advising the Faculty on all aspects of the undergraduate medical curriculum. The Committee will be managing the introduction of a new curriculum. It is envisaged in addition that the Committee will be a standing committee of the Faculty and will keep the curriculum under continuous review.

University of Glasgow

Qualifying Degree. MB ChB

Curriculum Stages Offered. Preclinical; clinical

Curriculum Status. Preclinical: major revision 1972

Clinical: revision 1974

GMC Correspondent. Professor A. J. Haddow

The information in this section was collected in 1975.

See Important Note on p. 134.

General Hospitals used for Undergraduate Teaching

Glasgow Royal Infirmary, 84 Castle Street, Glasgow G4 0SF

Western Infirmary, Dumbarton Road, Glasgow G11 6NT

Duke Street Hospital, 253 Duke Street, Glasgow G31 1HY

Gartnavel General Hospital, 1053 Great Western Road, Glasgow G12 0YN

Knightswood Hospital, 125 Knightswood Road, Glasgow G13 2XG

Ruchill Hospital, Bilsland Drive, Glasgow G20 9NB

Southern General Hospital, 1345 Govan Road, Glasgow G51 4TF

Stobhill General Hospital, 133 Balornock Road, Springburn, Glasgow G21 3UW

Victoria Infirmary, Langside, Glasgow G42 9TY

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Gartnavel Royal Hospital, 1055 Great Western Road, Glasgow G12 0XH

Glasgow Ear, Nose, and Throat Hospital, 306 St Vincent Street, Glasgow G2 5RX

Glasgow Eye Infirmary, 2 Sandyford Place, Glasgow G3 7NB

Glasgow Royal Maternity Hospital, Rottenrow, Glasgow G4 0NA

Leverndale Hospital, 510 Crookston Road, Glasgow G53 7TU

Lightburn Hospital, Carntyne Road, Glasgow G32 6ND

Queen Mother's Hospital, Yorkhill, Glasgow G3 8SH

Royal Hospital for Sick Children, Yorkhill, Glasgow G3 8SJ

Royal Samaritan Hospital for Women, 69 Coplaw Street, Glasgow G42 7JF

Note. The AHA(T) distinction does not apply in Scotland.

SELECTION

Scholastic performance and motivation are the most important determinants in selection, though local candidates are favoured. Applications are assessed independently by two selectors and offers made according to their recommendations. Candidates are only interviewed if further information is required because of some problem concerning motivation, maturity, health, education, or personality; the number of interviews is kept to a minimum.

Only a small number of graduate entrants and overseas students are admitted each year. Normally, candidates between the ages of 17 and 30 only are considered and those over 25 must have pursued postgraduate studies.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES						APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT								
		1	2	3	4	5	6			
1	1st Year Pre-Clinical	+	+					187 hours	Biology Medical Chemistry Human Ecology Biochemistry Anatomy Physiology	1
		+	+	+				120 hours		
		+	+	+				16 hours		
		+	+	+				68 hours		
		+	+	+				183 hours		
							56 hours			
2	2nd Year Pre-Clinical	+	+					120 hours	Biochemistry Anatomy Physiology Pharmacology Pathology/Bacteriology Introduction to Clinical Methods	2
		+	+	+				212 hours		
		+	+	+				189 hours		
		+	+	+				75 hours		
		+	+	+				80 hours		
							28 hours			
3	1st Year Clinical	+	+	+				216 hours	Pathology/Bacteriology Materia Medica Medical/Surgical Topic Teaching Clinical Medicine (176 hours) Clinical Surgery (88 hours) E.N.T. Geriatrics Ophthalmology Developmental Aspects of Paediatrics Junior Elective	3
		+	+	+				54 hours		
		+	+	+				173 hours		
		+	+	+				24 weeks p.t.		
								12 weeks p.t.		
		R	R	R				30 hours		
		R	R	R				40 hours		
		R	R	R				36 hours		
		+	+					6 hours		
								4 weeks		
4	2nd Year Clinical	+	+	+				190 hours	Medical/Surgical Topic Teaching Pathological Biochemistry Clinical Medicine (88 hours) Clinical Surgery/Orthopaedics (88 hours each) Communicable Diseases Dermatology Medical Jurisprudence Community Medicine and General Practice Psychological Medicine Medical Genetics Clinical Physics Therapeutics - Revision Lectures Senior Elective	4
		+	+	+				48 hours		
		+	+	+				1 term p.t.		
		R	R	R				2 terms p.t.		
		R	R	R				46 hours		
		R	R	R				40 hours		
		R	R	R				23 hours		
		+	+	+				100 hours		
		+	+	+				110 hours		
		+	+	+				12 hours		
		+	+	+				10 hours		
								4 weeks		
5	Final Year Clinical	R	R	R				8 weeks	Clinical Medicine Clinical Surgery including specialties Child Health Obstetrics Gynaecology	5
		R	R	R				8 weeks		
		R	R	R				8 weeks		
		R	R	R				8 weeks		
		R	R	R				4 weeks		
6										6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 208 Estimate for 1979: 210	First Professional Examination (Biology and Medical Chemistry)	1
2	30 weeks	200 (excluding 'repeat' students)	Second Professional Examinations (Anatomy and Biochemistry) (some contribution - exemption possible - in Biochemistry from in-course assessment) Second Professional Examination (Physiology and Pharmacology)	2
3	40 weeks	1974: 125 (reduced initial intake when new 5-year curriculum introduced) Estimate for 1979: 200	Third Professional Examination Part I (Pathology/Bacteriology) Third Professional Examination Part II (Pathology/Bacteriology) (exemption possible for good performance in class examinations) Third Professional Examination Part II (Materia Medica)	3
4	40 weeks	(see note)	Fourth Professional Examination (Medical Jurisprudence; Fourth Professional Examination (Community Medicine; Psychological Medicine) (some contribution from in-course assessment) Final Professional Examination Part I: Principles of Medicine and Surgery)	4
5	36 weeks	(see note)	Final Professional Examination Part II Principles of Medicine, Surgery, Obstetrics and Gynaecology. (In-course assessment contributes, and may exempt in the case of Gynaecology)	5
6		<u>NOTE</u> In 1974, students were still entering the later years of the 'old' curriculum. 161 entered Year 4, 203 entered Year 5, and 168 entered Year 6. The last students to qualify under the old regulations will do so in 1977.		6

FEATURES OF THE CURRICULUM

Early Years

In 1972, the length of the medical course was reduced from six years to five years, most of the reduction taking place in the preclinical years. In the first year, there is a course in human ecology (epidemiology and sociology).

Clinical Aspects

Clinical teaching at the bedside is introduced in the third term of the second year. During the first and second clinical years, the major part of patient-based clinical teaching is specifically a teaching activity; however, during the final clinical year the student is mainly a junior working member of the unit, but some teaching sessions are also given. A major 'general specialty' teaching unit will have, on average, three consultants and five members of other grades—drawn from one specialty. During the first and second years, between ten and twelve students are attached to a firm; during the third year this number falls in medicine, surgery, child health and gynaecology to between two and eight, but in obstetrics and the numbers are higher. The emphasis in all clinical subjects is on bedside teaching in small groups.

Clinical teaching at Glasgow is principally based at the Royal Infirmary, the Western Infirmary, and Gartnavel General Hospital; separate medical/surgical topic teaching courses are carried out at the two infirmaries—these are the principal vehicles of 'theoretical' clinical teaching. The over-all aim of the course is to provide the student with a broad systematic knowledge of medicine and surgery. It attempts to show the student the interrelationship between medicine, surgery, pathology, radiology, and community medicine. Clinical examples are introduced where necessary. The course is broadly organized in each hospital by an Adviser in Integrated Studies. The main contributors to the course are the Departments of Medicine and Surgery and there are also contributions from Materia Medica, Pathology, General Practice, Geriatric Medicine, and Oncology. The course is generally systems-based, and most teaching sessions are in lecture form.

In addition to the topic teaching course, informal co-ordination is frequently achieved by teachers working together: for example, collaborative teaching is arranged in paediatrics, geriatrics, general medicine, and community medicine.

It is expected that students will receive about forty hours experience in non-hospital clinical settings. Students must spend twelve weeks in residence.

Intercalated Degree of BSc

It is possible for a fixed maximum number of students to study for an intercalated degree; students must, however, attain a specified academic standard and be acceptable to the head of the department in which they wish to study. The degree may be taken between the preclinical and clinical stages or during the clinical years. Between the preclinical and clinical stages, the following subjects may be taken: anatomy, animal developmental biology, biochemistry, cell biology, genetics, immunology, molecular biology, parasitology, pharmacology, and physiology. During the clinical years the following may be taken: microbiology, pathology, and virology. Students have a choice of following a

one-year course (for an ordinary BSc) or a two-year course (for an Honours BSc). In the first year, mainly course work is followed while in the second year (Honours), a research project is undertaken and a thesis written. It is felt that the intercalated degree is an extremely valuable experience and students are encouraged to take it: up to twenty do so each year.

Elective Opportunities and Course Options

Two formal elective opportunities are now (for the first time in Glasgow) available to the students—periods of four weeks during the summer vacations of the third and fourth years of the course. The elective periods may be used to acquire clinical experience or to do research, and may also be used for non-clinical or laboratory work. The electives are 'assessed' by a report of satisfactory performance and this must be fulfilled before the student can proceed to the next year of the course.

CURRICULUM CONTROL AND DEVELOPMENT

The ultimate authority is the Faculty of Medicine which meets six times a year; it considers proposals and recommendations relating to the running of the Medical School. The recently introduced five-year curriculum has been planned and implemented by the Standing Committee on Medical and Dental Education—this Committee keeps the whole curriculum under continuous review. A working party on the preclinical years meets once or twice a year and makes recommendations to the Standing Committee. Provision exists to establish *ad hoc* committees to consider specific aspects of the curriculum and to make recommendations.

The Medical Students Joint Council maintains liaison between students and the Faculty—this body meets with the Dean and Administrative Dean once a term.

Within their time allocation, preclinical departments have control over the course content, teaching, internal administration, and, as far as possible, examinations. In clinical subjects, teaching is organized and carried out by the individual teaching unit in accordance with broad Faculty policy. However, the integrated Topic Teaching Course is organized by a planning committee.

The Deanery

The part-time Dean is elected annually by Faculty, the initial election taking place a year before the assumption of office. By convention rather than statute, the office is held normally for three years. There is also a full-time Administrative Dean; this post carries a Chair.

Miscellaneous Topics

The University runs an annual course for its teachers on (principally) teaching methods; members of the Faculty of Medicine can and do attend.

STUDENT ASSESSMENT

Early Years

In the preclinical school, assessment is primarily by end-of-course assessment. In-course assessment is mainly important only in that a student whose class-work performance is not satisfactory may not be allowed to sit the examinations. However, in biochemistry a 20 per cent class laboratory work component is included in the professional examination and student may gain exemption from that examination on the basis of good laboratory and class examination performance. During the end-of-course examinations, techniques used include objective-type questions, short written answer questions, essays, and, for marginal and distinction students, orals.

In the paraclinical subjects both end-of-course and in-course examination systems are used. To enter the professional examination itself, a student must have satisfactorily completed the work of the course. Additionally, a student who performs well in the class examinations may be granted a pass by exemption in the professional examinations. In the end-of-course examinations the following techniques are used: objective-type questions, essays, and practical examinations. In-course examinations use objective-type tests, essays, and assessments of practical course work.

Clinical Subjects

The work during the clinical years is examined by in-course and end-of-course arrangements. 'Theoretical' aspects are examined by class examinations which must be successfully completed before the student can move to the succeeding part of the course. In-course techniques include objective-type questions, essay questions, and prepared essays. End-of-course examinations include techniques such as objective-type questions, essays, and orals, depending upon the subject.

'Practical' clinical aspects of the course are examined solely in a final clinical examination—although students must have successfully completed the previous parts of the course to have reached the final examination. Long cases, short cases, and tests of clinical knowledge are used.

Regulations

Compensatory passes are not awarded except informally at the examiners' discretion. Students who fail the examination of a subject are required to resit only the failed subject. Students may be permitted to repeat a year provided they have not done so previously: if they had, they would be required to withdraw if they failed a major examination. Students would also be required to withdraw if they performed badly in all the examinations at the end of the second year. 'Carrying' subjects is not permitted, except (for a term) Part I of the Third Professional Examination. However, any regulations could be waived on health grounds.

External examiners are required to take a part in all professional examinations. However, the nature of the participation of external examiners will depend upon the department concerned. In all examinations, external examiners moderate and maintain over-all standards and arbitrate in marginal cases, and in some they take part in setting the examination and in actually marking the scripts. They are not involved in the in-course assessment.

Advice and Assistance to Students

Each student is allocated to a tutorial group under a member of staff: each group consists of a student from each year of the course, taking in a new student from the first year each year, and losing one who qualifies. The tutor arranges a termly meeting and is available to help any student within his group; this system deals with both the academic and personal problems of students. In addition, academic problems may be resolved with the aid of an appropriate department or the Administrative Dean (who is also the Adviser of Studies). The University has a Student Health Service.

PROBLEMS

Teaching accommodation in the University itself is not felt to be adequate—there is no longer any guarantee that it will be possible to arrange lecture theatres for classes. The Anatomy Department is particularly badly affected, with severe overcrowding and an increased number of dental students to be taught within the Department.

Severe financial constraints have made it necessary, for example, to establish a committee to examine all suggestions for new books. Staffing is similarly adversely affected. Furthermore the increasing commitment of teachers to postgraduate medical training has not, it is felt, been adequately recognized by the UGC.

Glasgow presents particular geographical problems—teaching hospitals are scattered and students have to travel from class to class. There is also a particular temporary problem in that the last students to graduate under the old regulations will do so concurrently with the first cohort taking the new five-year course; consequent difficulties relate to examinations and house officer posts.

DEVELOPMENTS

Further curricular developments must depend upon the evaluation of the new curriculum. With regard to physical facilities, the Phase I development of the Western Infirmary is now almost complete, while that of the Royal Infirmary is under way.

It is hoped shortly to permit appropriately qualified science graduates to take a shortened, four-year course.

University of Leeds

Qualifying Degree. MB ChB

Curriculum Stages Offered. Preclinical; clinical

Curriculum Status. Revised 1971

GMC Correspondent. Professor D. R. Wood

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†Leeds General Infirmary, Great George Street, Leeds LS1 3EX

*†St James's Hospital, Beckett Street, Leeds LS9 7TF

*†Chapel Allerton Hospital, Harehills Lane, Leeds LS7 4RB

*†Seacroft Hospital, York Road, Leeds LS14 6UH

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Bradford Royal Infirmary, Duckworth Lane, Bradford, West Yorkshire BD9 6RJ

*†High Royds Hospital, Menston, Ilkley, Yorkshire LS29 6AQ

*†Hospital for Women, Roundhay Hall, Jackson Avenue, Leeds LS8 1NT

*†Maternity Hospital, Hyde Terrace, Leeds LS2 9LW

* Within AHA(T).

† Within teaching district.

SELECTION

Applicants should have stable personality and self-generated motivation for a medical career; they should ideally have participated in non-academic school and community activities so that they can be expected to contribute to university life. Good performance in arts O-level subjects as well as science subjects is considered an advantage. Past and prospective achievement at A-level and the confidential report are equally important. Rather less important is the applicant's information about himself as given on the application form. Interviews are not generally held, but in the few cases where they are held they are fairly important; they are used to test motivation and resolve other doubts about graduates, mature applicants, etc.

Approximately four or five graduates are admitted each year, who must hold first or upper second-class Honours degrees in appropriate subjects. A similar number of overseas applicants is admitted from developing countries with no medical school but their academic qualifications must be comparable with those of UK entrants.

Candidates who have received conditional offers are invited to visit the medical school, in groups of 40-50. Student guides conduct them on an informal tour and answer questions.

Ceasing to interview the school-leaver applicants has not had any noticeable effect, apart from the advantage of saving time. No further changes are planned in the near future.

FEATURES OF THE CURRICULUM

A new curriculum came into being in October 1971. The premedical course was dropped and the new five-year course is standard for all students but includes a choice of options at certain stages. It aims for closer association of basic medical science teaching and clinical teaching (without a heavy demarcation between 'preclinical' and 'clinical'), integration between all departments involved in teaching at any one stage, a less disruptive system of assessment, and less congestion in the curriculum, with opportunities to study selected topics in depth.

Early Years

The main courses in Year 1 are separate single-subject ones, except for the multidisciplinary cell biology and immunology course and the first instalment of *Man in Society*. Remedial teaching in biology is provided by the Department of Anatomy, informally, during the cell biology course. Year 2 is entirely interdisciplinary. Each of the twelve topics covered is self-contained; these topics vary in length but are all taught in short blocks, together with weekly case presentations of a patient. These latter last a whole morning or afternoon and illustrate some aspect of that week's teaching; they give a perspective to the basic sciences and support student motivation. Clinical teachers join some sessions, notably anaesthetists and radiologists. In *Man in Society* (which continues from Year 1) students are taken on eight half-day visits as an extension of community medicine teaching. This programme also includes behavioural science and statistics.

Students meet for tutorials about twice each term in groups of eight with a tutor with whom they stay for the whole year. The tutorials may be used to enable students to explore beyond the 'published' course.

Clinical Aspects

Formal interdisciplinary teaching continues throughout Year 3 (the first predominantly 'clinical' year) with the systems courses. Four weeks are devoted to each system and preclinical, paraclinical, and clinical staff are involved. The aim is to provide a bridge between the two 'preclinical' years and the more detailed clinical instruction of Years 4 and 5; emphasis is placed on recalling and applying knowledge of the basic sciences which students already have. Systems lectures take place in the afternoon and where possible supplement or elaborate upon the clinical experience of the mornings but the scope of the theoretical teaching is much wider than that of the clinical training at this stage.

Of the three predominantly clinical years, eight weeks are spent on electives, twenty-one weeks in compulsory hospital residence and four weeks in general practice. Students are likely to spend up to thirty weeks in residence including two weeks residential attachment to general practice.

An introductory clinical course at the start of Year 3 gives instruction in basic clinical skills.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES					ACADEMIC YEAR		
		TERMS TAUGHT						APPROXIMATE LEARNING TIME	NAME
		1	2	3	4	5			
1	1st Medical Year	+	+	+			275 hours	Anatomy Biochemistry Physiology Cell Biology and Immunology Man in Society	1
		+	+	+			190 hours		
		+	+	+			200 hours		
		+	+	+			16 hours		
2	2nd Medical Year	+	+	+			55 hours	Man In Society Case Presentations (29 hrs); P-M Demos. (7 hrs) Systems & Topics: Head & Neck (19 hrs); Energy/ Nutrition/Endocrinology (103 hrs); Blood (19 hrs); Introductory Pharmacology (13 hrs); Tissue Reactions to Injury Diseases caused by Infected Agents Cardiovascular System Biology of Tumours Tumopathology + Immunology Basic Neurological Sciences Fluids, Ions, Renal Disease Genetic Factors in Disease	2
		+	+	+			36 hours		
		+	+	+			174 hours		
		+	+	+			38 hours		
		+	+	+			82 hours		
		+	+	+			43 hours		
		+	+	+			19 hours		
		+	+	+			82 hours		
3	3rd Medical Year	+	+	+			4 weeks FT	Introductory Clinical Course Junior Medicine Junior Surgery Systems Teaching: Cardiovascular/Respiratory/Gastrointestinal Haematology/Centra-urinary/Loocomotor Nervous/Endocrine Man in Society	3
		R	R	R	R		2 x 8 wks ½ time		
		R	R	R	R		2 x 8 wks ½ time		
		+	+	+			12 weeks ½ time		
		+	+	+			12 weeks ½ time		
		+	+	+			8 weeks ½ time		
4	4th Medical Year	R	R	R	R		8 weeks FT	Obstetrician/Gynaecology Paediatrics Psychiatry/Infectious Diseases Dermatology/Geriatric Medicine/Venereology/Radio-therapy Orthopaedics/Accident & Emergency/Urology/ Rheumatology/Plastic Surgery Ophthalmology/ENT/Anaesthesia & Resuscitation Community Medicine	4
		R	R	R	R		8 weeks FT		
		R	R	R	R		7 weeks FT		
		R	R	R	R		7 weeks FT		
		R	R	R	R		7 weeks FT		
		R	R	R	R		7 weeks FT		
		R	R	R	R		7 weeks FT		
		R	R	R	R		12 hours		
5	5th Medical Year	+					8 weeks FT	Elective Resident Medicine Resident Surgery Neurology/Neurosurgery Cardiology General Practice Tutorial Teachings	5
		R	R	R	R		4 weeks FT		
		R	R	R	R		4 weeks FT		
		R	R	R	R		4 wks 2/3 time		
		R	R	R	R		4 weeks FT		
		R	R	R	R		4 weeks FT		
		R	R	R	R		12 weeks FT		
6	6th Medical Year								6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 132 Estimate for 1979: 216 (tentative estimate)	First Medical Year Examination (satisfactory in-course assessments may exempt from practical and oral examinations, but not the written papers)	1
2	30 weeks	117	In-course assessments Second Year Progress Review (of in-course assessments)	2
3	36 weeks	1974: 111 Estimate for 1979: 150	In-course assessments Third Year Progress Review (of in-course assessments)	3
4	44 weeks	93	Rotating Examinations in Obstetrics/Gynaecology; Paediatrics; Psychiatry In-course assessments in all subjects Fourth Year Progress Review (of in-course assessments)	4
5	40 weeks	121	Final written or clinical Examination in Medicine and Surgery Remaining clinical or written examination (see above) Final Oral examination in Medicine and Surgery, (and specialties)	5
6				6

The typical unit for clinical teaching is the firm although in Year 4 some teaching is on a departmental basis. A firm consists of one consultant and two juniors or two consultants and four juniors, in a single specialty. In Years 3 and 4 groups of five to six students are attached to a firm (ten to twelve to a double firm). In Year 5 there is one student per senior medicine or senior surgery firm.

In Year 3, clinical teaching is a separate activity, divorced from patient care but in the later, full-time attachments, students are expected to learn through observation of and participation in patient care; in the final year medical and surgical firms they exercise considerable responsibility as shadow house officers. A large number of district hospitals in West and North Yorkshire are used for the final residential attachments.

The last twelve weeks of the course includes a series of 'tutorial teachings' on clinical and non-clinical topics. They are limited to ten to fifteen students at a time and are offered at both the main teaching hospitals. Some are patient-based, some revisionary, some focus on 'recent advances'. Students may also attend 'open' out-patient clinics. There are concurrent clinical attachments to neurology and cardiology firms.

Intercalated Degree of BSc

In order to read for an intercalated BSc degree—which about twenty students may now do each year—the students must attain a sufficient standard in the subject they wish to study. In recent years students have studied for Honours degrees in anatomy, biochemistry, pharmacology, and physiology, and for the ordinary degree in psychology, which may be awarded with credit; all are in the Faculty of Science. Some intercalated degree studies involve research work only, some research work and course work, others course work only; all are examined formally and for some the research work is also assessed. From October 1975, it is possible to take microbiology, and chemical pathology has been added, from October 1976.

Elective Experience and Course Options

In the spring term of Year 2, all students write an essay of 2,000–3,000 words on a topic chosen from a list which may embrace any preclinical or para-clinical or overlapping subject. It is assessed, and contributes significantly to the total assessment of that year.

The eight weeks at the beginning of Year 5 can be taken either as a whole or split into two halves to enable a student to have two different types of experience in 'any approved form of medically valuable work'. Directed electives are possible: a student may be required to spend some or all of the elective period on remedial attachment to a specialty in which he has shown weakness. Students submit a report at the end of their attachment(s); this does not however count towards any formal assessment.

All proposals for elective study are discussed with the Dean who must approve the choice. Information is centrally available about the elective choices of former students, and this has led to traditions becoming established, for example, of visiting other hospitals in Yorkshire and the north-east of England; about four to six students each year go to mission hospitals in East Africa. Fewer than half the class spend this period in Leeds.

The tutorial teachings in the final year offer some choice to the student, and there is a limited choice of medicine or surgery for the third period of residential attachment.

CURRICULUM CONTROL AND DEVELOPMENT

As the curriculum is so very new, the bodies which planned it are still active, even to the extent of making last-minute adjustments, and they have therefore not necessarily settled into the form or the relationship with each other which they will eventually take.

Under the Board of the Faculty of Medicine, the Curriculum Committee is responsible for the 'devising and execution' of the curriculum. It meets approximately four times a year and consists of the chairman and deputy chairman of the Board of the Faculty of Medicine, the Dean, the Clinical Sub-Deans, two teachers from each year, and two students.

There are five Executive Sub-Committees—one for each year of the course—to whom is delegated the detailed oversight of the appropriate stage of the course. Their size and function vary, but they may rearrange the courses within their stage. Most meet once or twice a term and all have one student member. Other members would include the representatives of departments teaching in that year, and interdisciplinary course co-ordinators.

Another Executive Sub-Committee is responsible for Man in Society, which appears at intervals throughout the curriculum. The Sub-Committee meets frequently and is composed of representatives of Community Medicine, General Practice, Paediatrics, Statistics, and Psychology, and a student.

The Curriculum Committee has delegated to working parties certain tasks in relation to the award of MB ChB with Honours, and examinations in the new curriculum; both groups comprise professorial, non-professorial, and non-academic clinical staff, and students.

There is also a Staff-Student Committee which provides a forum for discussion and new ideas, and student opinion is canvassed through questionnaires.

The role of individual departments varies. Predominantly in Years 1 and 4 they are responsible for the courses' content and administration. Other courses such as Man in Society are the responsibility of *ad hoc* committees whose chairmen are particularly active in running the courses concerned. The component topics and systems of Year 2 and Year 3 are each controlled by a single co-ordinator. All these co-ordinators are members of the Executive Sub-Committee for their year, whose chairman co-ordinates them.

When the idea of a new curriculum was first mooted, a sub-committee was appointed to examine the proposal, and having reported favourably it was succeeded by the present Curriculum Committee which outlined the objectives and structure of the new curriculum and gave rise to the executive sub-committees for detailed planning. These have been very successful in planning (and now in administering and reviewing) their respective portions of the curriculum but it is felt there is insufficient co-ordination and opportunity for exchange and re-arrangement between the various stages. Accordingly a Working Party has been set up to review the first and second years, and another Working Party has been set up to review the five-year curriculum as a whole and to review the role of the Curriculum Committee.

The Deanery

Since 1969 the Dean has been an (almost) full-time and permanent appointment. There is an understanding that the Dean does not act as Chairman of the Faculty Board of Medicine. There are two part-time Clinical Sub-Deans, one each at Leeds General Infirmary and St James's Hospital; they may be academic or non-academic clinicians and are appointed for a three-year term. There is a Senior Administrative Officer and a School Secretary of senior administrative rank. A most valuable recent part-time appointment is that of an Adviser on the preregistration year.

Miscellaneous Topics

Leeds University offers a course of instruction for new teachers each year and typically eight members of staff from the medical school attend. The Medical School itself runs special meetings and forums, often with visiting speakers, on medical education topics, which are open to all those interested.

Exchange of teaching material and examination questions is conducted at individual and departmental level. The Newcastle computer is used to mark and analyse MCQ papers.

The University Television Centre's facilities are much used, and videotape and live CCTV recordings are used extensively especially in clinical teaching. When the new buildings are commissioned (? 1977) all practical and tutorial work (except gross dissection) in Years 1 and 2 will take place in multi-disciplinary laboratories. A director of the laboratories is already in post and is promoting experimental use of audiovisual aids. It is hoped ultimately to develop a medical school Audiovisual Unit.

STUDENT ASSESSMENT

The pattern of assessment is progressive and intermittent rather than 'continuous'. From Year 2 onwards there are several small and some more informal examinations instead of the few major hurdles of the old curriculum.

Early Years

The main assessment of the four major courses in Year 1 takes place at the end of the year in a joint examination. In Year 2, three examinations are held at intervals and a long essay is required on a chosen subject and practical examinations are held in pathology and microbiology. Performance in all these is summed together and weaker students are required to sit a supplementary examination in September: other students go forward to Year 3. The para-clinical subjects figure again within the assessments of Year 3. These take the form of MCQ tests administered after each system is completed; over-all performance is reviewed at the end of the year.

Clinical Subjects

Students must pass the written or 'theoretical' examinations and the clinical examinations independently. End-of-course and in-course assessments play a roughly equal part in determining the outcome. Obstetrics and gynaecology, paediatrics and psychiatry have critical examinations (written, clinical, and

oral) taken in rotation during Year 4 as students complete the teaching block. Written and clinical examinations in medicine and medical sub-specialties and surgery and surgical sub-specialties are taken in rotation through Year 5 as students complete their attachments. Orals for all students covering all clinical subjects are held in June of that year. In Years 3 and 4 reports are made out at the end of each clerkship and some firms hold informal MCQ, clinical or oral tests, and these contribute to the yearly progress reviews and may be taken into account at the time of the Final Assessment.

Regulations

Compensatory passes between subjects are possible in Year 1 examinations. Years 2 and 3 assessments are not subject-based but little or no compensation is allowed in Years 4 and 5. On re-examination a student normally takes only the failed subject or topic again. On failing a re-examination, a student would normally withdraw from the course unless there were mitigating circumstances. Revision classes and tuition for failing students are arranged individually. In Years 4 and 5 students would repeat an attachment and be assessed again with students one 'step' back in the rotation.

External examiners are considered important in setting standards, in arbitration, and in the yearly progress reviews. They are fully involved in the critical course assessments, particularly in Years 1, 4, and 5.

Advice and Assistance to Students

The Dean sees students in academic difficulties either before or after they have discussed their problems with medical school staff. The same arrangement stands with respect to students' personal problems: either individual members of staff, such as tutors, or the Dean and other Faculty officers would help in whatever way required. The University has a Student Health Service and a Counselling Service.

PROBLEMS

Clinical teaching facilities are deficient and seem likely to remain so until the 1980s, due to delays in the hospital building and upgrading programmes at both Leeds' main teaching hospitals. Paraclinical departments associated with Leeds General Infirmary are perhaps the worst affected.

The available number of patients with acute conditions in Leeds has to be supplemented by the students obtaining experience elsewhere: this is educationally an advantage but poses practical problems. Parallel use of the two teaching hospitals in Leeds brings transport difficulties and loss of time, especially in Year 4.

The preclinical departments are almost devoid of medically qualified staff and the University pathological departments have found difficulty in recruiting technicians due to University-NHS salary disparity. Clinical staff are under increasing pressure from the demands of postgraduate teaching and their own needs in vocational training which may conflict with undergraduate teaching commitments. Throughout the medical school, it has become even more difficult to retain close staff-student contact, for example, with small group teaching, as the number of students has increased.

NHS reorganization has not directly affected the medical school, except to extend lines of communication. Links with the hospitals remain good. Possibly reorganization has created conditions for future change with, for example, the setting up of a single AHA(T) for Leeds, and also the advent of community health councils.

DEVELOPMENTS

The medical school still hopes to achieve an intake of 216 by 1979 or 1980, in spite of rebuilding set-backs in the clinical field. New basic medical science accommodation will be commissioned in 1977, however. The present library provision is excellent and will be extended to service all hospitals used for teaching. Several new chairs and new academic departments are being established, at St James's Hospital as well as at the Infirmary. There is no question of two separate clinical schools emerging, each based on one of the two hospitals and their districts. The developments described above will achieve parity between them; all students are given experience in both hospitals at several stages of the course.

The new curriculum is not considered perfect—for example, Year 1 appears overstructured and crowded, the balance of clinical to non-clinical teaching in Years 3 and 5 is not yet right, and the contribution of the pathological sciences must be reviewed and expanded. These and other malfunctions will be adjusted once the whole curriculum has been worked through. Beyond these immediate preoccupations it is possible that a BSc or other non-medically qualifying degree for all students will be reconsidered after a decent interval has passed since Faculty last rejected the proposal. Some thought is also being given to ways of offering more options and freedom of choice within the curriculum; the current high standard of medical students would justify having alternative routes to the same goal.

University of Leicester

Qualifying Degree. MB ChB

Curriculum Stages Offered. Preclinical (clinical)

Curriculum Status. Course commenced 1975

GMC Correspondent. Professor J. MacVicar

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching (projected)

*†Leicester General Hospital, Gwendolen Road, Leicester LE5 4PW

*†Leicester Royal Infirmary, Infirmary Square, Leicester LE1 5WW

(The third planned main teaching hospital will be Glenfield District General Hospital.)

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time (projected)

*†Carlton Hayes Hospital, Narborough, Leicester LE9 5ES

*Groby Road Hospital, Groby Road, Leicester LE3 9QE

*†Towers Hospital, Humberstone, Leicester LE5 0TD

* Within AHA(T).

† Within teaching district.

SELECTION

At present the requirement at A-level is a pass in chemistry or physical science and two other subjects. This is in order to allow as much flexibility as possible, although, in practice, only an occasional student is accepted with other than three appropriate science subjects. (In any event a pass is required at O-level in English language and [if not held at A-level], mathematics, physics, or physical science, and a biological subject.) Grades achieved at A-level and the information in the confidential report are regarded as equally important. Motivation is also taken into account. Candidates are interviewed before an offer is made.

Up to about 10 per cent of the available places are set aside for mature students.

FEATURES OF THE CURRICULUM

The first group of medical students commenced their studies in October 1975. The curriculum which came into operation then is designed as far as possible on an integrated, interdisciplinary basis—integration being both 'vertical' and 'horizontal'. The teaching methods throughout the course will be deliberately varied and opportunistic in order to present a subject in the most acceptable way.

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 wks	1974 Nil (course commenced 1975) Estimate for 1979: 96	Review of in-course assessment	1
2	30 wks	Nil	MB ChB: Part I Examination (contributions from in-course assessment)	2
3	44 wks	1974 Nil Estimate for 1979: 96	MB ChB: Part II Examination (Pathology, etc.) (contributions from in-course assessment)	3
4	45 wks	Nil	Individual subjects examined at the end of each rotating block	4
5	40 wks	Nil	Final (written, practical and oral) Examinations in Medicine (including Therapeutics) and Surgery Final Examination in overall clinical competence (and further practical and oral examinations for students who have failed to satisfy examiners in earlier examinations of individual clinical subjects)	5
6				6

Early Years

An orientation course in the first few days explains the nature of university education and more particularly the nature of medical education, the health service, and the future role of doctors and their colleagues. The two major courses in the first two years are: 'Structure and Function' (80 per cent of total time) which includes most of the traditional 'physical' preclinical subjects; and 'Man in Society' (20 per cent of total time). The latter includes community health, statistics, medical ethics, housing and health, and the doctor-patient relationship, as well as some project work and a family attachment scheme. It is hoped that this integrated programme will affect students' attitudes as well as their state of knowledge, so that they will always appreciate the role of social, psychological, and epidemiological factors in the practice of clinical medicine and the planning and delivery of medical care.

Clinical teaching at this stage indicates the relevance of the 'preclinical' subjects and is not specialty-oriented. It averages one to two hours each week, with, for example, radiologists teaching aspects of anatomy, obstetricians teaching reproduction and endocrinology, and physicians teaching physiology. In 'Man in Society' visits to health centres are arranged, and students select old people from the lists of teaching general practices, see them at home and discuss their medical and social care.

Course integration ensures that students get an over-all picture and is modular, based largely on body systems. Course and term co-ordinators—who are independent of the discipline(s) involved at that point—are responsible for putting integration into practice. In Term 6, 'integrated seminars' summarize the teaching of Years 1 and 2 and, it is hoped, confirm the interrelationships in the student's mind.

Year 3 is a transitional year during the first half of which the scientific bases of general pathology, microbiology, and pharmacology will be taught in parallel with an introductory course in clinical method. In the second half of this year physical disease processes will be taught by multidisciplinary teams, in modules devoted to particular systems of the body, and for part of each day students will be attached to medical or surgical groups where they will be able to correlate this systematic teaching with clinical problems. Integration will thus continue into the clinical course to establish basic principles, skills, and attitudes before students proceed to rotating attachments in specialties in Years 4 and 5.

Clinical Aspects

The unit for patient-based clinical teaching will be the single-specialty firm, probably of two consultants and six to seven juniors, though it will vary with the specialty. The average number of students in each group will be six to ten, though this too will vary. In Year 3, the emphasis will be placed on the acquisition of skills in history-taking and physical examination but in Year 4 students will begin to study individual patients and their problems as members of a clinical team, and by Year 5 will become more deeply involved, under supervision, in diagnosis and patient care.

Organization of 'theoretical teaching' is likely to be multidisciplinary in Year 3, with lectures, symposia, and tutorials related to the basic clinical practice, and firm-based in Years 4 and 5 under departmental supervision.

Students will attend special lectures, seminars, and case conferences. A substantial proportion of learning will be self-instructional, using tape-slide and other audiovisual presentations.

Time spent by students in clinical settings outside hospital will amount to four full weeks (plus some further sessions) in general practice. All students will be required to spend twelve weeks in hospital residence—shortage of residential accommodation prevents the period being longer.

Intercalated Degree of BSc

Selected students will be able to intercalate an additional year of study, leading to a classified honours BSc degree, on successful completion of the second year, or in some cases the third year, of the medical course. A wide range of disciplines relevant to medicine will be available either by means of taught courses or by independent study and research. Examination in the first case will be by written examinations and in the second by submission of a dissertation and an oral.

Elective Experience and Course Options

The elective period of nine weeks in Year 4 will be devoted to a full-time study of any medical or paramedical topic. Students must produce a report, with a review of the relevant literature and a bibliography which will be part of the over-all critical assessment; it is envisaged that most students will leave Leicester and some may go abroad.

In addition, there is a period immediately prior to the 'final examination', scheduled for 'revision or repetition'.

CURRICULUM CONTROL AND DEVELOPMENT

In designing the Leicester curriculum, allocation of time to subjects and departments proceeded straightaway after initial definition of the school's objectives. The bodies which were constituted to plan the curriculum are still in existence, as the planning exercises are by no means complete.

The Curriculum Advisory Committee is the senior committee of the Faculty Board; it is responsible to the Faculty Board for the curriculum as a whole and for co-ordinating the work of subordinate working parties. It began by meeting monthly, but now meets as necessary and its membership comprises thirteen heads of department and an NHS consultant. From time to time, other persons are co-opted. Detailed planning was carried out by the following Working Parties related to the various aspects of the curriculum: Structure and Function; Man in Society; Basic Medical Sciences (pathology, microbiology, and pharmacology); Basic Clinical Practice; Apprentice Attachments (Years 4 and 5); Electives; the Intercalated Year; and Examinations and Assessment. All have completed their deliberations and submitted their recommendations. In every case their membership included both professional and non-professional staff and, in many cases, NHS consultants. None has included students.

The role of departments varies; the content, updating, and administration of non-integrated courses are departmental responsibilities but major restructuring requires the approval of the appropriate Working Party. The two

major 'umbrella courses' of Years 1 and 2 each have their own Working Party, as does 'Basic Clinical Practice', but the administrative duties will fall mainly to co-ordinators, with considerable autonomy.

The Curriculum Advisory Committee and the Working Parties will remain until the first cohort of students has graduated, when the machinery will be altered to suit the advisory and monitoring functions required. There will be a standing Curriculum Review Committee (with student participation) to report to the Curriculum Advisory Committee. Meanwhile, changes are already being authorized to the 'blueprint' curriculum as new staff and students express their opinions.

The Deanery

The present Dean is part-time in that he is also head of an academic department, and has been appointed as Dean for a term of six years. It is likely that, after that period, the post will become a short-term rotating office. The Dean is assisted by a Sub-Dean, elected by the Faculty Board, and a part-time Clinical Sub-Dean, who is an NHS consultant. Ultimately an (additional) full-time Administrative Dean may be appointed.

Miscellaneous Topics

The University Department of Education runs a biannual course on teaching methods, etc., which is open to staff of the medical school. Audiovisual services are also being developed by the University.

STUDENT ASSESSMENT

The assessment system has not been finalized beyond the first two years; it has been resolved, however, that in-course assessment will be of critical importance at all stages, so as to reduce the height and number of major 'hurdles'.

Early Years

In Years 1 and 2 each course module will be assessed on completion and the marks gained will carry a significant weighting in the Part I examination to be taken at the end of Year 2, when students will sit two essay-question papers and two MCQ papers relating to 'Structure and Function' and one essay-question paper relating to 'Man in Society'. The Part I examination must be passed before a student can commence the clinical course. The 'Structure and Function' and 'Man in Society' modules are assessed independently except for an extended essay to be written towards the end of the second year, the topics for which will be designed to integrate the themes of the two courses. The Part II examination will consist of a single essay-type paper in pathology and microbiology and will be held in July of Year 3 but assessment of course work in these subjects during the year will carry a significant weighting.

Clinical Subjects

In Year 4 students will be examined in each subject as they complete their attachments in rotation. The precise content and form of the assessment has yet to be decided. In Year 5 students will be examined in medicine (including therapeutics) and surgery by means of written, clinical, and oral examinations,

on completion of all attachments. Internal assessments will also be given a substantial weighting in these subjects. At the end of the fifth year all students will be examined in over-all clinical competence by means which are still under discussion.

During a period set aside for 'additional clinical practice' in the second half of the last term of Year 5, students who have failed to satisfy the examiners in individual subjects in Year 4 or Year 5 will, subject to certain limitations, be able to undertake further attachments in such subjects in order to repeat the subject examinations before the final examination in clinical competence is held. Other students will use this period for revision and 'selectives'.

Regulations

Compensation between subjects is 'inevitable' in the preclinical examinations, as these are of an integrated nature. Failure in a preclinical examination results in a student being required to retake that examination only. Students who perform poorly in the first year of the course can only be advised to repeat it; poor performance in the examinations at the end of Year 2 would provide grounds for withdrawal.

Regulations regarding examinations in the clinical years have not yet been finalized, nor has the role of external examiners.

Advice and Assistance to Students

All students will be allocated to tutors; the same tutor will be available to help students with both their academic and personal problems throughout the five-year course.

Formal revision courses will not be offered, but the revision and repetition period before finals provides flexibility in this regard.

PROBLEMS AND DEVELOPMENTS

Provided the building programmes keep to time there should be no major difficulty in implementing the curriculum, though only as the latter unfolds will its successes and weaknesses become apparent. A new Basic Sciences Building and a new Clinical Sciences Block are soon to be available, and the Leicester Royal Infirmary is being rebuilt. As new wings of the latter are commissioned, the proportion of acute beds (currently 75 per cent of the total) will fall, to the benefit of the undergraduate clinical teaching programme. The Leicester Royal Infirmary and the Leicester General Hospital are the main teaching hospitals at present but a third District General Hospital, Glenfield, will be needed before the medical school can accept its planned maximum intake of 144 students. It is hoped that the first phase of the new hospital will be in use by early 1983, but delay in the original building start has resulted in the postponement of the first full intake from 1979 to 1981.

There will naturally be problems of adjustment in adding a medical student teaching function to the health services in the area, particularly so if medical staffing is not increased; clinical staff are already fully stretched with their clinical work. Reorganization of the NHS cannot be said to have affected the medical school substantially, although the number of committees which require medical school representation has increased.

University of Liverpool

Qualifying Degree. MB ChB

Curriculum Stages Offered. Preclinical, clinical

Curriculum Status. Preclinical: revised 1975, developing

Clinical: revised 1975, developing

GMC Correspondent. Mr R. A. Hughes

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*† Liverpool Royal Infirmary, Pembroke Place, Liverpool 3

*† Alder Hey Children's Hospital, Eaton Road, Liverpool L12 2AP

*† Broadgreen Hospital, Thomas Drive, Liverpool L14 3LB

*† David Lewis Northern General Hospital, Leeds Street, Liverpool 3

Fazackerley Hospital, Longmoor Lane, Liverpool L9 7AL

*† Liverpool ENT Infirmary, Myrtle Street, Liverpool 7

*† Liverpool Maternity Hospital, Oxford Street, Liverpool 7

*† Mill Road Maternity Hospital, Mill Road, Liverpool L6 4AF

*† Newsham General Hospital, Belmont Road, Liverpool L6 4AF

*† Royal Liverpool Children's Hospital (Liverpool 1, 19, and Heswall, Wirral)

*† Royal Southern Hospital, Caryl Street, Liverpool 8

*† St Paul's Eye Hospital, Old Hall Street, Liverpool 3

*† Sefton General Hospital, Smithdown Road, Liverpool L15 2HE

Walton Hospital, Rice Lane, Liverpool L9 1AE

*† The Women's Hospital, Catherine Street, Liverpool 8

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Chester City Hospital, Hoole Lane, Chester CH2 3EH

Chester Royal Infirmary, St Martin's Way, Chester CH1 2AZ

Clatterbridge Hospital, Bebington, Merseyside L63 4Y

* Rainhill Hospital, Rainhill, Prescot, L35 4PQ

West Cheshire Hospital, Liverpool Road, Chester CH1 2BA

Winwick Hospital, Winwick, Near Warrington, Cheshire WA2 8RR

* Within AHA(T).

† Within teaching district.

SELECTION

Students must have the intellectual capacity to cope with the examinations of the medical course and to respond to the rapid changes and new opportunities arising in medicine: 'Dedication without academic potential is a deadloss, we therefore look for academic potential.' The information given in the confidential report is considered equally important to the academic achievements of the candidate and this is used to select applicants for places out of the group with good O-level, etc., examination grades who have indicated Liverpool as their

first, second, or third choice. Particular attention is paid to the spread of subjects and grades offered by applicants, and to evidence of social concern, empathy, imagination, and liveliness of mind.

Interviews are only held in cases where physical, mental, or other problems are suspected. All candidates, however, are welcome to visit the Medical School for an informal tour. Routine interviews were discontinued several years ago when they were agreed to be hardly worthwhile: good interview performance did not correlate with good academic performance, and the social and personal characteristics of school leavers change during their five years in medical school. Interviews cannot safely predict anything, it is felt.

FEATURES OF THE CURRICULUM

Early Years

Since the 1972/3 session the preclinical course has lasted five terms, the sixth term (Year 2, term 3) being a clinical term. Anatomy is taught for five terms, and in the sixth term in the clinical anatomy course. Physiology and biochemistry are taught concurrently with anatomy: there is no integration of teaching but correlation is sought. In physiology and psychology, clinical demonstrations for three hours a week show the existence of specific types of disorder as medical and human concerns and, from the beginning, relate basic sciences to clinical problems.

Clinical Aspects

In term 6, the students begin rotating clinical appointments which continue into the spring of the following year. The aim is to teach basic methods of examination and diagnosis, connecting what the students see with the basic sciences, still fresh in their minds. From the beginning students are given the broader view by undertaking linked modules of the Community Health Course. This includes general practice, geriatrics, orthopaedics, and neurology, and it hopes to demonstrate that there is much medicine beyond hospital medicine, that some hospital disciplines and departments are (or should be) responsible for care and follow-up in the community and that 'community health' is very much a team or multidisciplinary activity. The scope and the methods of the course are still experimental.

The ninth term (Year 3, term 3) is an academic one devoted entirely to laboratory medicine. The three paraclinical disciplines are more understandable and interesting after a year's clinical work, and their full-time study without clinical distractions seems more productive. (Some general pathology is in fact taught in Year 2.)

During the fourth and fifth years, which are full-time clinical ones, students spend a total of four weeks out of the hospital environment studying general practice and twelve weeks in compulsory hospital residence. Facilities do not allow students to be resident for longer than the minimum period.

Clinical teaching is carried out by firms, normally of two consultants and about four juniors. They are normally single specialty but final-year medical or surgical firms include representation from their sub-specialties and involve pathologists, psychiatrists, and radiologists in case conferences which integrate the complementary and alternative views. The size of student groups varies:

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT						
		1	2	3	(4)			
1	PRE CLINICAL COURSE	+	+	+		230 hours	Anatomy and Human Biology Histology and Cell Biology Organic Chemistry Physiology Biochemistry Clinical Psychology and Sociology	1
		+	+	+		120 hours		
2	JUNIOR CLINICAL COURSE AND LAB. MEDICINE	+	+			35 hours	Anatomy Physiology Biochemistry Clinical Psychology General Pathology	2
		+	+			170 hours		
3	JUNIOR CLINICAL COURSE AND LAB. MEDICINE	+	+			110 hours	Junior Clinical Course commences	3
		+	+			30 hours		
4	SENIOR CLINICAL COURSE	+	+			24 weeks	Junior Clinical Course continues: - Rotating (almost) full-time attachments to: Medicine (12 wks), Surgery (12 wks), Orthopaedics (6 wks), Neurological Medicine and Surgery (2 wks), Casualty and Emergency (2 wks) Community Health/GP/Geriatics (2 wks) - Lectures (c. 70 hrs) in the above subjects, also Ethics, Biostatistics, and Psychiatry and including integrated teaching with Anatomy. Pharmacology (a.m. lectures only & clinic. Pathology attachment terms 1 & 3; Medical Microbiology) intensive (cor. & lab. course in term 2)	4
		+	+			150 hours		
5	SENIOR CLINICAL COURSE	R	R	R	R	12 weeks	Obstetrics/Gynaecology Child Health Psychiatry Dermatology Radiology General Practice and Community Medicine Elective Lectures: Medicine/Surgery (joint programme), Obstetrics/Gynaecology, Immunology, Chemical Pathology, Dermatology/Medicine, Forensic Medicine, Anaesthetics. Haematology: lectures and lab. classes.	5
		R	R	R	R	8 weeks		
6	SENIOR CLINICAL COURSE	R	R	R	R	4 weeks	General Medicine Neurology Cardiology Geriatrics General Surgery Ophthalmology E.N.T. Elective Lectures: Chemical Pathology, Ophthalmology, Medicine/Surgery, Therapeutics, Medical Micro- biology, Psychiatry, Venereology, Community Health/GP, Clinical & Surgical Pathology, Cardio- thoracic Surgery	6
		R	R	R	R	4 weeks		

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 156 Estimate for 1979: 180	Pre-clinical MB Part 1: Histology and Cell Biology* Organic Chemistry (* contribution from in-course assessment)	1
2	34 weeks	152	Pre-clinical MB Part 2: Anatomy, Physiology, Biochemistry Final MB ChB Part 1a: Pathology, Clinical Psychology, and Sociology	2
3	36 weeks	1974: 131 (including 2 Cambridge students) Estimate for 1979: 150 (including 1-4 students from elsewhere)	Final MB ChB Part 1b: (Pathology, Pharmacology, Medical Microbiology)	3
4	46 weeks	139		4
5	32 weeks	127	Final MB ChB Part II (all clinical subjects)	5
6				6

medical groups rarely exceed 6, surgical groups 8; for other specialties groups of 12–13 are subdivided. The style of clinical teaching is not identical in every unit nor at every stage of the students' progress, but generally it is related directly or indirectly to actual patients so that learning is a matter of participating in or observing patient care.

Emphasis is placed on the community aspects of medicine: in the first clinical term the effects of illness and hospitalization on the patient as a person, on his/her family and on the community at large are discussed and students are expected to retain this mental framework in all subsequent attachments.

Theoretical teaching is carried out on a departmental basis. The lectures in medicine and surgery are linked and follow a two-year cycle attended by fourth- and fifth-year students together. Lectures and concurrent patient-based teaching are not correlated. There is an active programme of seminars, tutorials, etc., at hospital level to supplement the centralized classes, and in the final year this is often interdisciplinary, for example physicians and chemical pathologists join forces for teaching.

Intercalated Degree of BSc

An intercalated BSc Honours year may be taken before the third year of the medical course by students who distinguish themselves in the Second MB examinations. Research work and course work are combined, both undertaken in the Faculty of Science, and a dissertation contributes with a formal examination to the over-all assessment. Between one and three students each year intercalate a degree; subjects studied recently include anatomy, biochemistry, and physiology. There are proposals to add cell biology and pathology to the list of Honours BSc options.

Elective Experience and Course Options

Two periods—one of two weeks in Year 4 and the other of four weeks in Year 5—are set aside for elective studies. Both may be spent away from Liverpool and may be based on clinical work, research or structured courses of study. Reports must be submitted by students afterwards, but these are not assessed 'critically', in any way. Students are encouraged to be active—to undertake a project or to work in a developing country—to choose with a purpose in mind. About half in fact leave Liverpool and some go abroad. The Medical School publishes lists of hospitals and institutions where students are welcome and the School of Tropical Medicine has built up useful contacts overseas, especially in Child Health. The medical student society has organized meetings to pool advice about elective arrangements.

In future, changes in the timetable may release more time for electives. Two trusts have been formed, the first to finance adventurous overseas travel, and the second to finance psychiatric electives abroad; these will be all the more helpful to students as financial difficulties have in the past proved to be the main restriction on elective activities.

CURRICULUM CONTROL AND DEVELOPMENT

The practice at Liverpool is to operate two parallel systems, one of standing committees with continuing roles and another of *ad hoc* temporary bodies with defined tasks.

There is no single standing body concerned with the whole curriculum: two Boards, one for preclinical studies and the other for clinical studies, report directly to the Faculty Board. The Board of Preclinical Studies is concerned with all subjects taught in the first five terms and with the subject requirements for admission to the course. The Board of Clinical Studies is concerned with all clinical subjects and with the recognition of teachers and places of instruction. Membership consists of professors, non-professorial staff, clinical sub-deans, directors of studies, representatives of clinical teachers and of students. Each Board meets three times in a term and sends representatives to each other's meetings. They liaise extensively; from time to time they set up sub-committees to produce feasibility reports, etc., as each Board is able to propose and initiate changes. A series of subject Boards which are departmentally based deal with clinical teaching, sometimes in great detail so that all full-time and part-time teachers are aware of the objectives and the course programme.

The School of Community Health Studies has a committee which meets twice a term, to co-ordinate the contributions which the School makes to the medical course and to integrate the various strands of community health teaching so that all the opportunities and facilities available in the community services are exploited. Representatives of community health, general practice, geriatrics, sociology, clinical psychology, and the Board of Extension Studies, belong to the Committee.

The Staff-Student Committee meets once a term and its membership comprises the Dean, the sub-deans, senior staff, and other members of staff invited to answer questions or speak to a particular item, and student representatives. A student is always in the chair. It discusses the whole range of curricular concerns and elicits student opinion through questionnaires. Students have generally been most active in connection with curricular review: recent curriculum changes were determined to no inconsiderable extent by surveys and reviews conducted by the medical students' society.

Courses are administered by the departments who also determine their content and presentation and whether and when to update. Departments working in related fields come together for some cross-departmental teaching which is arranged by the teachers themselves. When the limits of their time allocation and other resources are reached, application is made to the appropriate Board of Preclinical or Clinical Studies to consider a change.

There is indeed no formal requirement of regulation that a review should be conducted every x years, but there is a great deal of self-criticism, and the frequent changes in the hospital structures necessitate constant vigilance; thus, a fairly major review does occur approximately once in every student generation. The procedure followed then is for a Curriculum Committee or specific working party to be set up by the Faculty Board. The reorganization of the second and third years was planned under this procedure, with the Curriculum Committee being assisted by subordinate working parties. After the Curriculum Committee had deliberated, its report was discussed at a special plenary meeting of departmental heads, who referred it to a Timetables Committee to assess its practicability and its implications for resources and for other stages of the curriculum. Finally, the Boards of Preclinical and Clinical Studies supervised the changes at departmental level.

The Deanery

Until recently there was a whole-time Dean, but at present there is a part-time Dean, assisted by two full-time Sub-Deans. The Dean is chosen by committee and may be reappointed for a further fixed or unlimited term of office. One of the Sub-Deans—medically qualified with extensive clinical experience—is responsible for academic affairs, and the second is a Sub-Dean for administrative matters—the servicing of committees, finance, etc. More recently, an Admissions Sub-Dean (a member of the preclinical staff) has been appointed to deal with the preparatory work concerning admissions. In addition, Clinical Sub-Deans have been appointed in each of the major hospitals used for teaching to represent the medical school and to supervise the teaching programme.

Miscellaneous Topics

The University of Liverpool offers courses of instruction on teaching methods, etc., for all staff; these are administered by a Committee which includes two medical school members. However, no member of staff from the medical school has attended a course recently. The University also has a research and training centre in audiovisual aids and teaching methods which the medical school draws upon, for example in the production of videotapes. It is planned to have an audiovisual unit in the new teaching hospital and facilities for closed-circuit television are being installed there extensively to make televised teaching possible.

Several departments exchange teaching material with other medical schools and the stock of computerized MCQ questions in medicine at Newcastle is used in examinations.

STUDENT ASSESSMENT

Early Years

Assessment during the first two years is based mainly on end-of-course examinations, except in histology where in-course assessment is significant and contributes marks to the over-all assessment. In the major subjects good in-course performance can give exemption from the end-of-course practical and oral tests. Techniques in both in-course and end-of-course assessment include objective-type questions, essays, practical work and oral tests for some students. In addition, end-of-course examinations include short-answer questions.

Clinical and Paraclinical Subjects

Paraclinical subjects are assessed by end-of-course examination, including objective and short-answer tests, essay questions, and oral tests. In clinical subjects a student must pass the 'theoretical' assessment and the clinical assessment independently of each other. In the theoretical part, success or failure depends entirely on end-of-course examination; techniques used include objective-type questions, short written and essay questions, and oral tests for all students. Success or failure in the clinical part also depends entirely on the end-of-course assessment; techniques employed are long cases, short cases, 'provided data' interpretations and oral tests. In-course tests are only used 'formatively'—but results may be adduced in support of a marginal student (never to reduce his standing).

Regulations

Compensation between subjects assessed at the same time is possible if the average mark is 50 per cent or more and if the mark for the failed subject is not less than 45 per cent. (If below 45 per cent, the student will be re-examined, but in the failed subject only.)

In the critical assessments, external examiners take part in designing the examinations and help to determine or moderate the over-all standard. They are not involved in in-course assessments at all, except in the critical Histology assessments.

Advice and Assistance to Students

Each student is assigned to a tutor to whom they can turn for help with personal problems, although some tutors would help with academic problems too. In the clinical years students are likely to seek advice from clinical teachers. The Sub-Dean and his staff frequently give advice. There is also the University Student Counsellor and the Student Welfare Service. Academic problems are usually dealt with in the department concerned, but there is a Faculty Progress Committee, on which the Dean and departmental representatives sit; this is a disciplinary rather than a supporting device and decides whether a student should repeat a year or withdraw from the course, but each case is considered individually and often the Committee recommends counselling or remedial tuition. The student's tutor would also be present. It is felt that the close staff-student relationships in the medical school and the freedom to approach whom one wishes are the best way to make help available.

Revision arrangements for students repeating examinations include: a summer vacation course in anatomy; the mounted demonstrations in pathology which accumulate through the year and remain over the vacations; and *ad hoc* courses with a senior registrar in particular clinical disciplines. All students who fail Finals are interviewed and if more than one subject is failed they may be attached to a member of staff who will supervise a programme of resident training in hospital for them.

PROBLEMS

When the new teaching hospital is commissioned—it is hoped, within the next two or three years—the space vacated by clinical departments will be occupied by the preclinical departments whose present accommodation is very sub-standard. Lecture theatres are inadequate, laboratories too small, and there is a shortage of seminar rooms.

There has been considerable delay in building the new hospital and its arrival will not by any means solve all the medical school's problems. It was designed to cope with an annual intake of 120 students but numbers have already reached 150 so that increasing use will still have to be made of other suburban and district hospitals. There is concern over the availability of patients: the run-down of beds and consultant posts in central Liverpool has left something of a vacuum, especially as out-patient and day-bed facilities are inadequate. Dispersal of students makes for extra cost and time spent on travel. The medical school is unwilling to divert students, especially junior students, for longer periods to the district hospitals where standards vary and

teaching is necessarily unstructured, and the NHS authorities are unwilling to divert patients to a 'centre of excellence' for teaching purpose. NHS re-organization has compounded the dilemma as to the role of a teaching hospital. However, relationships with individual hospitals and the AHA(T) team are close and friendly.

With regard to staffing, particular problems have been met in recruiting laboratory technicians and A-V technicians. There is general dissatisfaction with the unqualified FTE staff-student ratio being used as the index for calculating departmental staffing targets. Great difficulty has occurred in recruiting medically qualified staff to the preclinical and paraclinical disciplines but a new scheme is being introduced of using *a* and *b* posts whereby the University employs senior lecturers full-time whose first commitment is teaching and research but who also undertake clinical sessions at consultant level. The AHA(T) refunds the total cost of the clinical sessions to the University at an agreed rate per session.

DEVELOPMENTS

Adjustments were introduced into the clinical course from October 1975; a reduction in time devoted to obstetrics and gynaecology and a corresponding increase in psychiatric teaching time, and incorporation of some preclinical teachers into clinical courses. The outline of the course remains unchanged and it is very unlikely for example that the teaching of pathology would be integrated with the clinical specialties. In contrast, a Working Party recently recommended that the preclinical courses should be rearranged into a more interrelated and harmonized pattern. This was implemented in October 1975. (Voluntary and informal integration will continue to develop, however, at all stages of the course.)

Ultimately the student intake might rise to 180, dependent upon resources.

University of London

THE LONDON MEDICAL SCHOOLS

The London medical schools are different from the rest of those in the UK in that they are all part of a single University's federal structure. All the medical schools and colleges which make up the Faculty of Medicine of London University are governed by that University's Regulations for degrees in the Faculty. This effectively entails an 'extra' tier of administration at University, as opposed to medical school, level. For instance, there is a 'Dean of the Faculty of Medicine' and there are 'Boards of Studies' (for various subjects), each with certain responsibilities and powers relating to all the component schools. Much administration—particularly in respect of examinations and regulations generally—is conducted centrally. On the other hand the schools have considerable autonomy, are corporate bodies with their own Councils of Governors, and are responsible for their own financial administration, upkeep of buildings, and day-to-day management.

New Regulations

The Regulations of the University have recently been revised and all schools are adapting their curricula to meet them. Some schools have already completed this process; others have completed it with regard to their preclinical course but not with regard to their clinical course. Therefore, the first Final Examination under revised regulations will be in 1977 for some schools (where students entering the clinical course in 1974 and thereafter will be studying under revised regulations); the remainder will first enter candidates for Finals under revised regulations in 1978 and 1979 (where students entering the clinical course in 1975 and 1976 will be studying under revised regulations).

There are three particularly noticeable effects of the changes:

There will be a greater degree of curricular and examination flexibility. It is now possible for in-course assessment to make a

critical contribution to the major examinations. Schools may choose either to adopt the University curriculum or to devise their own 'school-sponsored' one; a school-sponsored curriculum may differ from this in detail but it must be within the over-all framework suggested by the University, which must approve it. A school proposing arrangements for a 'school-sponsored' curriculum would be required to submit at the same time proposals for 'school-based' examinations, but schools adopting 'University-sponsored' curricula still have some choice in the examination arrangements; these could be either 'university-' or 'school-based' at either stage of the curriculum (Basic Medical Sciences; Clinical Studies and Related Sciences), subject to certain restrictions.

Additional subjects will be included in the curriculum—genetics, psychology, and sociology as applied to medicine, general practice, etc. Some of these have become specifically examinable with their own examinations. Others are expected to be taught in the new curricula but assessed within other, major subjects' papers.

The names of the examinations will change. Those of 'school-based' examinations may vary, but in 'university-based' arrangements, instead of having 'First MB', etc., the series of examinations will be known as 'Parts' of the MB BS. There are eight such parts, which are either single-subject papers, multi-subject papers, or multi-paper diets as follows:

University-based Examinations

- PART I. Taken at end of Year 1 (Basic Medical Sciences): Human Anatomy, Biochemistry, Physiology.
- PART II. Taken at end of Year 2 (Basic Medical Sciences): Human Anatomy II, Biochemistry II, Physiology II, Principles of Biometry and Medical Statistics, and Psychology and Sociology as applied to Medicine.
- PART III. Normally taken at end of Year 2: Pharmacology.
- PART IV. May be taken at any time after end of Year 3: Pathology (including Microbiology, Haematology, and Immunology).
- PART V. Medicine (including Paediatrics, Psychiatry, Social Medicine and Medical sub-specialties).
- PART VI. Clinical Pharmacology and Therapeutics.
- PART VII. Surgery (including surgical specialties).
- PART VIII. Obstetrics and Gynaecology.

(The clinical and oral components of Parts V–VIII must be taken at the end of Year 5 after the course in Clinical Studies and Related

Sciences is completed, but the written papers may be taken up to one year in advance.)

Intercalated Degrees

Opportunities for taking intercalated degrees are listed in the profiles of the individual medical schools. The University of London's Regulations are unusual in adopting a 'course unit' structure for such degrees; students can select from a wide number of permutations, and the variety of degrees is therefore considerable.

UNIVERSITY OF LONDON

Charing Cross Hospital Medical School

Qualifying Degree. MB BS (London)

Curriculum Stages Offered. Preclinical; clinical

Curriculum Status. Preclinical: revised 1974

Clinical: under revision (1975/6)

GMC Correspondent. Professor J. Lee

The information in this section was collected in 1975.

See Important Note on p. 134.

Note

In Tables A and B, and the text which follows, the information refers to the 'new' preclinical curriculum, introduced in 1974, and the 'old' clinical curriculum, to be revised in 1976.

Note that no student would actually take this combination of curricula, which were simply those operating at the point in time at which the data was collected. Students taking the 'new' preclinical course described would proceed to the (then only planned) 'new' clinical course; this is outlined in Tables A1 and B1 at the end of the 'profile'.

Major Hospitals used for Undergraduate Teaching

*†Charing Cross Hospital (Fulham), Fulham Palace Road, London W6 8RF

*†West London Hospital, Hammersmith Road, London W6 7DQ

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

*†Western Hospital, Seagrove Road, London W6

* Within AHA(T).

† Within teaching district.

SELECTION

The school looks for: suitability for a medical career in terms of personal qualities and motivation; academic ability; ability to fit into the student community at Charing Cross; and good health. Between 20 and 25 per cent of all applicants are interviewed and no place is offered without interview. Examination grades, the confidential report, and the interview performance are equally very important.

A small number of mature students are admitted each year as a matter of policy, because of the leavening effect they have on the student body as a whole.

FEATURES OF THE CURRICULUM

The whole curriculum has recently been revised: the new preclinical course which came into operation in October 1974 is school-sponsored with school-based examinations; the new clinical course will be university-sponsored. Comments in this profile refer in general to the new preclinical course and the 'old' clinical course.

Early Years

New topics have been introduced into the early years of the course: psychology, sociology, genetics, biometry, and statistics. Greater harmony between the classical disciplines has been achieved and course planning is co-ordinated through regular meetings. In general, Year 1 is more 'basic' than Year 2, when the applied aspects of the basic sciences are emphasized and some paraclinical teaching commences.

The amount of clinical teaching in these years is now significant—in Year 1 it has increased from 45 to 50 hours and in Year 2 from 30 to 120 hours. Patients are demonstrated and members of the clinical departments take classes. In medical sociology students visit health centres, schools, etc. The aim is to reinforce motivation, to introduce students to patients as people, to show the uses of laboratory equipment in clinical measurement and diagnosis, and to illustrate certain principles of the preclinical sciences. Over and above this, the introductory clinical instruction previously given in Year 3 has been incorporated into the physiology course in Year 2, and will be examined under the heading 'Physiology of Man'. Medicine and surgery will be the chief vehicles of instruction, with obstetrics to a lesser extent. By the end of Year 2, students should be able to perform a clinical examination.

Clinical Aspects

The unit for patient-based clinical teaching is the single-specialty firm of two consultants and their juniors. Students are in groups of eight to ten. They learn through observing and participating in patient care: teaching is not generally a special separate activity.

A feature of the new curriculum already being practised is the combining of students from several firms for afternoon sessions known as 'core' courses. The medical firms in Year 3 are often very specialized: to spread the benefit each firm takes it in turn to conduct a 'core course' in its specialty. They are repeated for each cycle of students taking medical attachments. Specialties represented are: cardiology, endocrinology, gastro-enterology, geriatrics, nephrology, neurology, respirology, rheumatology.

Theoretical teaching is partly departmental—there are some lecture courses—and partly carried out by clinical teams as in the Year 3 'core courses'. Most of the theoretical teaching takes place within the firms to which students are attached. On some occasions clinical and theoretical teaching are not related; at several stages they are related, ie the same system or specialty is taught clinically and theoretically at the same time to the same students. An increasing amount of teaching is conducted in out-patients, to avoid 'over-teaching' on patients in the wards because the bed complement is felt to be too low to sustain intensive undergraduate teaching.

During the three predominantly 'clinical' years, students will receive up to two to four weeks' clinical experience outside hospitals, this being in general practice. Students are expected normally to spend about twelve weeks in residence.

Intercalated Degree of BSc

A number of places are available for students who wish to intercalate a BSc year: about five do so each year, though now (1976) this number is significantly

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES			NAME	ACADEMIC YEAR
		TERMS TAUGHT (1) (2) (3) (4)		APPROXIMATE LEARNING TIME		
1	Junior Pre-Clinical Year	+++		300 hours	Anatomy	1
		+++		210 hours	Biochemistry	
		+++		200 hours	Physiology (including Biophysics/Statistics)	
		+++		44 hours	Psychology and Sociology as applied to Medicine	
2	Senior Pre-Clinical Year	++		114 hours	Anatomy (including Histology)	2
		++		138 hours		
		+++		162 hr + 60 hr	Physiology + clinical instruction	
		+		24 hours	Genetics	
		+		60 hours	Introductory Pathology and Microbiology	
		+		120 hours	Pharmacology	
				New Curriculum } see note on	
				Old Curriculum } previous page	
				10 weeks	Clinical Introductory Course	
			R	(see below)	Commencement of first Medicine and Surgery attachments	
3	1st Clinical Year	R R		16 weeks FT	General Medicine: 2 attachments of 8 weeks each	3
		R R		16 weeks FT		
		+		(not available)	Clinical Lectures (open to all clinical students)	
					also classes in Pathology and Microbiology	
			R R	(see below)	Commencement of Second Clinical Year blocks	
4	2nd Clinical Year	R R		24 weeks FT	Obstetrics/Gynaecology + Paediatrics	4
		R R		8 weeks FT		
		R R		8 weeks FT	Accident and Emergency/Orthopaedics/Venereology	
		R R		8 weeks FT		E.N.T./Dermatology/Dentistry/Infectious Diseases
			R	8 weeks FT	General Medicine	
			R	8 weeks FT	General Surgery	
			+	8 weeks FT	Elective	
5	Final Clinical Year	+		8 weeks FT	Revision and Examination	5
		+		3 weeks FT		
		++		24 weeks FT	Open Ward Rounds, Tutorials, etc.: Revision:	
					Final Examination	
6						6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 120** Estimate, for 1979: 120**	Part 1 MB BS (all subjects taught in Year 1) (contribution from in-course assessments)	1
2	30 weeks	115*	Part 2 MB BS (Anatomy/Genetics and Biochemistry) (contribution from in-course assessments) Part 3 MB BS (Physiology and Pharmacology)	2
3	48 weeks	1974: 60* (including 5 students from Cambridge and 1 from Oxford) Estimate, for 1979: 120** (including some students from Oxford/Cambridge)	<u>Note:</u> Examinations listed in Years 3 to 5 relate to the 'old' curriculum; see note on front page of this 'profile'	3
4	48 weeks	45*		4
5	48 weeks	53*	Final MB Examination (Pathology) Final MB Examinations (Clinical Subjects)	5
6			* = these figures refer to students proceeding under the 'old' curriculum ** = these students will enter the 'new' clinical curriculum	6

increasing. In recent years, anatomy, biochemistry, pharmacology, and physiology have been studied, based mainly on course work but with some research also: however, pharmacology and physiology are no longer offered. It is hoped to offer courses more relevant to medicine—proposals are afoot to add pathology, possibly psychology and sociology, or to combine anatomy, biochemistry, and physiology as modules of a degree course. Assessment is by formal examination.

Elective Experience and Course Options

The eight-week clinical elective will be continued in the new course but may be reduced to six weeks. Guided electives for revision or remedial purposes are sometimes taken, but generally students are encouraged to go away from the teaching hospital: nearly all do so and spend their time acquiring further clinical experience. Students usually make their own arrangements, exchanging information and contacts among themselves, and following each other abroad (some have gone to the Far East) but the choice must be approved by the Dean.

A significant feature of the final year is the unstructured period of twenty-four weeks leading up to the Final Examination: students can use this time to attend ward rounds of their choice, tutorials, or clinical lectures—or can revise privately. (This concept will be maintained, but reduced in amount, in the new curriculum.)

CURRICULUM CONTROL AND DEVELOPMENT

The allocation of time, planning, and implementation of course revision is arranged by negotiation between the heads of departments concerned. There is a Curriculum Committee to supervise the operation of the curriculum, which is a standing sub-committee of the Academic Board, but it meets infrequently: the nine members are: the academic Vice-Dean (Chairman), representatives of the major departments, and two students. It discusses problems as they arise. Matters requiring action are usually referred to the Committee's secretary, the Professor of Physiology. The content and presentation, the updating of content and the administration of courses, are departmental responsibilities.

Now, however (1976), the committee arrangements have been made more formal in connection with the new curriculum: there is significant student representation.

The Deanery

The Dean is elected annually, but in practice tenure would normally be for at least three years. There are two part-time Vice-Deans: one deals with academic questions in general, and the other supervises admissions. Both are appointed for a fixed term of three years.

STUDENT ASSESSMENT

A new pattern of assessment accompanies the new curriculum.

Early Years

The basic medical sciences and pharmacology will have school-based assessments which allow up to 30 per cent of the marks in Parts 1, 2, and 3 of the MB BS to be contributed by in-course assessment; techniques used will include objective and essay questions, orals, and assessments of practical work. End-of-course examinations include short answer questions, objective questions, orals, essays, and practicals. Introductory pathology is included at this point.

Clinical Subjects

In the clinical years the critical assessments will be mainly if not entirely based on end-of-course examination. Most major subject groupings (pathology, medicine, therapeutics, surgery) will have university-based assessments but obstetrics and gynaecology will have a school-based arrangement. It is likely that 'theoretical' aspects will generally be assessed by means of objective and short-answer questions, essay questions and oral examinations; practical aspects will be assessed by long cases, short cases, and oral examinations. The various gradings, reports, and subjective estimates of students' clinical abilities made by the firms and departments through which they pass will continue. A poor report could lead to a student repeating an attachment, although it would not influence the Final Examination results.

Regulations

The requirement to pass the 'clinical' and 'non-clinical' components of the final examination independently of each other, will be maintained. The question of compensation is under discussion. External examiners assist in the examinations by setting questions, moderating the standard and arbitrating in marginal cases.

Advice and Assistance to Students

There are at present no specified arrangements but a proposal to appoint personal tutors for preclinical students is under discussion. No decision has been made as to whether these tutors would help with academic problems or personal problems, or both. Students may, of course, approach individual members of staff at any time, and it is not intended to dissolve the informal system whatever formal innovations may occur.

Revision courses are not provided for students who fail examinations.

PROBLEMS

Introduction of the new curriculum has coincided with the transfer to a new hospital and medical school complex, with the phasing out of split entry to the clinical course and with virtual trebling of student numbers: it has been a time of great disturbance and anxiety. Particular problems which have crystallized—for example, the shortage of beds and patients for clinical teaching, obstetrics and gynaecology being the worst affected; smallness of the library—will be remedied as the building programme proceeds.

All basic medical science departments are understaffed. Clinical staffing levels do not permit as much small group teaching as desired. Financial

Table A1. Planned New Curriculum. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				ACADEMIC YEAR	
		TERMS TAUGHT	APPROXIMATE LEARNING TIME	NAME			
		1	2	3	(4)		
1						1	
2						2	
3	First Clinical Year	R R +	R R 8 weeks FT 8 weeks FT 8 weeks FT 8 weeks FT c. 150 hours	8 weeks FT 8 weeks FT 8 weeks FT 8 weeks FT 8 weeks FT c. 150 hours	General Medicine General Surgery Pathology (etc) General Medicine General Surgery Lectures: Clinical Pharmacology, Therapeutics, Community Medicine, etc.	3	
	Second Clinical Year	R R R R R	R R R R R	R R R R R	12 weeks FT 12 weeks FT c. 150 hours 6 weeks FT 8 weeks FT 8 weeks FT	Obstetrics/Gynaecology or Paediatrics Paediatrics or Obstetrics/Gynaecology Lectures: Clinical Pharmacology, Therapeutics, Community Medicine, etc. Psychiatry/Pharmacy Orthopaedics/Venereology/Accident and Emergency ENT/Dermatology/Dentistry/Ophthalmology/ Infectious Diseases	4
4						4	
	Final Clinical Year	R R R R R +	R R R R R +	R R R R R +	8 weeks 6 weeks 3 weeks 6 weeks c. 50 hours 5 weeks 8/9 weeks	(Commencement of final year attachments) General Surgery General Medicine General Practice Elective Lectures on clinical subjects Revision for Part IV MB BS Revision for Parts V to VIII MB BS	5
5						5	
6						6	

Table B1. Planned New Curriculum. *Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course*

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1				1
2			PRE-CLINICAL ASSESSMENTS AS AT PRESENT, SUBJECT TO REVIEW	2
3	48 weeks	1974: 60 Estimate for 1979: 120		3
4	48 weeks			4
5	36 weeks		Final MB BS Part 4 (Pathology, etc) Final MB BS Parts 5, 6, 7, 8 (Clinical Subjects)	5
6				6

restrictions prevent more extensive use of audiovisual materials and also technicians being used to any large extent in teaching.

NHS reorganization has not affected undergraduate teaching though the medical school has become entangled in more committee work. Other changes in attitudes and outlook within the NHS which are occurring independently but simultaneously, may eventually affect students. Relationships between Charing Cross Hospital and the Medical School remain good.

DEVELOPMENTS

The new curriculum will be fully implemented by 1979; its distinguishing feature so far has proved to be vertical integration. An active Medical Education Group has been formed by students to develop ideas and help to improve the curriculum. The outline of the new clinical course suggests that it is a rearrangement of the existing course rather than anything more radical; however, several individual disciplines and specialties have developed new objectives. Students will continue to receive maximum clinical exposure from the beginning. There will be greater opportunity to study non-hospital medical care and a long 'Revision' period in the spring of Year 5 will allow them to pursue special interests and to assimilate their knowledge. 'Theoretical' teaching will remain a departmental responsibility and the clinical lectures will be open to all students in all three years. Similarly, a cycle of lectures and panel discussions in clinical pharmacology and therapeutics will run throughout the course. The new clinical curriculum is outlined on Tables A1 and B1.

Student numbers have risen from an intake of 48 in 1971 to 120 in 1974, but the ultimate projected intake of 160 a year has been deferred indefinitely. A few students from Oxford and Cambridge will continue to enter the clinical course and a special introductory clinical course will be provided for them in September, before they start. Single entry (in October) to the clinical course takes effect from October 1976.

UNIVERSITY OF LONDON

Guy's Hospital Medical School

Qualifying Degree. MB BS (London)

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Premedical: established

Preclinical: course revised 1973

Clinical: revised, commencing 1975

(information refers to the new course)

GMC Correspondent. Professor T. J. H. Clark

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†Guy's Hospital, St Thomas's Street, London SE1 9RT

*†New Cross Hospital, Avonley Road, London SE14 5ER

*†St Olave's Hospital, Lower Road, Rotherhithe, London SE16 2TS

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

*Lewisham Hospital, London SE13 6LH

Note. The use of Lewisham Hospital is increasing. Students on the 'Regional Firm' will be in groups of five, in six hospitals in Kent and Sussex.

* Within AHA(T).

† Within teaching district.

SELECTION

Academic attainment and potential are both regarded as very important, but the School takes greatest account of the confidential report. All candidates are interviewed before an offer of a place is made and about 25 per cent of the total number applying are selected for interview. In general, potential ability is considered to be more important than the standard achieved at the time of application. Guy's is particularly interested in candidates who have practical experience in medical, paramedical, sociological, or scientific work.

About five mature students are admitted each year—it is preferred that such candidates have obtained at least an upper second-class degree.

FEATURES OF THE CURRICULUM

A major revision of the curriculum was started in 1973 and is in the process of implementation. There are three parts to the course: the year of preliminary studies in medical subjects for those needing to study biology, chemistry or physics; the two basic medical science years; and three clinical years. Although the main course is subdivided there exists considerable overlap between clinical and preclinical.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT	1	2	3			
1	Prelim. Studies in Medical Subjects	+	+	+		364 hours 221 hours 240 hours	Biology Chemistry Physics (shorter courses are taken by 'exempt' students)	1
2	Basic Medical Sciences: Junior Year	+	+	+		130 hours 160 hours 120 hours 70 hours 40 hours 30 hours 60 hours 60 hours 20 hours 20 hours	Anatomy Biochemistry Physiology Pharmacology Genetics Human Reproduction and Development Clinical Sessions Cytology/Pathology Biometry and Medical Statistics Medical Physics	2
3	Basic Medical Sciences: Senior Year	+	+	+		140 hours 40 hours 80 hours 90 hours 40 hours 30 hours 60 hours 120 hours 40 hours	Anatomy Biochemistry Physiology Pharmacology Psychology Human Reproduction and Development Cytology/Pathology Clinical Sessions Sociology	3
4	1st Clinical Year	+	+			120 hours	Systematic Course in Clinical Instruction FOUR of the following SIX attachments: - general medicine/nephrology/endocrinology - general medicine/gastroenterology/neurology - general medicine/geriatrics/rheumatology - general surgery/orthopaedics - general surgery/eyes/ENT - general intensive care/anaesthetics/cardiac and thoracic (med. & surg.)/casualty	4
		S	R			8 weeks		
		R	R			8 weeks		
		R	R			8 weeks		
		R	S			8 weeks		
		+				10 weeks	Pathology Courses	
		+				6 weeks	Elective	
5	2nd Clinical Year	R	R	R		12 weeks	Paediatrics/Dermatology	5
		R	S	R		12 weeks	O & G/Urology/Venereology	
		R	S	E		12 weeks	Regional Appointment: medicine/surgery/obstetrics/general practice	
		R	R	R		12 weeks	Psychiatry/Community Medicine/Geriatrics/General Practice	
6	3rd Clinical Year	+				6 weeks	'Second Clinical Teaching Block', including fevers, radiology, radiotherapy, revision	6
		+	+			8 weeks 60 hours	Elective Advanced Clinical Instruction and Topic Teaching	
		R				8 weeks		
		R				8 weeks	The TWO remaining attachments from Year 4	

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 21 Estimate for 1979: 17	Preliminary Examination for Studies in Medical Subjects	1
2	30 weeks	1974: 110 Estimate for 1979: 112	In-course Assessment in individual subjects: each course (except Clinical Sessions) is examined formally once or more	2
3	30 weeks	1974: 112	In-course Assessment in individual subjects: final examination in each subject at the end of term in which teaching finishes	3
4	48 weeks	1974: 124 (including 13 students from Cambridge and 4 from Oxford) Estimate for 1979: 115 (including 5 students from Oxford and Cambridge)	Part IV M.B. B.S. (Pathology and specialties)	4
5	48 weeks	1974: 122	Parts V, VI, VII & VIII M.B. B.S. (Clinical Subjects) written papers on these subjects may be taken now	5
6	36 weeks	1974: 126 (including repeating students)	Parts V, VI, VII & VIII M.B. B.S. (Clinical Subjects) written papers not previously taken Parts V, VI, VII & VIII M.B. B.S. (Clinical Subjects) clinical and oral examinations	6

Early Years

The Basic Medical Sciences course has incorporated the additional subjects required by the University of London and also includes integrated courses: for example human reproduction and development.

Clinical Aspects

There is substantial clinical teaching in the preclinical years—students are taught by clinicians and visit patients on wards from the start of their course. The objectives of the clinical teaching and involvement during the early years are: to illustrate the relevance of the basic medical science teaching to eventual clinical practice; to introduce the student to the vocabulary of clinical medicine; and to demonstrate the skills of history taking and examination. Clinical teaching in the basic medical science course totals 180 hours.

In the clinical years, practical and theoretical teaching are mainly independent of each other. During the medical and surgical appointments there runs a multidisciplinary systems-based course—this takes in the material previously covered in a fragmented lecture course. The second, later, part of the course, for senior students, is problem orientated in the hope that this will prepare them for their preregistration year. In addition, theoretical instruction is given in pathology, chemical pathology, haematology, microbiology, immunology, and forensic medicine.

The practical clinical teaching is mainly carried out by the attachment of the student to a firm in which he becomes a junior working member of the unit. In medicine and surgery, a firm usually has 20–25 clinicians of various grades and 20 students. The medical and surgical specialists are joined to general medicine and general surgery. Other specialist firms have fewer clinicians.

There is emphasis in the clinical course on the students being taught in district general hospitals, and also by general practitioners. Students will spend the equivalent of approximately four weeks in clinical settings away from hospitals. The minimum required period of residence is twelve weeks, though the typical student would spend sixteen weeks in residence.

Intercalated Degree of BSc

The opportunity to take an intercalated degree is open to students who attain a specified academic standard. The degree may be taken at the end of the preclinical course or during the clinical course in the case of a BSc in pathology. During the year, the student must complete three course units from those offered in anatomy, biochemistry, genetics, pathology, physics, physiology, pharmacology, or zoology. The variety of available permutations is clearly very wide. Examinations are the primary method of student assessment.

There is a chance that financial circumstances will, in future, restrict the number of students (presently typically thirty) able to take an intercalated degree.

Electives

There are two opportunities for elective studies in the curriculum; six weeks in the fourth year and eight weeks in the sixth year. Many students take their

second elective period abroad. They are responsible for making their own arrangements, once the elective has been approved by the Dean or Sub-Dean. Some of the host institutions submit reports on the progress of visiting students. On neither occasion is the student's performance assessed or taken into account in any critical evaluation.

In the future, it is likely that electives will be more closely supervised and that students' performance on them will be assessed in some way.

CURRICULUM CONTROL AND DEVELOPMENT

The School Council (Academic Board) is the ultimate authority; major changes in the curriculum must be submitted to it before being implemented.

The Curriculum Sub-Committee was appointed by the School Council in 1971, to recommend changes in the curriculum necessitated by the introduction of new Regulations by the University of London. It is composed of heads of departments and senior members of the teaching staff, and is advised by the Basic Medical Science Curriculum Working Party and the Clinical Curriculum Working Party. It also has a responsibility to keep the whole curriculum under review and to monitor its progress.

During the planning of the new course in Basic Medical Sciences and Pharmacology, the BMS Curriculum Working Party met frequently, and it has been retained to monitor and assess the working of the new curriculum. It has about ten members, including representatives of the Student Medical Education Committee.

The Clinical Curriculum Working Party meets frequently to discuss the new Clinical curriculum. It has about fourteen members, including student representatives.

The Student Medical Education Committee is elected annually by the students and includes representatives of each year, and junior staff. It plays a very important role in maintaining contact between staff and students.

Over-all allocation of teaching time is agreed by the Curriculum Sub-Committee with the two Working Parties; when this has been agreed, departments are responsible for their own teaching programmes and examinations. Multidisciplinary courses are supervised by committees selected from the appropriate departments.

The Deanery

The Dean, who is part-time, is appointed, following consultations between senior members of the medical school and hospital staff; there is no limit to his term of office. He is supported by the Sub-Dean of the Medical School who acts as his deputy; the Sub-Dean is chosen for a period of five years and is re-appointable. There is also a Sub-Dean for Admissions. A full-time Medical School 'clinical tutor' has recently been appointed; this person is responsible for the clinical teaching within the basic medical science course and also for the clinical systematic course.

Miscellaneous Topics

Teachers from Guy's attend the University of London Institute of Education 'Courses for New Teachers'.

STUDENT ASSESSMENT

Early Years

Assessment in the preclinical course is by in-course techniques—this takes the form of University examinations (sometimes two or three for major subjects) held throughout the course on the previous one or two terms' work. Some minor subjects have a final examination only at the end of their respective courses. In biochemistry an over-all estimate is made of the student's performance in practical and theoretical classes. Assessment techniques used during the course include objective-type questions, essays, practical exams, and orals.

Assessment of the paraclinical subjects is mixed. Pharmacology and pathology are taught during the preclinical years and are examined by in-course techniques, such as those noted above. Later, pathology (with microbiology and immunology) is taught in the clinical years and is examined at the end of the course; techniques employed are: a written paper (which may be an MCQ); a practical examination; and an oral examination.

Clinical Subjects

In the clinical school, students must pass a theoretical and a practical examination, in accordance with the University of London regulations. For theoretical aspects, in-course assessment is generally only used in borderline cases, but does count for 20 per cent of the final mark in Medicine; otherwise assessments utilized in end-of-course techniques include objective-type questions, short written answers, essays, and orals. Assessment of practical clinical skills is by end-of-course examination, including long cases, short cases, assessments based on 'provided data' only, oral tests of clinical knowledge and an over-all rating of the student by the clinical staff who have taught him. There is still some discussion about the contribution in-course assessment will make to the final examination.

Regulations

In the preclinical years it is possible to obtain a compensatory pass if a student obtains sufficient marks over-all; in the clinical years this is not possible. If a student's performance at the end of the premedical year or either of the preclinical years is inadequate, he will be asked to withdraw. He may be asked to repeat a year if he has failed in the examinations at the end of the final year or possibly after the preclinical course. A subject may be 'carried' if the student fails a minor subject in the preclinical stage, or if there is a failure in any of the examinations taken in Years 4, 5, or 6, up to the end of the final year.

External examiners help set examinations, and moderate and arbitrate in most end-of-course examinations. In in-course assessment, external examiners are involved in evaluating the students, in arbitrating in marginal cases, but not in devising the examinations.

Advice and Assistance to Students

Both academic and personal problems are dealt with in a similar way; students are assigned to a tutor who will advise them.

Revision courses are organized on a departmental basis and vary from year to year. For clinical subjects students may be attached to physicians or surgeons at other hospitals for intensive instruction.

PROBLEMS

Guy's Hospital itself is rapidly developing into a specialized postgraduate hospital and the resultant concentration of highly developed specialties means that the patients do not represent the usual range that the students will see after qualification. The students should therefore see more patients in general district hospitals, but this can pose problems; accommodation and staff in district hospitals are limited and the systematic course of instruction and other central activities are carried out on the main site. It can also be difficult for students to travel to the district hospitals.

Facilities at the main site, too, present problems: the present medical school is too small for teaching; there are insufficient teaching laboratories, seminar and lecture rooms; additional residential accommodation for students is necessary at Guy's and at peripheral hospitals.

At present there are too few full-time clinical staff to allow more ambitious integration between the basic medical sciences and clinical subjects. Greater use of tutorials and small group teaching has increased the teaching load on existing staff; unless additional staff can be employed, the School will have to return to teaching in large groups. Increasing specialization leads to increased clinical commitments and less time for teaching.

A major problem facing those concerned with curriculum change is the difficulty of determining how successful the changes are. Until an assessment can be made, curricula will change and operate in a vacuum; at Guy's, staff are aware that they currently lack the means of assessing the results of their ideas.

The reorganization of the NHS seems to have had little effect at Guy's where there are good relationships with the authorities. However, it is felt that the proliferation of committees is not helpful and that ultimately the role of the teaching hospital will be threatened.

DEVELOPMENTS

The major development at present is the curriculum revision, which has been described earlier and is now in the process of implementation.

The clinical course continues to be based on traditional specialties but greater emphasis is now placed on students being taught at district general hospitals and in the ambit of general practice. The relative proportion of time spent in general medicine and general surgery has been reduced to allow for increased teaching away from Guy's and in the specialties. Lectures have been brought together to form a systematic multidisciplinary clinical course.

Teaching methods are varied—largely on traditional lines. Numbers of students for bedside teaching are kept small so that small group bedside teaching can remain the major teaching activity during the clinical appointments. All departments now use methods of in-course assessment, but the exact amount to be contributed to the final examination has yet to be decided.

UNIVERSITY OF LONDON

King's College

Qualifying Degree. MB BS (London), obtained at clinical school
Curriculum Stages Offered. Preclinical
Curriculum Status. Revised 1974
GMC Correspondent. Dr J. Cordingley

The information in this section was collected in 1975.
See Important Note on p. 134.

SELECTION

Academic considerations are paramount in selection at King's College, where there is joint participation in the selection process with its (now) two related London clinical schools (King's College Hospital and Westminster Medical Schools). School-leaving examination results, information in the confidential report and interview performance are all extremely important in determining the outcome. About 20 per cent of all applicants are interviewed and about half of these are offered a place; only rarely are places offered without interview.

The proportion of mature entrants to the course is kept at around 5 per cent. Places are not reserved for overseas candidates, who must compete on equal terms with UK school-leavers.

FEATURES OF THE CURRICULUM

King's College, which offers a preclinical course, prepares students for their clinical studies at the Westminster Medical School, King's College Hospital Medical School and, until 1976, St George's Hospital Medical School. (Commencing in October 1976, St George's offers its own preclinical course.)

Under the revised regulations of the University of London, King's College has opted for a school-sponsored course with school-based examinations. The course was introduced in October 1974. All courses are harmonized with each other so that the themes and sequence of teaching are wherever possible co-ordinated; a few courses are more fully integrated (see below). Courses in Year 1 are fundamental and broad-based and it has been easier to harmonize these than the courses in Year 2 which go into greater depth and emphasize more specialized and specific topics relevant to the practice of medicine.

The courses on neurosciences and developmental sciences are planned jointly by a number of departments though individual teaching sessions are mostly conducted by a teacher from a single department. The Scientific Basis of Medicine course draws together information acquired in the departmental courses and is intended to bridge the preclinical and clinical 'gap'. It emphasizes that an understanding of structure, function, and development of man is necessary for understanding of disease. Each session will be designed by a co-ordinator and will include short talks, or a lecture, demonstrations,

videotapes or films, followed by a discussion between the speakers and the audience. Topics will be chosen for their clinical relevance and also according to the resources and interests available in the four main departments; they will include nutrition, respiration, inflammation, diabetes, antibiotics and chemotherapy, and the musculo-skeletal system.

The pathology course in Year 2 is not a single entity: pathologists from the Westminster and King's College Hospital Medical Schools each give their own lecture course at King's College, so that preclinical teaching will conform to the circumstances of their later instalments. The practical classes are held at the clinical schools themselves. Prospective St George's students (due to pass out of King's College for the final time in 1977) may attend either lecture course but a third, separate, series of practical classes is provided for them. Up to ten hours of patient demonstrations may be given within the pathology practical classes.

Intercalated Degree of BSc

King's College students have the opportunity to take an intercalated Honours degree (the BSc) after their basic medical science course is complete. Up till now twenty or so students have taken up this option each year, but in future it will become possible to accept up to a maximum of forty students under new arrangements. Subjects studied recently are biochemistry, pharmacology, and physiology, requiring students to undertake both course and project work; in future, course units will become available also in anatomy. Students are assessed principally by examination.

Elective Experience and Course Options

The course does not include any elective or optional courses.

CURRICULUM CONTROL AND DEVELOPMENT

The system for administering and monitoring the new curriculum evolved during the planning stage. Under the Faculty Board, the senior body concerned with curricular matters is the Steering Committee which is a standing sub-committee of the Board. Its members are: the heads of all departments; one other nominated member of each department; and the deans of the associated clinical schools, by invitation. The Steering Committee fuses the interests and intentions of the various departments and advises the Faculty Board accordingly. Its meetings are now infrequent but it played the most active and authoritative part in revising the curriculum, in allocating time to departments and courses, and in producing the new regulations. At that time a member of staff from one of the clinical schools attended all meetings.

The *ad hoc* working parties of the Steering Committee were reconstituted in the shape of the Integration Committee which now has executive responsibilities in relation to all courses, timetables, and critical assessments. It meets frequently, and membership includes representatives of each department (not the head) and a clinical teacher (others are co-opted from time to time). It will regularly review all aspects of the curriculum with the particular remit of preserving 'harmony'.

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 124 Estimate for 1979: 125	Stage I MB BS (Anatomy I, Biochemistry I, Physiology I, Pharmacology) (approx. 30% of marks come from in-course assessments)	1
2	30 weeks	122	Examination in General Pathology - see text Stage II MB BS (Human Anatomy II, Biochemistry II, Pharmacology, Physiology II, Behavioural Sciences/Biometry/Statistics) (contribution from in-course assessments)	2
3				3
4				4
5				5
6				6

The Steering Committee also has a standing Sub-Committee for the Scientific Basis of Medicine course, whose membership mirrors that of the Integration Committee. It chooses the topics and arranges the over-all timetable of this integrated course, and co-ordinates the session co-ordinators. Some second-year courses are co-ordinated by standing committees. There is also a Staff-Student Liaison Committee which comments freely upon courses generally and their teaching and puts forward ideas. Its suggestions are often taken up by the Integration Committee. Students were fully consulted both via this committee, and individually, as the new curriculum was developed.

Individual departments plan their own teaching, whether for single-subject or for combined courses, and then submit the plans to the Integration Committee for approval. They are responsible for administering their own single-department courses.

The Deanery

The Dean of the Faculty of Medical Science is elected (or re-elected) annually for a maximum of two years. In practice, the Deanship rotates around the four heads of department. The Vice-Dean, normally the Dean-elect, acts as the Dean's deputy. There is also a Sub-Dean for Admissions, who is appointed by the College Principal for an unspecified period. An Adviser of Studies is also appointed by the Principal for an unspecified period to keep the Faculty informed of medical students' progress.

Miscellaneous Topics

Over the last two years, nine members of staff from the preclinical science departments of King's College have attended the course on teaching methods, etc., held by the Institute of Education. The Faculty of Education in the College is planning to hold workshops on special topics for members of staff and may possibly provide other facilities.

STUDENT ASSESSMENT

A new pattern of assessment has been introduced which is based on the use of both in-course and end-of-course examinations. Typically, in-course assessment (including objective and essay questions, practical and prepared written work and oral tests) forwards a possible 30 per cent of the total marks available at Stage I and Stage II; this applies to all the major disciplines. The end-of-course examinations may include objective, short answer, and essay questions, in addition to practicals and orals. If a student fails to achieve the standard required by the end of the year, he takes the resit examination when in-course assessment marks are ignored.

The assessments in pathology are not part of a University examination; however, they ought in theory to be passed before students proceed to their clinical courses. Separate assessments will be held for each of the groups of students: probably in-course tests will count towards the total and the end-of-course examination will be in March.

Regulations

Compensatory passes are allowed at both stages, and students are normally re-examined only in a failed paper, rather than in all subjects taken concurrently. Students are not permitted to 'carry' subjects, and are rarely allowed to repeat a year. The normal penalty for failing a resit examination is withdrawal; this occurs more frequently at the end of the first year of the course.

External examiners are involved in the end-of-course examinations to moderate the over-all standard and to arbitrate in marginal cases; they usually take part in setting the examination papers and in the oral examination.

Advice and Assistance to Students

Each student is assigned to a general tutor who will help with academic and personal problems. There is also a full-time Dean of Students and a Student Counselling Service.

Formal revision courses are not arranged but extra tuition or remedial work can be arranged informally where necessary, in individual cases.

PROBLEMS

The most urgent problems of King's College relate to accommodation. The shortage of laboratory space has reached 'crisis level', and all practical classes are duplicated and some are 'quadruplicated'. This is the main reason for holding the pathology practical classes in the clinical medical schools. The development of audiovisual aids is inhibited by lack of space, and the medical section of the library is inadequate in terms of both material and accommodation.

As far as personnel are concerned, both the staff : student ratio and the senior : junior staff ratio give cause for concern.

Relationships with the clinical medical schools are fostered at a personal rather than a formal level. It is regretted that liaison between the clinical schools themselves (with which King's College is linked) is not better as this has repercussions—for example, on the teaching of pathology.

DEVELOPMENTS

From October 1976, students going on to St George's will no longer come to King's College for their preclinical course. Their places will be taken by students destined for King's College Hospital Medical School and the Westminster Medical School, each of whom will receive twenty more students from King's College than at present.

The new course has been established successfully. Possible adjustments would be the re-timetabling of some events and greater opportunity for student self-assessment. However, more laboratory space is a priority and negotiations to improve the situation are under way.

UNIVERSITY OF LONDON

King's College Hospital Medical School

Qualifying Degree. MB BS (London)

Curriculum Stages Offered. Clinical

Curriculum Status. Under review (but information is for existing course)

GMC Correspondent. Mr C. T. Howe

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†King's College Hospital, Denmark Hill, London SE5 9RS

*†St Giles' Hospital, St Giles' Road, London SE5 7RN

*†Dulwich Hospital, East Dulwich Grove, London SE22 3PT

*†Belgrave Hospital for Children, 1 Clapham Road, London SW9 0JF

*†St Francis' Hospital, St Francis' Road, London SE22 8DF

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

None: short attachments to hospitals away from the Medical School (for example in Leamington Spa or Plymouth) will be taken by students in groups of two or three only.

* Within AHA(T).

† Within teaching district.

SELECTION

Selection for the course at King's College Hospital Medical School (KCHMS) is conducted in partnership with King's College, whence most of its students come. Selection is thus for the five years of preclinical and clinical studies, and not just for the clinical course. In the selection process, no single quality is given priority over any other. Students' past and potential academic performance, the confidential report and interview performance are balanced together; non-academic interests and achievements are considered equally important. Approximately 20 per cent of all applicants are interviewed and about half of them are offered places; a few graduates and occasionally other mature entrants are included in a typical intake.

A proportion of the entry to KCHMS will continue to come from the preclinical courses at Oxford and Cambridge. Selection from among such applicants for direct entry to the clinical course occurs in the preceding year.

FEATURES OF THE CURRICULUM

From October 1976, there will be a single entry to the course (previously students entered it either in the spring or autumn) and this will entail adjustments in the timetable in order to retain small teaching group size, though

student groups already vary in size with the year and the specialty being studied (see 'Developments').

An Introductory Course of three to four weeks is held before students disperse to the firms. It gives instruction in clinical methods, elementary medicine, surgery, and pathology. It also includes an exercise in exploring the world of the hospital: the students divide into groups to interview a nurse, social worker, records officer, or other member of staff; then they reassemble to explain to the whole class what role 'their' person plays in the patient care network.

The teaching unit is the firm, normally of two consultants and five juniors. A firm may represent a single specialty (for first-year teaching and some second-year teaching) or several specialties and sub-specialties (for example, neurology, and psychological medicine are paired and in third-year teaching the senior firms include sub-specialties). Generally the patient-based teaching takes place within the firm as an extension of patient care; it is independent of any concurrent theoretical teaching.

The theoretical teaching is provided in two ways. Some departments give set lectures on their subject each year, which a student may attend in any clinical year. There is also the major topic teaching cycle of multidisciplinary sessions, part focused on systems and part on clinical topics; this cycle spreads over two years, and is open to all students of any year. The aim is to show that understanding of disease processes requires not only combined clinical skills but also basic scientific knowledge, particularly of the appropriate divisions of pathology. Use of combined teams of teachers highlights the interdependence of everyone in diagnosis and management. The course is very popular and staff from other London clinical schools take part in it.

The present three-year course includes two weeks spent in general practice, six weeks (effectively) on elective and twenty-four weeks in compulsory hospital residence, but students can do more residential work if they wish. Obstetric and paediatric attachments in the final year are done in various hospitals outside London but otherwise all teaching is carried out within the teaching district and most intensively at King's College Hospital itself.

Intercalated Degree

No opportunity to take an intercalated degree within the clinical course at KCHMS is provided. Students wishing to intercalate a year would do so normally between preclinical and clinical schools.

Elective Experience and Course Options

In the final year of the course, there is an elective period of eight weeks, but two weeks of this must be spent in a general practice. It is exceptional for a student not to go away from the medical school during the remaining six weeks, and many go abroad. The Dean must approve any proposals, but otherwise students make their own arrangements. The Church Missionary Society helps to place students going to the developing countries, and annual exchange schemes are in operation with two medical schools in the USA; the school has some funds to assist students going abroad.

No changes are planned, except to extend the elective opportunity to Cambridge students at King's, who, for reasons connected with the timing of examinations, have to forgo it at present.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				NAME	ACADEMIC YEAR
		TERMS TAUGHT	APPROXIMATE LEARNING TIME				
		1	2	3	4		
1	1st Clinical Year	+			4 weeks FT	Introductory Course Junior Medicine including Diabetes, Cardiology, etc. Junior Surgery including Urology, Thoracic Surgery and 2 weeks Accident and Emergency Pathology clerkship Pathology Lectures Forensic Medicine* Psychology* History of Medicine* Topic Teaching (G-U and Endocrine Systems)* Radiology Tutorials	1
		R	R	R	2 x 13 weeks*		
		R	R	R	1 x 13 weeks*		
		R	R	R	1 x 11 weeks*		
		R	R	R	2 weeks FT		
		+	+	+	111 hours		
		+	+	+	10 hours		
		+	+	+	10 hours		
		+	+	+	3 hours		
		+	+	+	42 hours		
+	+	+	24 hours				
2	2nd Clinical Year	R			(see note *)	Continuation of first year attachment. First 42 weeks of the following rotating attachments: Obstetrics and Gynaecology (6 wks); ENT (4 wks); Anaesthetics (4 wks); Child Health (8 wks); Orthopaedics/Traumatic Surgery/Rheumatology/ Rehabilitation (8 wks); Neurology and Psychological Medicine (8 wks). Clinical Lectures* (O & G, Ophthalmology, Psychological Medicine, Venereology) Topic Teaching* (Respiratory System, Therapeutics Emergency Medicine & Surgery, CNS, the Skin).	2
		R	R	R	42 weeks FT		
					50 hours		
		+	+		94 hours		
3	Final Clinical Year	R			6 weeks FT	Final 6 weeks of second year attachments Paediatric Resident Elective/General Practice Senior Medicine Senior Surgery Dermatology and Ophthalmology Topic Teaching* (cardiovascular system, gastro-intestinal system, community and social medicine, lympho-reticular system, infective diseases and tropical medicine) Pathology Revision Finals Revision	3
		R	R	R	8 weeks FT**		
		R	R	R	8 weeks FT**		
		R	R	R	8 weeks FT**		
		R	R	R	8 weeks FT**		
		R	R	R	8 weeks FT**		
		+	+	+	90 hours		
			16 hours				
			5 weeks FT				
4					Note 1	Courses so marked (*) run in one or two year cycles and may be attended during any year. * Attachments extend into Year 2 (six weeks); four weeks holiday taken during one of these. ** holiday period is taken during one or other of these attachments.	4
					Note 2		
					Note 3		
5							5
6							6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	48 weeks	1974: 107 (includes 6 students from Oxford, 39 from Cambridge, 10 from Guys) Estimate for 1979: 100 (including 20 from Oxford/Cambridge, 10 from Guys)		1
2	48 weeks	90		2
3	40 weeks	84	Final MB BS Part I (Pathology etc) * Final MB BS Parts II, III, IV (Clinical Subjects) *	3
4				4
5				5
6				6

* Old Regulations

CURRICULUM CONTROL AND DEVELOPMENT

The Curriculum Review Committee is the standing body with the role, delegated by the Academic Board, of monitoring the curriculum and suggesting ways of improving it. It is composed of equal numbers of staff (professorial and administrative) and students, and it meets annually. The Students' Curriculum Committee, an all-student body, channels student opinion and may discuss new ideas. The curriculum is (1975/6) being revised in order to meet the revised regulations of the University of London, and a special sub-committee of the Academic Board has been constituted for this purpose. This 'Revised Regulations Committee' meets frequently, and consists of professorial and non-professorial staff, administrative staff, and students. Much of the work, however, falls upon the Vice-Dean and his staff, and the new curriculum will be implemented by the medical school office.

Ad hoc meetings of staff and students are held immediately before each Introductory Course and each Topic Teaching cycle, and again immediately afterwards as post-mortem exercises. The Topic Teaching has chairmen for each section and for each session; the Vice-Dean co-ordinates the over-all plan.

The individual departments are responsible for content and presentation of teaching and for updating their own contribution; they administer courses in conjunction with the medical school office.

The present arrangements are not felt to be altogether satisfactory and it is intended to set up a Standing Curriculum Committee which will be able to give more thorough and more forward-looking consideration to curricular matters.

The Deanery

The (part-time) Dean and Vice-Dean are elected and re-elected annually by the Academic Board; the Vice-Dean's term of office is limited to four years, but the Dean serves for about ten years.

Miscellaneous Topics

Educational Workshops for medical school teachers, lasting one week, are run within the medical school each summer and winter. Staff of other medical schools, teachers of nursing and dentistry, and overseas visitors may also attend it. An average of six staff and three students from King's College Hospital attend each one, fulfilling the courses' aim to provide the material for 'informed reform' within the school.

STUDENT ASSESSMENT

The paraclinical subjects are assessed exclusively by end-of-course examination; techniques used include objective-type questions, essays, open book examinations, practical tests, and orals. The critical assessment in clinical subjects is also based exclusively on end-of-course examination. Both the final 'theoretical' written papers and the final 'practical' clinical examinations must be passed independently. Techniques used in the 'theoretical' examinations are objective-type questions, short-answer questions, essays, and orals. Techniques used in assessing the 'practical' aspects include long cases, short cases, and oral tests.

During the course 'formative' MCQ papers are set for the whole class and all firms make up reports on individual students, some of them using formal tests of clinical skills to help shape their opinion. Unsatisfactory progress on the part of a student might lead to remedial action being taken, such as being required to repeat a firm.

Regulations

Occasionally a student may be granted a pass in the Final Examination when a marginal fail has been obtained in one subject only; otherwise, no compensation arrangements apply. If a subject is failed then only that one is required to be repeated. Four attempts at the Final Examination are permitted.

External Examiners take part in setting some critical examinations, but their main role is to preserve over-all standards.

Advice and Assistance to Students

Students are expected to take any academic problems to their firm chiefs, or to the Dean or Vice-Dean; students are allocated to a personal tutor who will give advice on personal problems. There is also a Student Health Officer. 'Revision courses' in pathology, medicine, surgery, child health, obstetrics and gynaecology are held in the five weeks preceding the examinations in these subjects. However, these are not primarily intended for students who have failed the examination before—though they can of course attend—but as a preparation for Finals.

PROBLEMS

The school notes a lack of full-time teaching staff; it would like more established posts, especially at lecturer level. Some of the physical facilities, clinical and non-clinical, are in poor condition. Reorganization of the NHS has given cause for concern in the amount of time which medical school representatives must devote to committees, but relationships with the authorities are good.

With respect to the curriculum, there is insufficient time to evaluate teaching methods objectively, and the nature of the London Final Examination makes experiment and its evaluation seem irrelevant. KCHMS feels divorced—geographically and in other ways—from preclinical education: the solution to this of course would be a new adjacent preclinical school.

DEVELOPMENTS

A revised clinical course will take effect from October 1976. It will be university-sponsored with university-based examinations. One of the main difficulties in planning it has been to retain all the features of the existing course, including the elective period, in a time-span shortened by four months: the possible result is being viewed with alarm. It is likely that some of the specialties such as ophthalmology and dermatology will be brought forward into Year I and used in the teaching of general clinical principles, rather than being specialty-oriented. Another development due to the revised University of London regulations is the new course in general pathology, run

partly at King's College. Pathologists from King's College Hospital are heavily involved in teaching it.

It will no longer be possible to make special arrangements for Oxford students; at present these students undertake rather less of some courses than London students and their assessment programme is different. In future there will be fewer students from Oxford and Cambridge and they will be required to follow the standard revised course; Oxford students will have to take the London University MB BS examinations.

UNIVERSITY OF LONDON

The London Hospital Medical College

Qualifying Degrees. MB BS (London)

Curriculum Stages Offered. Preclinical; clinical

Curriculum Status. Preclinical: revised 1974

Clinical: being revised (information refers to the 'old' course)

GMC Correspondent. Dr J. R. Ellis

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†The London Hospital (Whitechapel), Whitechapel Road, London E1 1BB

*†The London Hospital (Mile End), 275 Bancroft Road, London E1 4DG

*†The London Hospital (St Clement's), 2a Bow Road, London E3 4LL

*†Bethnal Green Hospital, Cambridge Heath Road, London E2 9NP

*Queen Mary's Hospital for the East End, West Ham Lane, Stratford, London E15 4SD

*St Andrew's Hospital, Devons Road, Bow, London E3 3NT

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

St Margaret's Hospital, Epping, Essex CM16 6TN

Princess Alexandra Hospital, Hamstel Road, Harlow, Essex CM20 1QX

St John's Hospital, Wood Street, Chelmsford, Essex

Chelmsford and Essex Hospital, London Road, Chelmsford, Essex

Oldchurch Hospital, Oldchurch Road, Romford, Essex RM7 0BE

Queen Elizabeth's Hospital for Children, Hackney Road, London E2 8PS (see note)

Note. Queen Elizabeth's Hospital for Children is situated in the Teaching District within the AHA(T), but is currently administered by the Board of Governors of the Hospitals for Sick Children.

* Within AHA(T).

† Within teaching district.

SELECTION

No single factor or quality is sought to the exclusion of others. Apart from academic prowess, strong motivation is considered important and also the 'direction' of motivation. A-level grades, the confidential report and interview performance are equally important in the selection process. No places are offered without interview, and even overseas candidates may be interviewed in their own country on behalf of the School. Several features are of recent origin: greater flexibility over subjects, and over grades, where age and circumstances may be taken into account; age limit: applicants who would be under 18 or over 30 when they begin the course are not normally considered; preference is now given, with overseas applicants, to those from Commonwealth countries with little or no medical education.

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 88 Estimate for 1979: 100	Part I MB (Anatomy, Biochemistry, Physiology) (contribution from in-course assessment)	1
2	30 weeks	85	Part II MB (Anatomy, Biochemistry, Physiology, Psychology/Sociology/Biometry) (contribution from in-course assessment) Part III MB (Pharmacology) (contribution from in-course assessment)	2
3	50 weeks	1974: 98 (includes 19 Cambridge, 1 St. Bartholomew's students) Estimate for 1979: 108 (includes 8 students from Cambridge)		3
4	48 weeks	110	Final MB Part I (Pathology)*	4
5	48 weeks	120	Final MB BS Parts II, III, IV (Clinical Subjects)*	5
6				6

* Old Regulation*

A few places are usually awarded to mature and overseas candidates but no quota is fixed. Preference is given to graduates offering first- or upper second-class degrees.

Over 50 per cent of recent entrants have had nine months' or more working experience between School and University. This is deliberate policy.

FEATURES OF THE CURRICULUM

A new curriculum is being introduced to conform to London University revised regulations. It will be University-sponsored throughout, with School-based assessments. The new preclinical course commenced in October 1974; the clinical course begins in October 1976. Information here refers to the 'old' clinical course; however, the over-all patterns described are unlikely to change greatly.

Early Years

The 'newer' subjects—such as sociology, etc.—have been introduced. The more traditional subjects review themselves constantly but so far have not seen advantages in further integration than that which exists already. 'Neurology and Neuro-anatomy' is an integrated course, taught mainly by the Departments of Anatomy and Physiology, with help from Neurology, Neurosurgery, and Neuropathology. It aims to give a clear understanding of the main structures and functions of the nervous system, emphasizing man and pointing to human neurological disorders. Eight clinical demonstrations are given—'pathological' ones have proved easier to organize than 'live' ones.

Clinical Aspects

In the early years of the course, physicians and surgeons take part in the physiology and anatomy courses, and patients are used to illustrate the subject matter. Talks on family planning and elementary hygiene are given in Year 1 and it is hoped to run a First Aid course for preclinical students.

The arrangements for patient-based teaching vary: in general medicine and general surgery, the teaching unit is a 'general firm' of two consultants and four juniors, each allocated from two to six students (medicine) or six to eight (surgery). Specialists may be attached to 'general' firms. Most other specialties are taught by individual departments who take approximately twelve students at a time. However, integrated teaching teams are formed for neurology/neurosurgery, urology/nephrology, and orthopaedics/rheumatology attachments. In all these the medical and surgical aspects are taught together. The style of patient-based teaching also varies: in the junior and specialist attachments, there is a proportion of deliberate and separate teaching, although students spend much of their time clerking patients independently; in the senior attachments, the student becomes a full junior member of the team. At that point only two final-year students are attached to a firm.

Theoretical as opposed to 'practical' teaching also takes a variety of forms. The Clinical Pathological Course is multidisciplinary, based mainly on systems which are dealt with a week at a time. It is co-ordinated by the Professors of Medicine and Pathology and the majority of teaching sessions

are shared by a clinician and a pathologist. The final session of each week is a summary given by a pathologist. In addition, there are intradepartmental lectures and a senior clinical lecture series in final year, given by the departments. Therapeutics seminars and conferences, and clinico-pathological conferences are held regularly for all students, and there are daily lunchtime post-mortem demonstrations.

The clinical tutorial system is regarded as an essential corollary to the foregoing. Groups of three students are assigned to a tutor for the three years of the clinical course; each tutor usually has three groups for which he is responsible, each at a different stage. They meet according to need, probably more frequently at the beginning and end of the clinical course. The tutors are 'academic' and give general, educational guidance; teaching on particular topics or in particular subjects is carried out departmentally. However, often in final year the tutors are requested for extra tuition. They are drawn from senior and middle-rank College and NHS staff who are actively involved in 'timetabled' teaching; they are supported by part-time senior clinical tutors.

Students' experience in non-hospital clinical settings would normally be about one month. Approximately three months of residence is required over the whole course, including one month in a district hospital outside London.

Intercalated Degree of BSc

No fixed ceiling is applied to the number of students who wish to take a one-year intercalated BSc degree; however, they must first attain a specified standard. Subjects taken recently include anatomy, biochemistry, physiology, pharmacology, and psychology, the last mentioned frequently being taken during the clinical course as opposed to the others which are taken before it. Biochemistry involves course work only, the others involve research work in addition; all are assessed by formal examination only. Typically, up to twenty students read for an intercalated degree each year.

In future, it is hoped to offer a greater variety of subjects and to encourage students to intercalate during the clinical period. The school is also exploring the possibility of offering a non-medically qualifying degree, at least to some students, such as a 'BMedSci' without the need to intercalate an extra year of study.

Elective Experience and Course Options

An elective period of six weeks is available during the final year; students may go away from the School and up to 50 per cent do so. A number of contacts have been fostered and have in some cases developed into regular exchanges. Students may undertake clinical work, research, or any other activity approved by their tutor and by the senior clinical tutor. A majority of students spend part of the elective period in general practice. It is however hoped to control the electives better by giving more discriminating approval, collecting reports by and possibly on students, and developing more projects within the Medical School and its associated hospitals.

On the premise that there cannot be a single, ideal curriculum for all, and thus that individual variations must be permitted, five full months of Phase III are uncommitted—apart from the elective period described above—and students are at liberty to study independently, making use of the libraries and

the clinical material in the local hospitals. They are advised to concentrate on out-patient clinics where the best resources for learning are found. Tutors supervise the 'programme' to ensure that the time is being used in the students' own best interests.

CURRICULUM CONTROL AND DEVELOPMENT

The Academic Board is the policymaking body to which all major proposals to alter the curriculum must go for final decision; it meets monthly. All professors are members, with, in addition, representatives of other staff.

The Medical Interdepartmental Committee is convened by the Dean to discuss academic matters, to advise the Academic Board, and to determine priorities; it meets monthly.

Boards of Studies have been established to consider and promote all aspects of a subject or subject area concerned—postgraduate teaching and research as well as undergraduate teaching. They have been found especially necessary when an academic unit is established jointly with St Bartholomew's Hospital Medical College, for example, in child health, obstetrics and gynaecology, and community health.

The Medical Staff-Student Committee is a sub-committee of the Academic Board and meets at least twice a term. Student members are elected by each class. Staff members represent the Academic Board, the Medical Interdepartmental Committee, junior preclinical teachers, hospital divisions, junior hospital staff, the senior clinical tutors, and the Dean. The chairman and secretary are students and attend Academic Board meetings when Staff-Student Committee reports and minutes are tabled.

The preclinical departments are largely responsible for the content, presentation, revision, and administration of their courses. Clinical departments have less control, partly because the academic unit, if it exists at all, may be a minority of the teachers of the specialty and partly because of the growing number of interdepartmental courses. These are organized by designated individuals, or sub-committees or both, who are appointed for the purpose by the Academic Board. The preclinical courses are reviewed annually and interdepartmentally, and the integrated clinical courses are subjected to regular staff and student discussion leading to continual minor modification. The tutorial system also feeds back suggestions for changes. The Academic Board, sometimes at the initiative of the Staff-Student Committee, may set up an *ad hoc* body to examine certain areas.

Recent restructuring within the clinical course, which produced the integrated medical/surgical specialty firms, was planned by the Dean and the Medical Interdepartmental Committee. Current revisions are being planned by two small *ad hoc* bodies—the Preclinical Curriculum Committee and the Clinical Curriculum Committee. Each consists of the heads of the relevant major departments and the Dean. In parallel, a new management structure is being planned because it is felt that the College and the curriculum have outgrown the departmentally based system, and that students should participate in decision-making; at present they can only advise and propose. A Working Party has recommended a standing Medical Education Committee to replace the Staff-Student Committee. 'Year panels' or 'phase committees' are a possibility.

The Deanery

The Dean—who is part time—is elected for a five-year term, which may be renewed indefinitely.

Miscellaneous Topics

Senior and junior staff are encouraged to attend the courses for teachers run by the University's Institute of Education and at King's College Hospital Medical School, but no figures are available for attendance. The Medical School itself periodically organizes meetings to discuss particular facets of medical education.

Considerable use is made of 'off-air' recordings of medical programmes from the Inner London Education Authority's Television Service. Staff members are provided with the transmission schedules, and may request that a particular programme be recorded.

STUDENT ASSESSMENT

Early Years

In the preclinical subjects assessment includes marks from both end-of-course examinations and in-course tests: in-course assessment carries more weight in biochemistry than in other subjects. In-course examination techniques used are objective-type examinations, prepared written work, practical projects and course work, oral examinations, and tutors' reports; end-of-course examinations use essays, practical and oral examinations. Pathology and bacteriology are presently assessed entirely by end-of-course examination, under the old regulations, using assessment techniques similar to those in the 'pre-clinical' examinations. Pharmacology will now be assessed in Part III MB BS (new regulations) by an end-of-course examination to which will be added marks awarded for in-course practical project work.

Clinical Subjects

Both 'practical' and 'theoretical' clinical aspects are at present assessed critically only in end-of-course examinations; both aspects must be passed separately. 'Practical' aspects are assessed by means of long cases, short cases, and assessments using 'provided data'; 'theoretical' aspects are assessed by means of objective, short-answer and essay questions, and orals. As far as is known, there will be no changes in the end-of-course/in-course relationship nor in the staging of examinations when the new clinical curriculum is introduced. Class tests, known as 'college examinations', are held in Year 3, and at the end of each clinical attachment a report is filed recording the student's progress, attitudes, performance, etc. These are crucial in the sense that a failed class examination must be repeated and a poor firm report could lead to a student repeating an attachment.

Regulations

Compensatory passes may be permitted between preclinical and between clinical subjects. Students are normally only re-examined in a failed subject or paper, rather than in all subjects/papers taken concurrently. Repeated failure

in critical preclinical examinations would result in a student being asked to withdraw—unless illness was the cause, in which case a year would be repeated. Failure in the final examination in pathology may be 'carried'—but if not passed by the time final clinical examinations are taken, all four parts must be taken simultaneously.

External examiners are involved only in the end-of-course examinations. They take part in setting papers, they moderate the over-all standard, and they may act as arbitrators in marginal cases.

Advice and Assistance to Students

Preclinical students with academic problems may approach their departmental tutors or 'supervisors' if they are worried about their studies, and their moral tutors if they have other worries. (Preclinical staff volunteer to act as moral tutors.)

In the clinical years, the clinical tutors are responsible for their students' academic progress. As they meet their students frequently they are most likely to observe not only academic difficulty—in which case they may intervene themselves without referring to a department or specialty—but also personal problems, and students are most likely to consult their tutors with such problems. The Dean—to whom persistent learning problems will be referred—holds regular meetings with the clinical tutors. Senior clinical tutors are consulted in all cases of poor reports or reported difficulty.

Revision courses are run when necessary for groups of students failing their preclinical examinations. Arrangements in later years are made on an individual basis, under specially appointed supervisors.

PROBLEMS

The major problems at the London Hospital Medical College (and the London Hospital itself) relate to facilities; they are at present in the throes of a very major reconstruction. Teaching and learning and research have been severely handicapped by lack of accommodation. Some of the new buildings have been commissioned, others have been postponed by several years. The ultimate objective of reconstruction is to gain the physical facilities necessary for a modern university education—which can no longer be restricted to a few lecture theatres, a library, and the hospital wards—and to make full use of the abundant clinical resources for teaching.

Clinical staff, both academic and NHS, carry enormous service loads, which if anything are increasing, as the London and its associated hospitals serve a commuter population almost equal in number to the local population. This curbs the amount of staff time available for teaching.

The federal constitution of London University is felt inevitably to result in a greater demand for committee work than can easily be met.

DEVELOPMENTS

Intake to the preclinical course has risen, and intake to the clinical course will be single entry from October 1976: this will strain existing facilities even further. Cambridge students coming to the London for the clinical course will

fall from the present average of forty to about eight by 1980, as the Cambridge clinical school expands.

Collaboration with St Bartholomew's Hospital Medical College which has so far resulted in nine joint units will proceed in the clinical, paraclinical, and postgraduate spheres and further joint departments will be established. Both medical schools are introducing university-sponsored undergraduate curricula with school-based examinations, which though not identical have been planned together to make the most economical and educationally sensible use of pooled resources. The joint Board of Studies in Community Health, for example, is now able to make contributions to all stages of the course. Eventually, the preclinical departments of the London will combine with those of St Bartholomew's at Queen Mary College to produce 200 students each year for the two clinical schools. No date has yet been fixed.

UNIVERSITY OF LONDON

The Middlesex Hospital Medical School

Qualifying Degree. MB BS (London)

Curriculum Stages Offered. Preclinical; clinical

Curriculum Status. Preclinical: major revision 1973

Clinical: major revision 1975

GMC Correspondent. Miss Joyce Clark

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†The Middlesex Hospital, Mortimer Street, London W1N 8AA

Central Middlesex Hospital, Acton Lane, London NW10 7NS

*†St Luke's Hospital, Woodside Avenue, London N10 3HU

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Neasden Hospital, Brentfield Road, London NW10 8EX

* Within AHA(T)

† Within teaching district.

SELECTION

A broad spectrum of intake is maintained; adequate academic ability is looked for, but also strong motivation, sympathetic attitudes to people, and a wide range of extracurricular interests. In some cases, 'research propensity' is sought. No place is offered without an interview, and efforts are made to interview even overseas applicants. Academic performance, the confidential referee's report and interview performance are given equal weight. Graduate applicants must have a first- or second-class Honours degree; normally five to seven graduates would enter the course each year, with one or two other mature students.

FEATURES OF THE CURRICULUM

The curriculum is undergoing radical change. The new Basic Medical Sciences course commenced in October 1973: it is school-sponsored, with school-based examinations. The new university-sponsored clinical course began in October 1975 and its examinations will be school-based, although details have not been finalized and some information is therefore provisional.

Early Years

Remedial teaching is offered in chemistry in the first year. In Year 2, pathology and pharmacology are taught in all three terms and there is a series of multidisciplinary topic courses. Options and project work are a feature of

these courses. Two of them—immunology and endocrinology—are followed up in special courses in the clinical years.

Patients are demonstrated in the anatomy, biochemistry, and physiology courses, and clinical teachers participate extensively in endocrinology and to a lesser extent in the teaching of renal and respiratory systems.

Clinical Aspects

The teaching unit is normally a mixed-specialty firm of two consultants and four juniors, but psychiatry has clinical teaching teams. In the new course the 'special subjects' are introduced earlier and general medical and surgical firms are taken at the beginning of the clinical course, towards the end of the first year and in the final four months of the course, with a clear distinction between junior and senior stage teaching. Patient-based teaching is carried out by firms in the course of patient care rather than as a separate activity, and some theoretical teaching also takes place within the firms so that the two aspects are integrated. In addition, an average of half a day/week is now devoted to topic-teaching in Years 3 and 4. The size of the student group varies from specialty to specialty and from year to year; for general medicine and surgery it would average eight.

The clinical course includes four to six weeks' non-hospital clinical experience and thirteen weeks' compulsory residence in hospital. Many students undertake more than the minimum period of residence.

Intercalated Degree of BSc

Students have the opportunity of intercalating a year of study for a BSc degree. They must attain a specified academic standard before being accepted, and normally take it between Year 2 and Year 3 of their course. A variety of basic, paraclinical, and social science subjects have been studied in the last few years, either as single subject courses or in combination. The one-year course includes research work and course work and is assessed by formal examination only. Typically, up to ten students read for the degree each year.

Elective Experience and Course Options

A project may be undertaken in any subject, between the end of Year 1 and the first weeks of Year 2. Students are not required to do it, but if they choose to, the project is supervised by tutors and marks count towards Part 2 of the MB BS.

In Year 2, the topic courses in behavioural sciences and environmental studies provide a few hours of option time for small group teaching, each option based on a selected aspect of the topic. Several, for example, are based on genetic aspects. The object is not so much to get students to produce an essay or report, as to arouse interest and provide the opportunity of studying some aspects of the course in greater depth than could otherwise be achieved.

Special study options may be taken at some point in Year 4 or Year 5, as part of a rotating block of ten weeks. Students will study a chosen subject independently and in depth, preferably one which has both 'clinical' and 'preclinical' aspects. The rest of the ten-week block is set aside for any approved experience—clinical, research, or further study. In the 'old' course, about three-quarters of the students took this elective away from the medical

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR	
		TERMS TAUGHT							
		1	2	3	(4)				
1	Basic Medical Sciences Year	+	+	+		210 hours	Anatomy Biochemistry Physiology Cell Biology Immunology	1	
		+	+	+		190 hours			
		+	+	+		210 hours			
		+	+			60 hours			
2	Basic Medical Sciences Year 2				+	20 hours	Physiology Endocrinology Pharmacology Behavioural Sciences Pathology Neurology Embryology and Development Environment and Nutrition	2	
					+	60 hours			
					+	40 hours			
					+	170 hours			
					+	80 hours			
					+	60 hours			
3	First Clinical Year				+	15 weeks FT	General Medicine + General Surgery Topic Teaching General Surgery of General Medicine Topic Teaching including Community Medicine and Clinical Pharmacology Lectures First 23 weeks of the following rotating attachments: Psychiatry (10 wks); Neurology/Orthopaedics/Rheumatology (10 wks); Dermatology/G-U Diseases/Plastic Surgery/Ophthalmology/ENT (10 wks); Geriatrics/Communicable Diseases/Anaesthetics/Intensive Therapy (10 wks) Topic Teaching (including Community Medicine)	3	
					+	62 hours			
					+	10 weeks FT			
					+	60 hours			
				R	R				23 weeks FT
4	2nd Clinical Year				+	1 day/fortnight	Final 17 weeks of rotating attachments commenced in Year 3 Topic Teaching First 31 weeks of the following rotating attachments: Obstetrics/Gynaecology (10 wks); Paediatrics (10 wks); Casualty/GP/Radiotherapy/Nuclear Medicine (10 wks); Special Study Option/ Elective (10 wks) Clinical Pharmacology Lectures	4	
					+	17 weeks FT			
				R	R	R			31 weeks FT
5					+	c. 25 hours	Remaining 9 weeks of rotating attachments commenced in Year 4. Clinical Pharmacology Lectures Pathology Senior Medical Clerkship Senior Surgical Clerkship Peripheral Hospital Attachment (medicine or surgery: complementing 10 wk attachment in Year 3) Revision	5	
					+	9 weeks FT			
					+	c. 10 hours			
					+	4 weeks FT			
				R	R	R			6 weeks FT
				R	R	R			6 weeks FT
6					+	4 weeks FT		6	

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	31 weeks	1974: 90 Estimate for 1979: 90	Basic Medical Sciences Part 1 (contribution from in-course assessment)	1
2	33 weeks	81	Basic Medical Sciences Part 2 (contribution from in-course assessment) Basic Medical Sciences Part 3 (Pharmacology)	2
3	48 weeks	1974: 129 (including 11 from Oxford, 17 from Cambridge) Estimate for 1979: 120 (including 16 students from Oxford/Cambridge)	Note: Details of clinical assessment not yet finalised - see text	3
4	48 weeks	107		4
5	35 weeks	120	Part IV MB BS (Pathology etc) (probable in-course assessment component) Parts V, VI, VII, VIII MB BS (Clinical Subjects) (probable in-course assessment component)	5
6				6

school and many went abroad. Limited exchange schemes exist with two UK schools. Other students make their own arrangements and bring back reports which the Sub-Dean makes available to subsequent cohorts to help them in their choice.

CURRICULUM CONTROL AND DEVELOPMENT

The machinery for supervising and operating the curriculum has remained essentially the same despite curricular upheavals. The Curriculum Committee is the senior body, under the Academic Board, for monitoring the curriculum. It meets termly and comprises representatives (usually professors) of all departments, the Dean and sub-deans, representatives of the Central Middlesex Hospital, and a student. It is not the practice to review the curriculum on a regular basis; instead questions of the reallocation of time or changing the structure of a course may be raised at any time and would reach the Curriculum Committee through one of its sub-committees. However, the new Basic Medical Science course will be given a general review once the first cohort of students has completed it.

The Basic Medical Science Sub-Committee supervises the first two years. It comprises the professors and normally the senior lecturers of all departments involved, the Dean and sub-deans, and student representatives. It meets termly, or more often. The Clinical Sub-Committee supervises the clinical course. Its members are the professors or heads of the senior clinical departments, representatives of the Central Middlesex Hospital, and student representatives. It meets termly.

Both these Sub-Committees may delegate tasks to working groups. They are supported by a series of standing bodies concerned with certain areas of the curriculum: the Medical Teachers Committee; the Surgical Education Committee; the Obstetrics and Gynaecology Teachers Committee, and the Psychiatry Teachers Committee. These meet termly; their membership is all senior clinical teachers, academic and non-academic, in that subject area, together with representatives of junior hospital staff and students. Another Sub-Committee of the Curriculum Committee deals with the intercalated BSc Courses and selects students. The Collegiate Board recommends examination results to the University of London.

The departments principally determine the content and presentation of single-subject courses and are initially responsible for updating them. The topic and multidisciplinary courses were designed and are administered by the small working parties and working groups. Frequently, a 'neutral' person—from within the medical school and distinguished in his own right but in an unrelated field—is brought in to advise or act as chairman of one of these groups.

The Deanery

The Dean—who is part-time—is elected (and re-elected) annually by the Academic Board. A dean will serve for several years before retiring. Traditionally, only medically qualified persons are elected to the post. The Sub-Dean at the Middlesex Hospital Medical School assists the Dean in his duties and has particularly delegated to him by the Dean a number of matters

including student welfare; the Sub-Dean at the Central Middlesex Hospital is responsible to the Dean for the arrangement of clinical studies at the Central Middlesex Hospital and for the conduct of students during the period they are appointed to serve there (the Postgraduate Sub-Dean is responsible for overseeing the preregistration period of medical education and is concerned with the programme of continuing vocational training in both general practice and medical and surgical specialties).

Miscellaneous Topics

The course of instruction for teachers at the Institute of Education is frequently attended by staff of the Middlesex Hospital Medical School; five teachers from the Middlesex have attended it over the last two years.

Two members of staff researching into Multiple Choice Questions have built up their own computerized bank of questions, to which other London medical schools have access.

STUDENT ASSESSMENT

Early Years

The preclinical subjects and topics are grouped for examination purposes into sections. The end of course examinations count for more than in-course assessments; these may contribute up to 35 per cent of the over-all mark, the exact amount varying from section to section.

In-course assessment techniques include objective-type questions, essay questions, prepared written work, project work (optional), practical course work (biochemistry), and oral tests. Assessment techniques used in end-of-course examinations are objective-type questions, short answer questions, essays, and practical examinations (anatomy, histology, neuro-anatomy, and embryology).

Paraclinical subjects are presently assessed entirely by end-of-course examination, and are examined by means of similar techniques, with oral tests in addition.

Clinical Subjects

Under the new arrangements some in-course assessments will probably be critical to the students' progress although the exact amount is not yet known. As now, students will have to pass the 'theoretical' or written papers and the 'practical' clinical examination independently. Techniques used at present in end-of-course 'theoretical' assessment are objective-type questions, short-answer questions, essays and orals. The Final Examination of 'clinical' aspects will probably not include any in-course assessment elements. It is likely to consist of long cases, short cases, and orals. Firms and departments will continue to monitor student progress with various in-course tests and gradings but with a tighter timetable and earlier elective it will be more difficult for a student to repeat an attachment if they suggest it to be necessary.

Regulations

In the first two years, compensatory passes are permitted between subjects and between sections (subject groupings) and a student would be re-examined only in a failed subject unless the over-all total was very low.

'Carrying' a subject or repeating a year after failing in re-examination is very unlikely, and a student would almost always be asked to withdraw after double failure at the end of Year I.

Procedures relating to Parts IV-VIII of the MB BS are still under discussion. In the critical assessments, external examiners give advice in setting written papers in most examinations and help to moderate the over-all standard and arbitrate in marginal cases in all examinations. They take part in most oral examinations, especially of borderline candidates. They are not involved in in-course assessments, except that in all papers, the projects, reports, and results of borderline candidates are made available to them.

Advice and Assistance to Students

Teachers and tutors in the various departments (and the Dean's Office) are expected to help students with their academic problems. Each student has one preclinical tutor and one clinical tutor during his or her undergraduate career, and students with problems of a personal nature could turn to these people. The sub-deans are another source of assistance; the Sub-Dean at the Middlesex Hospital holds a 'surgery' once a week. Other members of the medical school administration are frequently called upon for advice, and there is a Student Health Service.

Revision courses in basic medical sciences are organized in the summer vacation for students who need them.

PROBLEMS

The financial crisis has forced the Medical School to leave many academic and technical posts unfilled. More long-standing are the problems of recruiting medically qualified staff to preclinical departments, and extra-duty payments to NHS junior hospital doctors have had an unfortunate effect on recruitment to lecturer posts in clinical departments.

NHS reorganization has made consultation regarding joint projects more difficult, for example, in the relationship with the Central Middlesex Hospital which has become administratively remote.

DEVELOPMENTS

The total number of students will remain unchanged for the foreseeable future, but the number transferring from Oxford and Cambridge will decline, as the new clinical school at Cambridge expands. Oxford students wishing to come to the Middlesex for their clinical years will have to read for the University of London MB BS and take the Middlesex School-based examinations because Oxford regulations will not accommodate the new Middlesex curriculum. From October 1975, there is a single entry to the clinical course, as opposed to the previous 'split' arrangements.

UNIVERSITY OF LONDON

Royal Free Hospital School of Medicine

Qualifying Degree. MB BS (London)

Curriculum Stages Offered. Preclinical; clinical

Curriculum Status. New curriculum: commenced 1974

GMC Correspondent. Miss M. P. Ellis

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†The Royal Free Hospital, Pond Street, Hampstead, London NW3 2QG

*†New End Hospital, Hampstead, London NW3 15B

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

*Friern Hospital (and Halliwick Hospital), Friern Barnet Road, New Southgate,
London N11 3BP

Note. In addition, there are regularly four students at *†Coppetts Wood (Fever)
Hospital, Muswell Hill, London N10 1JN.

* Within AHA(T).

† Within teaching district.

SELECTION

The selectors look for sound academic qualifications, motivation, personality, and good health. Past and potential examination results, the confidential report and the interview performance are equally important; more weight is now attached to A-level grades than before. No place is offered without interview.

About 8–10 per cent of the intake are graduates; 5–6 per cent are overseas students, with preference given to students from countries without a medical school.

FEATURES OF THE CURRICULUM

The present five-year curriculum is new, and was introduced in October 1974: it is entirely school-sponsored with school-based assessments. The over-all intention has been to integrate, both vertically and horizontally. The course is designed to achieve general goals which include the acquisition of a core of knowledge and manipulative skills which enable the student to handle effectively the main clinical conditions and life-threatening emergencies; an understanding of the relationship between medicine and psychological, social, and environmental factors; familiarity with scientific methods, application of the basic medical sciences to the understanding of medicine; independent learning and self-evaluation, and relationships with colleagues and allied

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 105 (1st year of new 5 year course) Estimate for 1979: 100	Stage I: (Anatomy, Biochemistry, Physiology, Physics, Histology, Endocrinology). (contribution from in-course assessment)	1
2	30 weeks	89 [*]	Stage II (Anatomy, Biochemistry, Physiology, Histology, Statistics, Nutrition, Genetics) (contribution from in-course assessment) Stage II (Pharmacology, Pathology, Neurosciences, Neuroanatomy, Applied Sciences, Behavioural Sciences) (contribution from in-course assessment)	2
3	46 weeks	88 [*] Estimate for 1979: 100		3
4	46 weeks	89 [*]		4
5	37 weeks	88 [*]	Stage III (Pathology, Obstetrics/Gynaecology) (probable considerable contribution from in-course assessment) Stage IV (All Clinical Subjects except O/G). (probable considerable contribution from in-course assessment)	5
6			* = following 'old' curriculum	6

health professions. Each stage of the course will have specified objectives which are being formulated so that students and staff are fully cognisant of the teaching programme throughout.

Early Years

Most subjects appear in combined courses as well as being taught separately. 'Man and his Environment' is partly an orientation course and partly an introduction to the seven Ages of Man, dealing with man's development and his responses to the physical and social environment; ten departments take part, co-ordinated by an anatomist. The Cell Studies course presents a unified view of current knowledge of the topic and of the growth points in research on it; a specially created Division of Cell Studies, incorporating nine disciplines, co-ordinated by a physiologist, is responsible. The neurosciences course emphasizes the nervous system as a whole; five disciplines (including psychology) are involved.

Clinical Aspects

The course has a vocational bias from the first term onwards: about 130 hours of 'clinical' teaching are given in Years 1 and 2, at the rate of two to three hours a week. Patients are demonstrated and students are taken on ward rounds (which may be conducted by clinicians or by basic medical scientists). The purpose is to cement the link between the basic sciences and clinical practice by demonstrating the relevance of the preclinical studies to clinical medicine.

In the final term in the second year, each student will receive a total of twenty-four hours' instruction in basic clinical methods and diagnostic skills. This teaching is conducted in small groups, on the wards.

The Years 3-5 are predominantly clinical. Patient-based teaching is carried out by single-specialty firms of (normally) two consultants and four juniors; medical and surgical firms may include or be associated with 'sub'-specialties. The number of students per firm varies—usually five to six in a 'major' specialty and up to twelve to fourteen in a 'minor' specialty. Students learn through observing and joining in patient care, rather than through separate teaching activities: this is especially true in the final year when there are fewer students per firm and they are treated as members of the team. The teaching programme is increasingly being oriented around problem solving and patient management through the problem-oriented medical record system (POMR).

Teaching firms give tutorials to their assigned students, relating to the work of the firm. Firms may combine for this and it is a general practice to have joint sessions with radiologists and pathologists. In Years 3 and 4 a general lecture course is run by all departments for the whole year. These are intended to cover theoretical aspects of medicine and surgery and other subjects in a co-ordinated way.

The full-time period of 'integrated teaching' in the final year will involve almost all departments in the medical school, and seminars and lectures will be co-ordinated with clinical clerking. The objectives are to facilitate recall and reinforcement of previous teaching and synthesis and application of knowledge already acquired in different specialties; and there will be emphasis on diagnosis (problem-solving) and patient management.

Student experience in non-hospital clinical settings includes four weeks full-time in general practice and community medicine. The minimum required period of residence is thirteen weeks; and whilst the average period under the old arrangements was twenty-two weeks, the average cannot be predicted for the new course and the new hospital: it will depend upon what accommodation becomes available.

Intercalated Degree of BSc

About ten to twelve students take an intercalated degree each year, immediately after Year 2. Some departments have to limit the numbers of students taking the degree, others do not. Subjects studied recently, in combination, are anatomy, biochemistry, pharmacology, physiology, and psychology; biochemistry has always required research work which is formally assessed, as well as an end-of-course examination. In future, all subjects will require project work as well as examinable course work. From 1975/6, psychology course units are available at the Royal Free Hospital School of Medicine; until now students have studied it elsewhere.

Elective Experience and Course Options

A six-week 'Science Elective' occurs in the fourth year and is taken within the Medical School. The purpose of this elective is to allow students to complete a short science-based project. There are a wide range of options available in most preclinical and clinical departments of the School. The project contributes to over-all in-course assessment in the clinical years.

There is an eight to ten-week clinical elective in the final year which may be restricted only for students retaking course units. It may be taken in any approved clinical work and students often elect to go outside the UK and to developing countries all over the world. The Dean must approve the choice of elective and supervises its planning, though in the case of electives taken overseas, members of staff with contacts in the country in question may help.

CURRICULUM CONTROL AND DEVELOPMENT

The system for curriculum control and development dates from 1968. The senior body is the Education Committee which meets eight times a year. This has 60-65 members—school officers, all professors, representatives of other staff and other advisory bodies, four students, and up to four observers from associated medical schools; it supervises the curriculum in all its aspects and must approve any alterations.

There are five Academic Advisory Boards, covering the fields of basic medical science, pathology, medicine, surgery, and obstetrics and gynaecology; all teachers in appropriate subjects are members. Their role is advisory, watching over teaching in their field and considering matters referred to them by the Education Committee or the Dean. They may set up sub-committees, *ad hoc* working parties or co-ordinating groups with appropriate remits: some of the integrated courses are run by such informal committees.

A special Curriculum Committee initiated the new curriculum in 1974. The committee has been reconstituted and comprises the joint membership of a preclinical and a clinical curriculum sub-committee and is charged with the

general overseeing and review of the curriculum. It consults with the relevant Advisory Boards of Studies and recommends to the Education Committee (the Academic Board) which is the senior committee of the School. There are student members of all these committees.

There is an independent Staff-Student Committee on Medical Education, consisting of six student and four staff members. The function of this committee is to resolve any difficulties which might arise in any part of the teaching course. The Chairman is a student and matters may be referred to it from students or staff.

The Academic Staff Association, a body to which all staff belong may also comment on the curriculum. This body has a wide membership and represents the interests of the teaching staff.

The design and administration of single-subject courses is the responsibility of departments, within the framework of goals and objectives and the time-allocation decided by the Curriculum and Education Committees. The interdisciplinary courses are the responsibility of various co-ordinating groups, the most formal being the Division of Cell Studies which has its own director and budget.

The Deanery

The Dean is part-time; he/she is elected by the Education Committee for a renewable term of five years, and is assisted by a vice-dean, and a clinical sub-dean. (A postgraduate sub-dean handles postgraduate matters.)

Miscellaneous Topics

About four teachers from the Royal Free Hospital School of Medicine have attended courses for teachers at the Institute of Education over the last two years. At individual and departmental level, exchanges of teaching material and ideas are made with other schools. A Department of Community Medicine is being built up jointly with University College Hospital Medical School. There is an active Clinical Research Group, supported by the King's Fund, which is evaluating the role of the problem-oriented record as an educational tool.

STUDENT ASSESSMENT

The new pattern of assessment allows for a fairly even balance between in-course and end-of-course components, with a possible 50 per cent of the total marks at each stage coming from in-course assessment; in practice the contribution is working out at 20-30 per cent. The proportion will be reviewed as students have had experience of the new system. The Curriculum Committee is responsible for continuous evaluations of assessment arrangements.

Early Years

In the early years of the course, some in-course assessment is critical: techniques used are objective and essay questions, prepared written work, practical course work, oral examinations, and tutors' reports. End-of-course examinations make use of essay and short-answer questions, and practical and oral examinations.

Clinical Subjects

In-course assessments will be held during or at the end of all clinical attachments. They will be reviewed periodically by the Committee of Examiners so that students failing to make adequate progress can be identified and helped. Students with unsatisfactory records in the in-course assessments will not be allowed to proceed on to Stage III and Stage IV examinations. In these examinations, students must pass the 'practical' clinical element separately, and also the examination as a whole: a good 'practical' performance can compensate for borderline performance in the 'theoretical' parts. The 'theoretical' examinations will include objective, short-answer and essay questions, and oral examinations; the 'practical' aspects will be tested by means of long cases, short cases, and orals.

Regulations

Details regarding compensation between subjects, circumstances for 'carrying' a subject, etc., have not been finalized; the policy is however that the Committee of Examiners, rather than the Dean or a head of department, should make the decisions.

External examiners are involved in the setting of examination papers, in moderating the over-all standard, and in arbitrating in marginal cases. They are also consulted with respect to the arrangements and evaluation of in-course assessment.

Advice and Assistance to Students

The Dean, Registrar, and the Adviser to Students give official advice to students with academic problems. In addition, there are six advisers (three men, three women) on the staff of the medical school and chosen by students, who are available to deal with personal problems. There are tutors in all the preclinical departments. There are no formal revision courses but individual departments—or in the case of clinical students, the Dean—would arrange remedial work for those in need of it.

For students with personal problems, the Dean, Registrar, advisers, and tutors are all available to help.

PROBLEMS

The most immediate problem has arisen as a result of starting the new curriculum at the same time as moving to the new hospital in Hampstead. Preclinical departments remain in central London for the present but some will move in 1978 to Hampstead. Integrating clinical with preclinical teaching has therefore meant a great deal of student, teacher, and patient travelling. A five-year delay in the building programme at Hampstead has deferred completion of the Clinical Sciences Building, which is to contain mainly teaching accommodation, until 1978. Meanwhile the Medical School has no lecture theatre capable of holding all students in a clinical year, and has to share the use of the nurses' lecture theatre in the hospitals. Whilst there is excellent co-operation between the Nursing School and the School of Medicine, this places an excessive demand on the use of this theatre.

The curriculum is still evolving and a difficulty occurs in the clinical years because of the overlap of students taking the old regulation course and those entering under the new regulations, started in 1974. The first clinical year starts in 1976 and for the next two years there will be two groups of students, one running under old and the other under new regulations, which is causing some difficulty in scheduling and overlap on firms.

The Royal Free has always relied heavily for teaching on NHS consultants. They are entirely responsible for the teaching in several clinical disciplines and altogether for more than one-third of the total clinical course; their heavy service commitments, the demands of establishing their units in the new hospital, and the new clinical contribution in Years 1 and 2 of the course, have made their teaching load seem very great of late.

Reorganization of the NHS in 1974 has added considerable difficulties to the interaction between the Health Service and the School. There has been a considerable proliferation of committees and channels of communication have become blurred in consequence. Financial stringencies have added to this burden but it is likely that the problems will gradually resolve in the next few years.

DEVELOPMENTS

It is too early to judge the effectiveness of the new curriculum. Arrangements have been made to evaluate it at each stage, so that modifications can be made to achieve the most effective course. The curriculum is regarded as an evolving process, designed to cope with the changing circumstances of medicine and its relation to the community.

The School is concerned about the splitting of preclinical and clinical departments following the move of the hospital from Bloomsbury to Hampstead but it is hoped that in the future the two groups may be brought together again in one building. There are long-term proposals for the integration of preclinical departments within the multifaculty University College London.

UNIVERSITY OF LONDON

The Medical College of St Bartholomew's Hospital

Qualifying Degree. MB BS (London)

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Premedical: established

Preclinical: revised 1974

Clinical: revised 1976 (information relates to the 'old'

curriculum but advance details are also provided of the 'new')

GMC Correspondent. Mr A. Fuller

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†St Bartholomew's Hospital, West Smithfield, London EC1A 7BE

*†Eastern Hospital, Homerton Grove, London E9 6BY

*†German Hospital, Ritson Road, Dalston, London E8 1DF

*†Hackney Hospital, Homerton High Street, London E9 6BE

*†Metropolitan Hospital, Kingsland Road, London E8 4DS

*†Mothers' Hospital, 143-53 Lower Clapton Road, London E5 8EN

*†St Leonard's Hospital, Nuttall Street, London N1 5LZ

The Royal Marsden Hospital, Fulham Road, London SW3 6JJ (see note)

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

*†St Mark's Hospital, City Road, London EC1V 2PS

Note. The Royal Marsden Hospital is a specialist postgraduate teaching hospital with a Board of Governors.

* Within AHA(T).

† Within teaching district.

SELECTION

Applicants for the course at St Bartholomew's are expected to demonstrate adequate academic potential to ensure satisfactory progress through the course. Thereafter candidates' personal qualities, as evinced by confidential report and interview, guide selectors. All successful applicants are interviewed.

Each year's intake includes a few graduate entrants and may also include a nurse or other mature non-graduate entrant with appropriate entry qualifications.

FEATURES OF THE CURRICULUM

The six-year course at St Bartholomew's is in the process of change. There is discussion about ceasing the premedical course. A new Basic Medical Science course was introduced in 1974 in line with the new regulations of the

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT	1	2	3			
1	Pre-Medical Course	+	+	+		c. 200 hours c. 200 hours c. 200 hours	Biology Chemistry Physics	1
2	Junior Pre-Clinical	+	+	+		266 hours 165 hours 145 hours 10 hours 20 hours 14 hours 14 hours	Anatomy Biochemistry Physiology Pharmacology Principles of Biometry and Medical Statistics Psychology as applied to Medicine Sociology as applied to Medicine	2
3	Senior Pre-Clinical	+	+	+		198 hours 110 hours 150 hours 129 hours 12 hours 33 hours 30 hours 3 hours	Anatomy (with Genetics) Biochemistry Physiology Pharmacology Psychology as applied to Medicine Sociology as applied to Medicine Introduction to General Pathology Biometry and Medical Statistics	3
4	1st Year Clinical	+	R	R	R	2 weeks FT 24 weeks FT 24 weeks FT c. 100 hours (less 4 weeks holiday)	Introductory Course General Medicine (3 x 8 week firms) General Surgery (3 x 8 week firms) Clinical Lecture Course and Pathology Practicals.	4
5	2nd Year Clinical	R	R	R	R	8 weeks FT 8 weeks FT 6 weeks FT 11 weeks FT 11 weeks FT	Orthopaedics Obstetrics Gynaecology Paediatrics Psychiatry <i>Note:</i> Times may vary slightly depending upon when individual students take their holidays	5
6	Final Year Clinical	R	R	R	R	8 weeks FT 4 weeks FT 4 weeks FT 8 weeks FT 8 weeks FT 8 weeks FT 8 weeks FT	Medicine (including Infectious Diseases) Surgery Anaesthetics Neurology/Neurosurgery/Cardiology/Thoracic Surgery Dermatology/Venerology/ENT/Ophthalmology/ Dentistry Elective General Revision	6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 18 Estimate for 1979: (7) 20 max (pre-medical course could cease)	Preliminary Examination for Medical Sciences	1
2	30 weeks	1974: 98 Estimate for 1979: 100	Part I MB BS (Anatomy, Biochemistry, Physiology) (some contribution from in-course assessments)	2
3	30 weeks	106	Part II MB BS (Anatomy, Biochemistry, Physiology, Behavioural Sciences/Biometry and Statistics)	3
4	46 weeks	1974: 132 (includes 6 Cambridge and 3 Oxford students) Estimate: 120 for 1979 (includes some students from Oxford/Cambridge)		4
5	46 weeks	140		5
6	46 weeks	146	* Part I Final MB BS (Pathology etc) * Parts II, III, IV Final MB BS (Clinical Subjects)	6

* Old Regulations

University of London. A revised clinical curriculum is being introduced in October 1976. The course is University-sponsored and the examinations school-based. Information presented relates to the new Basic Medical Science course, and, unless stated, the 'old' clinical course.

Early Years

For entrants to the preclinical course without a 'biological' A-level, a two-week remedial course is offered, immediately prior to the first year. A small number of clinical demonstrations, etc., are included in the preclinical teaching.

Clinical Aspects

Under the 'old' arrangements the clinical course starts with a two-week introductory course; then there is a nine-month integrated lecture course, thereafter formal theoretical teaching being organized in specialty sub-groups separate from patient-based clinical teaching firms. The integrated clinical lecture course is designed to stimulate the development in depth of a general understanding of clinical problems; it is systems-based, and a number of departments are involved in planning and teaching it. Each module of the course is designed and supervised by a 'system leader' after discussion with the appropriate lecturers and heads of departments. A variety of teaching methods and aids is employed.

However, in the planned new curriculum, it is likely that formal theoretical teaching apart from that organized by 'firms', will be limited to pre-examination revision courses—the integrated lecture course will be abandoned.

Patient-based teaching is given by firms, and each firm normally consists of six clinicians from one specialty. Under the old arrangements, a firm has between fifteen and twenty-five students attached to it, a situation which caused some concern; in the new clinical curriculum smaller teaching units of up to five students will be possible.

At present, students' experience of non-hospital clinical settings would be about two weeks; under the new curriculum this period will rise to two months. There is no stipulated minimum period of residence for clinical students, but a typical student would spend three to four months in residence.

Intercalated Degree of BSc

Students may take an intercalated degree at St Bartholomew's, and most usually this is taken between the preclinical and clinical stages and requires one year of study. The degree is most commonly taken in physiology, biochemistry, and pharmacology; occasionally, however, students have transferred to another London college to take such subjects as anatomy, anthropology, or psychology. Up to twenty students take an intercalated degree each year. A specific course of study is followed, and the degree is awarded on the basis of an examination, rather than a dissertation.

Elective Experience and Course Options

In the new curriculum, there will be three four-week elective periods, but they will generally be timetabled as one period of four weeks and one of eight. The

nature of the elective is unlikely to change greatly; under the old arrangements, the elective opportunity was used mainly for acquiring clinical experience and/or for research. Students could take the elective away from the School, and most did.

CURRICULUM CONTROL AND DEVELOPMENT

The College Council is the governing body of the College; on academic matters it takes advice from a number of Committees. The College Committee is the major academic committee; all consultants with an appreciable teaching commitment are members, together with all appointed and recognized teachers. A number of boards of studies in particular subjects exist to discuss matters referred by the College Committee or to initiate changes, and gradually joint boards of studies are being formed with the London Hospital Medical College. There are also preclinical and clinical Curriculum Committees which meet as required, and student teaching committees. However, it is the College Committee which has taken responsibility for designing the current changes in the curriculum.

On the whole, departments themselves determine the content of their teaching, update and administer courses, but within the framework determined by the committees.

The Deanery

The (part-time) Dean is elected by the College Committee for five years in the first instance, possibly extendable. The Dean is supported by a Sub-Dean, who, although 'confirmed in his appointment' by the College Committee, is appointed by the Dean.

STUDENT ASSESSMENT

Early Years

Assessment in the preclinical years is School-based, and relies principally upon end-of-course examinations, using a variety of written, practical, and oral procedures, though biochemistry in particular has a significant in-course component. This is a new development.

Clinical Subjects

In the clinical years there is some in-course assessment using MCQ tests and vivas; while in a formal sense this is 'non-critical', it may be that a student would be asked to repeat a part of the course if performance on an assessment were inadequate. The final examination utilizes long and short cases, oral examinations, and objective-type and essay questions. 'Theoretical' and 'practical' components must be passed separately.

Regulations

Compensatory passes may be allowed, particularly in the early years of the course. Students are normally only re-examined in a failed subject or paper, rather than a whole diet of examinations. Students are not normally allowed

Table A1. Planned New Curriculum. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				NAME	ACADEMIC YEAR	
		TERMS TAUGHT						APPROXIMATE LEARNING TIME
		1	2	3	(4)			
1	Pre-Medical Course						1	
2	Junior Pre-Clinical					PRE-CLINICAL COURSE WILL NOT CHANGE	2	
3	Senior Pre-Clinical						3	
4	1st Year Clinical	+ R R R R R R			R	2 weeks FT 24 weeks FT 8 weeks FT 16 weeks ET (less 4 weeks holidays)	Introduction to Clinical Method General Medicine (3 x 8-week firms) General Surgery First 16 weeks of Rotating Attachments listed under Year 5	4
5	2nd Year Clinical	+ R R R			R	8 weeks FT 40 weeks FT (less 4 weeks holidays)	Pathology Block Continuation of Rotating Attachments: Accident and Emergency 4 wks; Anaesthetics 4 wks; Geriatrics and Orthopaedics 8 wks; Obstetrics 2 x 4 wks; Community Medicine 4 wks; GP 4 wks; Paediatrics 8 wks; Psychiatry 8 wks; General Surgery 4 wks; Gynaecology and U.D. 4 wks; Skins Oncology/ENT/Eyes 8 wks; Gynaecology and Urology 4 wks; Electives 4 wks and 8 wks.	5
6	Final Year Clinical	R R	+ +			24 weeks FT 4 weeks FT 4 weeks FT	Remaining rotating attachments, listed in Year 5 General Medicine Revision General Surgery Revision	6

Table B1. Planned New Curriculum. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1				1
2			PRE-CLINICAL ASSESSMENTS AS AT PRESENT	2
3				3
4	48 weeks	Estimate for 1979: 120		4
5	48 weeks		Part IV MB BS (Pathology etc)	5
6	36 weeks		Parts V, VI, VII, VIII MB BS (Clinical Subjects)	6

to 'carry' subjects or repeat years—the penalty for failure upon resit is for students to withdraw.

External examiners are involved in all the University examinations, helping to set papers, moderating the over-all standard, and arbitrating in marginal cases. They are not however involved in any in-course assessments.

Advice and Assistance to Students

Students with problems connected with their studies receive help from the Sub-Dean, and, in the early years of the course, from preclinical tutors in the departments. Tailor-made revision courses would be run for small groups of students in appropriate subjects, following major examinations.

Students with personal problems may again consult the Sub-Dean; in addition, there is a whole-time medical officer for students and clinical tutors are appointed for groups of about five students each.

PROBLEMS

The main difficulty is a shortage of funds, in both the College and the NHS. The financial situation in particular prevents the effective use of facilities in the district and means that working conditions are far from ideal. There have been poor student-patient, student-firm ratios. There is also a concern that the clinical course has become too specialized. On the other hand, there is some apprehension that St Bartholomew's is being pushed into becoming a district hospital.

The uncertainty surrounding the proposed and planned establishment of a joint preclinical school with the London Hospital Medical College has led to some stagnation in activity. Also, many teachers are worried at the lack of integration between the preclinical and clinical teaching.

It is still officially the intention that the preclinical departments join with those of the London Hospital Medical College at Queen Mary College. The likelihood of this happening in the foreseeable future seems to be increasingly remote. On the other hand clinical co-operation with the London Hospital Medical College is gaining ground with many joint departments and appointments.

DEVELOPMENTS

The present curriculum is constructed within the general framework of the University of London regulations. Probably the most interesting experiments are the appointment of a professor of medicine with a main interest in medical education and the foundation with the London Hospital Medical College and the community physicians of the AHA(T) of a department of Social and Community Medicine taking in clinical epidemiology, environmental and preventive medicine. Indeed, the College Committee's membership has been increased to include community physicians. In general, the College is trying to foster contact with colleagues outside its immediate and traditional ambit.

Although the financial situation is not reassuring, the new curriculum will, by gaining help from other hospitals in the AHA(T), ensure that the students are exposed to a very wide variety of medicine and surgery and that the firm sizes will be small.

It becomes operational from October 1976 and is outlined in Tables A1 and B1.

UNIVERSITY OF LONDON

St George's Hospital Medical School

Qualifying Degree. MB BS (London)

Curriculum Stages Offered. (Preclinical); clinical

Curriculum Status. Preclinical: starts 1976 (advance information provided)

Clinical: interim curriculum prior to introduction of five-year course

GMC Correspondent. Mrs G. A. McClare

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†St George's Hospital, Blackshaw Road, Tooting, London SW17 0QR

*††St George's Hospital, Hyde Park Corner, London SW1X 7EE

*†St James's Hospital, Sarsfield Road, London SW12 8HW

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

*†Atkinson Morley's Hospital, Copse Hill, Wimbledon, London SW20 0NE

*†St Helier Hospital, Wrythe Lane, Carshalton, Surrey SM5 1AA

*†Springfield Hospital, Beechcroft Road, London SW17 7DJ

* Within AHA(T).

† Within teaching district.

‡ Use of this hospital is being phased out.

SELECTION

The ideal candidate would have the motivation, powers of application, and the intellectual capacity to complete a demanding course of study; scientific ability; a wide breadth of interests; the ability to contribute to the life of the community; 'but not specifically the human qualities which will make a good GP'.

During the selection procedure the confidential report is the most important single factor, but the candidate's age is also important. Approximately one-quarter of all applicants is interviewed and no place is offered without interview, which is conducted in collaboration with the preclinical school. Past and potential achievement in GCE examinations and interview performance rank equal. The order of preference given to the School by the student is taken into account when offering places but not when selecting students for interview.

The policy regarding order of preference is a recent innovation, as is the adoption of a standard A-level target for all prospective entrants to the course. No significant changes are planned for the future, except that students will from 1976 be selected for direct entry to St George's own five-year course rather than for eventual entry after undertaking a preclinical course elsewhere. About 5 per cent of this entry will be graduates, and a certain proportion will come from overseas; entry criteria may be more flexible in the case of candidates from countries without a medical school, or refugees.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES			ACADEMIC YEAR
		TERMS TAUGHT 1 2 3 4	APPROXIMATE LEARNING TIME	NAME	
1	1st Clinical Year	+ R R R R + + +	6 weeks FT 24 weeks FT 16 weeks FT ½ day/week	Introductory Course (164 hours) Three General Medicine Firms Two General Surgery Firms Topic Teaching and Lectures (148 hours)	1
2	2nd Clinical Year	R + + + +	12 weeks FT 12 weeks FT 8 weeks FT 4 weeks FT 4 weeks FT 4 weeks FT ½ day/week	Obstetrics/Gynaecology Psychiatry Paediatrics/Child Psychiatry Neurology/Neurosurgery Laboratory Clerkships/Anaesthetics/Radiology ENT/Ophthalmology Orthopaedics Topic Teaching and Lecture Programme (168 hours)	2
3	3rd Clinical Year	R R R R R R R R R R R R R R R R + +	4 weeks FT 4 weeks FT 4 weeks FT 2 weeks FT 8 weeks FT (?) (?)	Medicine Elective/'Shadow House Officer'/locum appointment Surgery Elective/'Shadow House Officer'/locum appointment Dermatology/Outpatients General Practice Elective Period Open Ward Rounds and Clinics Revision Courses	3
4				Note: 'FT' = 4 days/week in Years 1 and 2	4
5					5
6					6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	48 weeks	1974: 66 (King's - 34; Cambridge - 19; UCL - 12; and Oxford - 1) Estimate for 1979: 82 (from St. George's, except 7 students from Cambridge)		1
2	48 weeks	64		2
3	36 weeks	69	Part IV MB BS (Pathology, etc) Parts V, VI, VII, VIII MB BS (Clinical Subjects)	3
4				4
5				5
6				6

FEATURES OF THE CURRICULUM

At present, St George's Hospital Medical School offers only a clinical course; this is University-sponsored, with School-based examinations. It was modified to meet the revised regulations of London University, and some features of the new five-year curriculum (which commences in October 1976) have been incorporated in anticipation. (Note. The planned new curriculum is outlined below under 'Developments'.)

Clinical Aspects

The introductory course in clinical medicine and general course in pathology and microbiology is held before the first general medical and surgical firms begin, and demonstrates and allows students to practise clinical skills in the afternoons, while the mornings are given over to formal pathology teaching.

Most theoretical teaching is given in the two Topic Teaching cycles, which run for 42 weeks during Year 1 and 48 in Year 2, and are held on Wednesday mornings. Most sessions are multidiscipline or multispecialty. Final-year students may attend the sessions for revision purposes. Each year's series of topics is related to the disciplines and specialties occurring in the rotating clinical appointments of that year but closer correlation between 'theoretical' and 'clinical' is impossible. It is also common for firms to arrange their own seminars for their students, which students on other firms may also attend.

The unit for patient-based clinical teaching is the single-specialty firm of one consultant and two juniors. In the first clinical year students are in groups of four, in Year 2 five to six, and in Year 3 one or two. Occasionally firms double up for supplementary teaching. Students become junior working members of the team, learning principally through observation and participation in patient care.

There is no stipulated minimum period of residence due to the accommodation shortage. However, the average student would manage two to three months altogether, some of this consisting of nights and weekends when his own firm is 'on take', and living-in as much as possible is encouraged. Learning experience outside hospital totals two weeks, in general practice, in addition to time spent on electives.

Intercalated Degrees

There are no opportunities at present for taking an intercalated degree at St George's; students wishing such would take their intercalated year at the associated preclinical school. However, in the new five-year curriculum the opportunity will be introduced: students will be allowed to take this year after the second, third, or fourth year of study—they will therefore be able to study 'paraclinical' subjects, in addition to the more 'conventional' ones.

Elective Experience and Course Options

About one-third of the students go away from St George's for eight weeks of the final year, which counts as an elective. Some go abroad. Those going away must first discuss their plans with the Dean. All students must check that the dates of their elective, which is a rotating event, do not clash with examinations. They make their own arrangements.

Also in the final year there is a programme of open ward rounds and clinics, for all students, attendance being optional.

In the first two years of the new curriculum, Wednesday mornings will be left free for remedial or supplementary teaching, for optional classes or project work, for preparation for an intercalated year of study, etc.

CURRICULUM CONTROL AND DEVELOPMENT

The present arrangements evolved to suit a small medical school with a short and straightforward curriculum. There is the Academic Board, consisting of all senior academic staff, representatives of junior academic staff and of other recognized clinical teachers, to whom proposals are referred for final decision. It is the policy-making body and meets every two months. The Sub-committees of the Academic Board include (i) the Academic Executive Committee (membership: the Dean, Vice-Dean, Chairman of the Academic Board, seven elected members, and occasional co-opted members) which meets every two weeks; as its name implies it may act independently on matters of detail but must refer major questions to the Academic Board: and (ii) the Medical Education Working Party (membership: five to six persons not representative of departments, and occasional co-opted members). This latter body is concerned with curricular principles rather than details—'objectives rather than timetables'—and advises the Academic Board accordingly; recently it has been meeting every one to two months. There is also a staff-student committee which comments on curricular among other matters. The Dean and two other teachers are the staff members, with approximately five students. Being small, it is found to be very effective; it meets once or twice a term.

Individual departments set the content and pattern of their own courses, within the Academic Board's guidelines, but there are special arrangements for the non-departmental Topic Teaching.

The curriculum is not regularly reviewed but any part of it may be reassessed and modified in response to requests from staff and/or students. In cases of major criticism or upheaval a questionnaire is sent to all members of the Academic Board in order to achieve a consensus solution. There is a belief that teaching time given to a subject, for example, should be determined by people without a vested interest in it. The questionnaires are handed to a single designated person for extraction of acceptable recommendations. In cases where only minor adjustments are required a senior unbiased professor is asked to take evidence and prepare recommendations.

Planned Changes

The new curriculum was planned in outline by the Academic Development Committee, a small *ad hoc* body, now dissolved, which was appointed by the Academic Board. Its membership was predominantly in the 35-45 age-group and was not representative of departments. The proposals have been expanded by the Medical Education Working Party and referred to individuals to undertake detailed planning. Special arrangements are being made to ensure the clinical relevance of each 'preclinical' topic course, by nominating a clinical member of staff whom each preclinical organizer must consult. The Dean is co-ordinating the whole exercise. When the new curriculum is

implemented, there will be 'year committees' to administer and monitor the courses. Indeed the whole organization of the medical school is to be changed radically. The entire curriculum will be reviewed annually by the Medical Education Working Party.

The Deanery

The Dean is a full-time appointment whose tenure is fixed for a period of up to ten years, which may be renewable. He is assisted by a Vice-Dean and a Sub-Dean (based at St James's Hospital); both are elected for a term of three years, and may be re-elected.

Miscellaneous Topics

The courses for University teachers offered by the London University Institute of Education are used by members of staff from St George's; at least one person has attended during each of the last two years.

The Medical School has an educational technology unit to provide aids and facilities for teaching; this is administered by the Vice-Dean. However, it is not thought likely that much teaching or assessment material will be exchanged in future as the new curriculum is unique.

STUDENT ASSESSMENT

Clinical Subjects; Regulations

The present system is based entirely on end-of-course examination. This applies to paraclinical subjects, clinical 'theory' and clinical practice. Written papers include essay questions, objective-type questions, and short-answer questions; oral examinations are used for all students, and clinical practice is assessed by long and short cases in addition. Students must pass the written/theoretical components and the clinical components of the Final examinations separately. None the less, it is possible for a student to be upgraded from a borderline mark for a paper if the clinical examination in that same subject or subject grouping has been passed and if all other parts of the examination have been passed.

A class examination is held at the end of Year 1 and Year 2, which contributes nothing to the Final marks but must be re-attempted if failed. Most firms report on the students' progress and performance during their attachment but these again are only 'critical' in the sense that a firm might have to be repeated by a student if the report was very unfavourable.

External examiners are involved in all parts of the final examination. They take part in the setting of papers, moderate the over-all standard, and arbitrate in marginal cases.

Advice and Assistance to Students

The Student Adviser Scheme involves members of the medical school or hospital staff who are known to be sympathetic to students; each adviser is allocated twelve students from the time of the Introductory Course to the end of their undergraduate education. It is up to the student how often he or she approaches the Adviser and what problems are presented. The Dean deals personally with academic problems and may refer a student to his Adviser or to another member of staff for remedial action.

In the latter half of the final year, various departments mount revision courses and additional tutorials are given to students, particularly repeating students according to need. There are a number of open ward rounds and clinics held which students are encouraged to attend, partly for revision purposes and partly to stimulate vocational interest.

PROBLEMS

Clinical teaching is dispersed around three main sites, the present buildings are felt to be inadequate for both teaching and research, and the over-all staff-student ratio is not thought satisfactory.

The Medical School feels that the London University machinery makes planning and decision-making unnecessarily complicated; NHS reorganization has also made negotiations somewhat more protracted and complicated and attitudes towards the School have changed; however, none of this affects undergraduate teaching directly.

DEVELOPMENTS

A major building programme is under way, to include a new medical school and hospital at St George's, Tooting. Close co-operation with Chelsea College and the Royal Dental Hospital School of Dental Surgery is being developed, in academic matters and in facilities, and many of the arrangements for basic medical science teaching are being made jointly. Eventual amalgamation of the three institutions is envisaged.

As well as 'creating' preclinical places, the school is to expand its clinical entry; from October 1978, there will be no students entering the clinical course from University College or King's College, and from October 1977 only seven students will transfer from Cambridge each year. The intake from Oxford will cease as the two courses will become incompatible. The difference will of course be made up from St George's 'own' students.

The new curriculum concentrates upon 'the scientific basis of medical practice'. Its objectives are as follows:

For the whole course: To produce graduates who are effective preregistration house officers and who are intellectually equipped to take advantage of the varieties of postgraduate training.

For Years 1 and 2: To acquire knowledge and understanding of the sciences basic to medicine, together with the ability to interpret normal and abnormal human structure and function in terms of these sciences.

For Years 3 and 4: To acquire knowledge and understanding of the scientific basis, diagnosis, treatment, and prevention of disease. To understand the effects of disease and the various factors which influence it and the impact on individuals and society. To acquire clinical skills and acumen as a foundation for the preregistration year. To retain and reinforce the relevant knowledge and understanding acquired during the first two years.

For Year 5: To acquire the additional clinical experience and judgement necessary before accepting clinical responsibility.

The traditional preclinical and clinical subjects will 'overlap', with clinical material being used for illustration from Term 1 and preclinical teaching

Table A1. Planned New Curriculum. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				NAME	ACADEMIC YEAR	
		TERMS TAUGHT	APPROXIMATE LEARNING TIME					
		1	2	3	4			
1	1st Pre-Clinical Year	+	+	+	+	1 week 111 hours 102 hours 57 hours 261 hours 20 hours 16 hours 28 hours	General Introduction Structure and Function of Cells General Anatomy General Physiology Organs and Systems Medical Statistics Nutrition and Energetics Supplementary/Optional/Remedial Work	1
2	2nd Pre-Clinical Year	+	+	+	+	30 hours 69 hours 60 hours 21 hours 102 hours 81 hours 81 hours 30 hours 54 hours 21 hours 30 hours 81 hours	Special Senses Nervous System Co-ordinated function of different organs & systems General Immunology General Pathology and Microbiology Reproduction, Development, Growth and Ageing Normal and abnormal individual & group behaviour General Pharmacology Clinical Work Techniques in Clinical Measurement Preparation work for B.Sc. (if taken) Supplementary/Optional/Remedial Work	2
3	1st Clinical Year	R	R	R	R	48 weeks FT* ½ day/week	(Medicine (Surgery) Topic Teaching - Wednesday mornings; including 'Ecology of Human Disease (30 hrs); 'Physics Applied to Medicine' (14 hrs); and single-subject courses on e.g. 'General and Clinical Pharmacology' (44 hrs)	3
4	2nd Clinical Year	R	R	R	R	12 weeks FT* 12 weeks FT* 12 weeks FT* 12 weeks FT* ½ day/week	Psychiatry Obstetrics/Gynaecology Paediatrics/Geriatrics Others Topic Teaching - Wednesday mornings	4
5	Vocational	+	+	+	+	4 weeks FT 32 weeks FT	Block Course: Special Histopathology, Special Microbiology, Special Haematology, Special Chemical Pathology; Medical Ethics and Legal Aspects of Medicine. Clinical Attachments including: Shadow house officer attachment in general medicine; Shadow house officer attachment in general surgery; Others chosen from list of options e.g. general practice. Plus an elective period of 8 weeks.	5
6							* NOTE: * "FT" = 4 days/week where so marked	6

Table B1. Planned New Curriculum. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	Estimate for 1979: 100	Scientific Basis of Medicine Part A (possible contribution of in-course tests)	1
2	30 weeks		Scientific Basis of Medicine Part B (possible contribution of in-course tests)	2
3	48 weeks	Estimate for 1979: 82 (including 7 Students from Cambridge)	Scientific Basis of Medicine Part C (possible contribution of in-course tests)	3
4	48 weeks		Scientific Basis of Medicine Part D (possible contribution of in-course tests)	4
5	36 weeks		Part E MB BS: Clinical Practice (written paper in Therapeutics up to 3 hours; 'clinical' examination of up to 3 hours).	5
6				6

continuing into Year 4; instruction in clinical method will be given from the beginning of Year 2. There will be single-subject courses and topic interdisciplinary courses in all the first four years. The final year will be vocational with almost no formal teaching. Features include interdepartmental subject teams, and Chairmen for each and every course; the Introductory Week in Term 1, with sessions for each of the Basic Medical Sciences which will begin with a clinical problem and then show how information from that discipline is necessary to analyse and solve it (further discussion will be conducted in small groups); and a tutorial system in Years 1 and 2 (students will attend about nine tutorials each term, outside the timetabled courses, and will produce essays for the tutor to mark as part of the in-course assessment).

The examinations at the end of each of the first four years will be related to the work of that year but may also include questions referring to work of previous years. Up to 30 per cent of the marks allotted to any paper in the first four years may be derived from in-course assessment. Assessment in the final year will consist of a written examination in therapeutics, and clinical and oral examinations in medicine, surgery, obstetrics, and gynaecology.

Tables A1 and B1 describe the new course, as it is planned at present.

UNIVERSITY OF LONDON

St Mary's Hospital Medical School

Qualifying Degree. MB BS (London)

Curriculum Stages Offered. Preclinical; clinical

Curriculum Status. Preclinical: revised 1973

Clinical: revised 1975

GMC Correspondent. Mr C. Gardner

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†St Mary's Hospital, Praed Street, Paddington, London W2 1NY

*†St Mary's Hospital, Harrow Road, London W9 3RL

*†Paddington Green Children's Hospital, Paddington Green, London W2 1LQ

*†Samaritan Hospital for Women, Marylebone Road, London NW1 5YE

*†Western Ophthalmic Hospital, Marylebone Road, London NW1 5YE

*†St Charles's Hospital, Exmoor Street, London W10 6DZ

Edgware General Hospital, Edgware, Middlesex HA8 0AD

* Within AHA(T).

† Within teaching district.

SELECTION

Candidates must have the academic ability to cope with the medical course and its examinations. However, this need be no more than 'average' academic ability, and other attributes are sought, such as all-round ability and sound character, as indicated on the UCCA form (which shows applicants' school achievements and activities).

The selection procedure gives highest importance to A-level grades and performance at O-level in science and mathematical subjects. The confidential reports, interview performance, and the candidates' information about themselves are next important. Only a few students are admitted without interview.

A small number of graduates and other mature students (with the necessary qualifications) are admitted each year, and also a small number of overseas students from developing countries without medical schools.

FEATURES OF THE CURRICULUM

The curriculum is a new one, introduced in 1973 to meet the new University of London regulations. It is a University-sponsored course with School-based examinations.

Early Years

Remedial teaching in organic chemistry is given to about one-third of the first-year class each year.

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 93 Estimate for 1979: 90	Part I MB BS (some contribution from in-course assessment)	1
2	30 weeks	86	Part II MB BS (some contribution from in-course assessment) Part III MB BS (Pharmacology)	2
3	47 weeks Est	1974: 94 (including 11 from Oxford/Cambridge) Estimate for 1979: 100 (including 10 from Oxford/Cambridge)		3
4	46 weeks	87		4
5	35 weeks	103	Part IV MB BS (Pathology etc) Parts V, VI, VII, VIII, MB BS (Clinical Subjects)	5
6				6

Clinical Aspects

Clinical demonstrations are regularly given in Year 2 in physiology and biochemistry, to emphasize these subjects' relevance to clinical situations. Clinical staff occasionally also take part in the pharmacology course.

The unit for patient-based clinical teaching is the single-specialty firm, which varies in size. The size of each student group also varies according to the discipline/specialty being studied; the maximum number of students is sixteen, the minimum five. The average is nine in general medicine and general surgery in each of the three years, but each group in the Junior Clinical Course is divided between two tutors who are responsible for the clinical instruction and who give at least one tutorial a week to the group. Similarly, tutors are appointed in obstetrics and gynaecology, and paediatrics. Patient-based teaching is inseparable from patient care.

Each firm gives some 'theoretical' teaching but for all students together there are morning lectures, and afternoon topic teaching sessions in the Junior Clinical Course, twenty-five evening lectures each year on topics chosen by students, and monthly lunchtime topic teaching sessions on infectious diseases, on an eighteen-month cycle, and twice weekly lectures and demonstrations in therapeutics for thirty weeks in each year. The topic teaching in the Junior Clinical Course takes the form of discussion between several different specialists, including representatives of social and psychological medicine. Students take part in the discussion as far as possible and occasionally a student chairs a session. The infectious disease topic teaching is also informal and interdisciplinary, with microbiology as the chief contributor. The 'theoretical' teaching is not intended to relate in subject matter to concurrent clinical experience although students are free to attend the sessions in one year rather than another as they choose.

The course includes eighteen days of non-hospital clinical experience (general practice and community care) and nine weeks' compulsory residence. The typical period spent by students in residence would be seventeen weeks as the elective also is usually spent 'living-in'.

Intercalated Degree of BSc

Students are selected to read for an intercalated degree on the basis of their preclinical examination results, and the year is taken immediately before the clinical course. Subjects taken recently include anatomy, bacteriology, biochemistry, biophysics, cell biology, haematology, immunology, pharmacology, physiology, psychology (at other London colleges or medical schools), and virology. Typically, from ten to sixteen students read for a degree each year. Research work and course work are involved; assessment is by formal examination.

Elective Experience and Course Options

The clinical elective period is almost always taken away from St Mary's and 60 per cent of students go abroad to many parts of the world. Regular links have been established so that some hospitals are used frequently. In Britain, a number of district general hospitals have taken students. The Director of Clinical Studies is responsible for all the arrangements (except travel) and proposals must first be discussed with him.

All students must undertake a clinico-pathological project during Years 3 and 4. The projects supervisor and a team of project tutors assist with the choice of subject and with the progress of the work. The reports are filed and assessed, and they may be referred to by the examiners at the time of the Final examinations.

There are also open teaching ward rounds in neurology, gastro-enterology, medicine, surgery, and radiology.

CURRICULUM CONTROL AND DEVELOPMENT

The Academic Board must approve the structure of the curriculum and any changes proposed thereto. There are also standing bodies concerned with the curriculum, and a fluctuating number of *ad hoc* bodies. Formal, regular, systematic review is not provided for, but any gathering of staff, in a standing or an *ad hoc* committee, may discuss aspects of the curriculum and propose changes to the Academic Board. The new curriculum was designed by a specially constituted Curriculum Committee under the active chairmanship of the Dean. It has been dissolved but its sub-committees—the Preclinical and Clinical Curriculum Committees, which translated the Curriculum Committee's recommendations into the timetables, have remained. There is now also a Co-ordinating Curriculum Committee, with membership drawn from both of these.

The Preclinical Committee which meets once or twice a term, has as its members the Dean, professorial and non-professorial representatives of the departments teaching in Years 1 and 2, and four preclinical and two clinical students. There is also a Board of Preclinical Studies, which meets once or twice a term and recently has begun to discuss curricular matters. All teachers of the basic medical sciences are represented at its meetings. Each of these groups acts as a forum for the discussion of curricular matters.

The Clinical Curriculum Committee, instituted to plan in detail the new clinical curriculum, has remained to observe its operation. The Committee, which meets monthly, is empowered to define the objectives and determine the subject-matter of the clinical course and to study the teaching and assessment methods. Its membership is the Dean, the Director of Clinical Studies, the Clinical Tutor at St Mary's Hospital (Harrow Road), representatives of the main academic departments, one medical and one surgical registrar, and six students. It can make minor modifications and changes of emphasis without recourse to other bodies. The Department of Medicine's Executive Committee has a Teaching Sub-Committee to discuss the objectives and methods suitable for teaching medicine. The Clinical Curriculum Committee is encouraging other departments to formulate aims and objectives.

The Deanery

The Dean is elected—and confirmed annually—by the Academic Board and Council, on the recommendation of the recognized teaching staff. The appointment is part-time and its term is not fixed. The Dean is supported by: a deputy dean, who is elected, but traditionally is the senior preclinical head of department; the Director of Clinical Studies; the Senior Preclinical Tutor; and a clinical tutor who supervises undergraduate affairs at St Mary's Hospital (Harrow Road).

Miscellaneous Topics

New members of staff are encouraged to attend the courses for teachers offered by the University's Institute of Education; over the last two years six staff from St Mary's have attended.

The Physiology Department, on behalf of London University's Board of Studies in Physiology, is gathering material from all London departments to produce a series of self-instructional audiotapes and booklets.

STUDENT ASSESSMENT

The assessment system was introduced with the new curriculum and gives an increased role to in-course assessment, but, in the clinical years, a 'formative' one.

Early Years

The critical assessment in the preclinical years is mainly but not entirely by end-of-course examination, involving objective short answer and essay questions, oral and practical examinations; in biochemistry and physiology in-course tests (prepared written work in physiology; practical course work in both) contribute a percentage of the final result, however. Paraclinical subjects are examined exclusively by end-of-course examinations, using similar assessment techniques.

Clinical Subjects

Students must pass the 'theoretical' (objective and essay questions, and orals) and the 'practical' (long cases, short cases, and orals) components of the examinations independently. In both cases the only critical assessment is in end-of-course examination. However, each firm which teaches a student sends comments and gradings to the Department of Clinical Studies, to be filed with the tutors' reports and the clinico-pathological project record. The files, one for each student, enable a student in difficulty to be identified early, and are available to the external examiners, for borderline or potential honours candidates.

Regulations

In the early years, compensation between subjects may be allowed; students not gaining an over-all pass mark in a diet of examinations must resit all subjects; they resit a failed subject alone only if they have gained an over-all pass. In later years, compensation between subjects may again be allowed, but students failing a particular subject are required to resit that subject only. In Years 1 and 2, lack of progress due to ill-health would entitle a student to repeat a year rather than withdraw; in Years 3-5 a student whose lack of progress was due to illness would be asked to repeat a year or a firm rather than 'carry' the subject.

External examiners generally help set the major examinations and moderate the over-all standard, arbitrating in marginal cases. They are not involved in the in-course-assessments.

Advice and Assistance to Students

Preclinical students are allocated to a tutor for the whole basic medical science course; clinical students have tutors for their early medical and surgical attachments and for some others. The Director of Clinical Studies observes their progress and arranges remedial teaching when necessary. Clinical attachments and tutorials are arranged for resitting students.

A revision period is scheduled for August–September each year, lasting four weeks, when study facilities are available, though not organized revision courses, for students who have failed the Part II/III examinations.

The preclinical tutors are available to help with personal problems and they are supported and co-ordinated by a senior tutor. His role will be similar to that of the Director of Clinical Studies, who helps clinical students.

PROBLEMS

The major problem is a lack of clinical teaching space and other facilities. A new teaching hospital has for many years been actively planned, but a start on this has been deferred. The distribution of clinical teaching among two large and four smaller hospitals is also a problem, though a relatively minor one.

The curricular reforms have not always been easily absorbed and the new emphasis on integration and 'relevance' brought concomitant problems. NHS reorganization has given rise to concern that 'teaching hospitals' will not be given special status or treated differently from other hospitals.

DEVELOPMENTS

Student numbers have increased significantly over the last ten years but there are no plans for further expansion. The clinical entry from Oxford and Cambridge will fall as their clinical schools are built up.

The present curricular trends will continue: the interdisciplinary co-operation; the use of 'formative' progressive assessment; and the improved organization of the clinical course by the Department of Clinical Studies. In the longer term a new School-sponsored preclinical course might replace the present University-sponsored one. The purpose of the change would be 'to free more time for the student to contemplate and to digest his work by pruning the content and to introduce more clinical application and illustration'.

STOP PRESS

The psychiatry attachment has been increased from four to eight weeks, taking the extra time from the intermediate medical and surgical attachments.

UNIVERSITY OF LONDON

St Thomas's Hospital Medical School

Qualifying Degree. MB BS (London)

Curriculum Stages Offered. Preclinical; clinical

Curriculum Status. Preclinical: revised 1971/2

Clinical: revised 1974

GMC Correspondent. Mr P. H. W. Bristow

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†St Thomas's Hospital, Lambeth Palace Road, London SE1 7EH

*†Lambeth Hospital, Brook Drive, London SE11 4TH

*†South Western Hospital, London Road, London SW9 9NV

*†Grosvenor Hospital, Vincent Square, London SW1T 2NN

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

(None of the numerous peripheral hospitals used will receive on average more than one or two students at any one time. This is to enable the student on attachment to be exposed to maximum clinical experience and responsibility possible.)

* Within AHA(T).

† Within teaching district.

SELECTION

The Selection Committee attaches most importance to the confidential report when initially screening the applications and also when making the final post-interview decision. The report is used to obtain information about the academic and personal qualities of each candidate. Previous academic achievement is considered the next most important, equally so is evidence of appropriate motivation. 'We hope to take reasonably rounded candidates who are also academically good.'

No places are offered to applicants without interview and approximately three interviews are held for each place. Performance at interview is given equal weight by the selectors to performance in examinations. Other factors which may have influence include: the order of preference given to the School—priority is given to students placing St Thomas's first or second in their list; experience (favourable or otherwise) of the applicant's school; a medical background; and the number and nature of non-academic interests. Social class is very definitely ignored.

Good graduates with degrees in relevant subjects may be considered for entry to the course, as will, in certain circumstances, other mature applicants. In neither case, however, will exemptions from courses be granted. Normally two or three entrants each year are graduates/mature students.

There has been no change to either policy or procedure recently, and no changes are planned.

FEATURES OF THE CURRICULUM

Early Years

The course in Basic Medical Sciences is a new one, introduced with effect from October 1971, following the London University revised regulations. It is a University-sponsored curriculum with school-based examinations. The main innovations are some general pathology, behavioural sciences, statistics and genetics; these are now included, mainly in the second year. There are no integrated courses but the three major subjects co-ordinate their teaching so that they follow the same sequence. No remedial teaching is offered.

Clinical Aspects

The clinical teaching which occurs in the Basic Medical Science course is not felt to be very significant—perhaps up to thirty hours, mainly in term 6, and is intended to clarify normal structure and function. Teachers of general pathology are all clinical; radiologists and neurologists regularly appear in the neurosciences, physiology and biochemistry courses to illustrate the basic teaching.

The clinical course has been revised recently; it is University-sponsored with university-based examinations. Community medicine, general practice, and geriatric medicine are now given more prominence and senior medical and surgical firms are undertaken later than before. Of the three-year clinical course, two weeks are spent in general practice, eight weeks are spent in compulsory hospital residence for obstetrics, and a further twelve to fifteen weeks are usually spent in extra residence.

A brief (four days) introductory course in clinical method is given before students begin their attachments. The students are then grouped in firms which average eight to ten students, and attached to teaching units, each of two to three consultants and six to seven other ranks which operate within a single major specialty. Most patient-based teaching is carried out in conjunction with patient care, and most theoretical teaching is carried out by the firms to which students are attached, so that the two aspects are closely inter-related.

Later students may attend a variety of optional clinics, 'open house' ward rounds, operations, and lectures which are additional to the 'core' programme.

Intercalated Degree of BSc

St Thomas's students have the opportunity to take an intercalated honours degree (the BSc) between the basic medical science and clinical stages; about 25 per cent of the students do so, having attained the required standard in the Part I, Part II, and Part III examinations. Subjects taken recently were anatomy, biochemistry and physiology, and also psychology, this latter being studied at other colleges of London University. Some courses consist of course work only, others combine course work with research activities; similarly some are assessed by formal examination alone, others by examination and dissertation.

No changes are planned to these arrangements.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES		APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT 1 2 3 4				
1	1st Basic Medical Sciences	+	+	255 hours	Anatomy (with Histology) Biochemistry (with Cell Biology) Physiology (with Gastroenterology) Combined Neurology Endocrinology	1
		+	+	192 hours		
		+	+	236 hours		
		+	+	18 hours		
2	2nd Basic Medical Sciences	+	+	23 hours	Anatomy (with Histology) Biochemistry (with Cell Biology) Physiology (with Gastroenterology) Principles of Biometry and Medical Statistics Combined Neurology Sociology as applied to Medicine Psychology as applied to Medicine Pharmacology General Pathology (Histopathology, 45 hrs; Microbiology 33 hrs; Chemical Pathology 8 hrs; Haematology 12 hrs) Human Genetics	2
		+	+	135 hours		
		+	+	118 hours		
		+	+	147 hours		
		+	+	8 hours		
		+	+	25 hours		
		+	+	18 hours		
3	1st Clinical Year	+	+	16 hours	Junior Medicine Junior Surgery Psychiatry Lectures Obstetrics) Note: Students may take this 24 Gynaecology) week block and the next one Paediatrics) in either order.	3
		R	R	8 weeks FT		
		R	R	8 weeks FT		
		R	R	8 weeks FT		
		R	R	8 weeks FT		
		R	R	8 weeks FT		
4	2nd Clinical Year	+	+	12 weeks FT	Advanced Pathology (212 hours) - Systematic Pathology/Chemical Pathology/Haematology/ Infectious Diseases/Microbiology/Epidemiology. First two Special Subjects (out of Psychiatry/ Casuality/Ophthalmology/General Practice; E.N.T./ Orthopaedics; and Dermatology/Venereology/ Rheumatology). Senior Medicine, including 40 hours clinical pharmacology and therapeutics Senior Surgery	4
		+	+	6 weeks		
		+	+	6 weeks		
		R	R	11 weeks FT		
5	3rd Clinical Year	R	R	11 weeks FT	Two remaining Special Subjects (see Year 4) Pathology Revision (optional course) Forensic Medicine Elective Open Rounds and Clinics Revision classes in Medicine and Surgery (optional course).	5
		R	R	6 weeks FT		
		+	+	40 hours		
		+	+	20 hours		
		+	+	11 weeks FT		
		+	+	(?) 40 hours		
6						6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 65 Estimate for 1979: 90	Part I MB BS (Human Anatomy, Biochemistry, Physiology) (One-third of marks derived from in-course assessments)	1
2	30 weeks	57	Part II MB BS Part III MB BS (Pharmacology) (One-third of marks derived from in-course assessment assessments)	2
3	46 weeks	1974: 97 (including 12 Oxford and 22 Cambridge students) Estimate 100 for 1979 (including 14 Oxford/Cambridge students)		3
4	45 weeks	86		4
5	32 weeks	43 (special circumstances connected with 'split' entry explain this apparently low figure)	Part IV MB BS (Pathology etc) Parts V, VI, VII, VIII MB BS (Clinical Subjects)	5
6				6

Elective Experience and Course Options

In the final year all students undertake an elective of eleven to twelve weeks; students may take this away from St Thomas's and most do so. The purpose is to enable a student to acquire clinical experience in a specialty of particular interest to him or her; to see other health care systems; to enjoy greater clinical responsibility; or less usually to carry out research.

Sixty to sixty-five per cent of the students go abroad each year: Africa, Canada, and the USA are popular. The Adviser in Clinical Studies helps students to make their choice; they draw upon reports about overseas hospitals and institutions filed for this purpose, but there are no standing arrangements for exchanges. No system of assessing the student's performance on his elective attachment yet exists, although it will be introduced in due course.

CURRICULUM CONTROL AND DEVELOPMENT

The Curriculum Committee has over-all responsibility for the curriculum delegated to it by the Academic Board; it may initiate changes and supervise their implementation. Its thirteen members include the Dean and Sub-Dean; representatives of preclinical, paraclinical, and clinical academic staff; representatives of NHS hospital staff, and two students. It meets when necessary.

The three sub-committees of the Curriculum Committee are the Basic Medical Science Sub-Committee, the Clinical Studies Sub-Committee, and the Student-Staff Curriculum Committee. The first-mentioned has sixteen members, comprising two representatives (not necessarily of professorial status) of each of the preclinical teaching departments and two students; it meets when necessary. The Clinical Studies Sub-Committee's eleven members include representatives of the major academic clinical departments, two junior hospital doctors and four students; it also meets as and when required. The Student-Staff Curriculum Committee, which may consider all curricular matters, again meets when necessary; it organizes surveys and symposia to sound out student opinion. It has six student members and six staff members: the Dean and five elected members of the Academic Board.

In general, the individual departments determine the content and presentation of courses, update their teaching and administer courses, within the guidelines of the Curriculum Committee. For example, minor changes in the timetable are discussed between departments but sometimes also in the appropriate committee.

There is no provision for regular, formal review of the curriculum. The planning, production, and implementation of the new curriculum, was accomplished by the Curriculum Committee and its subsidiaries (and in consultation with the Hospital's Medical and Surgical Officers Committee) who were then more active than they have had to be since. The system is generally agreed to be effective.

The Deanery

The Deanship is a part-time appointment from among the full-time or part-time medical school and hospital staff: he must be a recognized or appointed

teacher, of consultant status. He is elected by the Academic Board for a five-year period but six months in advance of assuming office. A Sub-Dean is elected or re-elected annually to assist the Dean in a part-time capacity.

Miscellaneous Topics

St Thomas's regularly sends teachers to the annual course offered at the Institute of Education of London University. A total of nine attended during the last two years.

An Audiovisual Aids room, run by the Audiovisual Aids Committee, is available to all staff and students. Among other things it produces tape-slide programmes. ILEA 'Channel 7' programmes are recorded off the air for later playback, and material is bought and borrowed from the Medical Recording Service. Several departments exchange teaching material with other medical schools.

STUDENT ASSESSMENT

Early Years

For the Basic Medical Science courses, end-of-course and in-course assessment are important: one-third of the total marks in the university examinations in anatomy, biochemistry, and physiology are contributed by in-course assessment. Both end-of-course and in-course assessment utilize objective-type questions and longer essays, but the in-course assessment additionally uses tests of practical work in anatomy, including histology, biochemistry including cell biology, and in physiology.

The critical assessment in pathology and microbiology is entirely end-of-course in form, both in the Part II of the MB BS assessment (end of Year 2, general pathology) and in Part IV of the MB BS (Year 5: advanced pathology). For pharmacology, however, in-course assessment forwards up to 25 per cent of the marks to the end-of-year assessment.

Clinical Subjects

A student must pass both the final 'clinical' examination and the final written, non-clinical examination independently. The non-clinical or theoretical aspects and the clinical aspects are critically examined only at the end of the course, except for medicine which acquires 15 per cent of its Finals marks from in-course assessment. In the Finals papers objective-type questions, short written answer questions, and essay questions appear. There are oral tests for all students and more orals for potential 'honours' candidates. The clinical aspects are critically assessed only at the end of the course (except for medicine, see above); long cases, short cases, and oral tests are employed as well as 'provided data' to enable skills of interpretation to be assessed.

During the clinical years, most firms make some sort of rating or grading of the student's performance, attitudes, etc., which are only 'critical' in the sense that a very poor report could lead to a student repeating that firm. A few firms have more formal MCQ or oral tests.

Regulations

Compensatory passes may be permitted, though policy varies through the course depending on the examination. It is possible at all stages (if the fail in

the subject concerned is a marginal one) at the examiners' discretion. Re-examination in a failed subject only, as opposed to re-examination in all subjects making up an examination diet, is sometimes possible, depending whether a 'Part' of the MB BS is a single or multi-subject entity. If a student fails in a second attempt he or she may continue with the course, carrying the subject only at certain stages. In the case of illness the whole year must be repeated. A request to withdraw altogether is more likely at the preclinical stage since four attempts (three retakes) at Finals are permitted.

External examiners take part in setting papers and questions, have a care to the over-all standard, and arbitrate in marginal cases in all critical assessments. They play no part in in-course assessment.

Advice and Assistance to Students

A comprehensive system exists to help students in trouble, whether academic or personal. Four advisers are appointed by the Dean, all of whom come into contact with the undergraduate students; the Adviser in Preclinical Studies monitors the progress of preclinical students and advises them on their problems, and the Adviser in Clinical Studies does so for clinical students. The latter also supervises arrangements for electives. The Dean and School Secretary would be consulted in some cases.

There are no revision courses organized specially for students who fail examinations; however individual tuition and additional practice are frequently arranged, and students retaking the Finals in pathology and clinical subjects are expected to attend the revision classes held annually for all students preparing for these examinations. Particular efforts are made by the advisers of undergraduate students and the School administrators to help students who are obliged to withdraw from the course.

PROBLEMS

A shortage of patients is suffered only in obstetrics, but there is a shortage of good lecture theatres and seminar rooms, and laboratory space is under pressure. The shortage of lecture, seminar, and laboratory accommodation will be much alleviated from 1976, as the School occupies accommodation in the new north wing of the School and Hospital. Library siting is inconvenient: the library service is split into one main library at one end of the site and several dispersed departmental libraries.

The laboratory disciplines have very heavy service commitments and insufficient NHS technical support. Obstetrics and some of the 'special' subjects are under-staffed in view of their teaching load.

Reorganization of the NHS has lengthened the lines of communications between the medical school and the NHS authorities, although liaison between the medical school and the hospital remains generally very good.

DEVELOPMENTS

The style of teaching is regarded as fairly 'traditional' but with growing emphasis on small group learning and on audiovisual aids. It is felt that the time has come for the latter to be under the direction of a full-time professional, rather than a committee. Continuous assessment has become a feature

of the preclinical course, as have the newly introduced subjects of general pathology, genetics, and the behavioural sciences.

The number of preclinical places is being raised to ninety so that more of St Thomas's clinical students will have come from its preclinical school; this will offset the decline in the intake from Oxford and Cambridge as those clinical schools expand. The 'KTW' project for a joint preclinical school feeding St Thomas's, King's College Hospital, and the Westminster clinical schools is currently in abeyance, which has brought uncertainty and irresolution to discussion of the more distant future.

UNIVERSITY OF LONDON

University College London

Qualifying Degree. MB BS (London), obtained at clinical school

Curriculum Stages Offered. Preclinical

Curriculum Status. Revised 1972

GMC Correspondent. Dr N. R. Saunders (previously Dr C. Hall-Craggs)

The information in this section was collected in 1975.

See Important Note on p. 134.

SELECTION

University College does not seek any single outstanding quality or attribute in its applicants. Past and predicted achievement in examinations is slightly more important than the contents of the confidential report, but both are used to select applicants for interview. Preference in listing medical schools is also noted. Interviews are conducted with about 15 per cent of all applicants, including all successful applicants. Interviewers look for ability to communicate and to become enthusiastic, for evidence of efforts to become informed about medical training and medical practice, for ability to argue a case, and for common sense.

Interviewing panels include a representative from University College Hospital Medical School. There is also participation with the Westminster Medical School in the selection of students who will go there for their clinical years; until 1976, the same situation obtained with St George's Hospital Medical School.

There is no fixed quota for graduate or other mature applicants, who are considered on their merits. However, the typical intake would include 10-15 per cent of graduates and several other mature students.

FEATURES OF THE CURRICULUM

University College, which offers a preclinical course, prepares students for their clinical studies principally at University College Hospital Medical School, Westminster Medical School and, until 1976, St George's Hospital Medical School. (Commencing in October 1976, St George's offers its own preclinical course.)

The present curriculum was introduced in October 1972, and has been modified in timetable and content as a result of staff and student comment. It is a school-sponsored course with school-based examinations.

Most courses are single-subject, departmental courses; one of them, first-year physiology, is largely taught to medical and science students together. The exceptions are the courses 'Introduction to the Study of Man' (an orientation course given to medical and dental students by Professor J. Z. Young, and covering general biological topics and the human life-cycle) and 'Neurosciences', which is an interdisciplinary course involving anatomists, physiologists,

pharmacologists, biophysicists, and neurologists, who are co-ordinated by a professor of anatomy.

A small amount of clinical teaching takes place: clinicians give some lectures and tutorials, and there are case demonstrations. Pathology and microbiology teaching is conducted by staff from University College Hospital Medical School.

Intercalated Degree of BSc

Students at University College have the opportunity to take an intercalated honours degree (the BSc) after their basic medical science course is complete. Students are encouraged to take up this option, and about 50 per cent do so; the total number of places is not fixed but the places on a particular course unit may be limited and departments select students on the basis of their performance in the Part II examinations. Subjects studied recently include anatomy, biochemistry, genetics, human biology, immunology, microbiology, pharmacology, physiology, and psychology. All require course work, some include research work and these require a dissertation as well as the formal examination at the end of the course.

Elective Experience and Course Options

There are no elective periods at University College. However, the lectures on the history of medicine are optional; they are open to students from all the London medical schools.

CURRICULUM CONTROL AND DEVELOPMENT

The Faculty of Medical Sciences must approve any major changes to the course. It meets five times a year and in addition to all established academic staff in the Faculty, there are representatives on it of other departments in the College who teach medical students, and of University College Hospital and Royal Free Hospital Medical Schools. Six students (four medical, two dental) may attend the meetings. The Curriculum Committee is a standing sub-committee of the Faculty which monitors the curriculum and may suggest improvements. The Faculty Staff-Student Consultative Committee discusses general teaching and curricular affairs among other things at its meetings; its members are the Sub-Dean, four students, and two teaching staff.

The new curriculum was planned by an *ad hoc* Curriculum Revision Committee, which included representatives of all departments in the College who teach medical students, and representatives of the University College Hospital and Royal Free Hospital Medical Schools. Its task was to insert several new subjects and topics into a slightly longer time-span and thus to make judicious reductions in the time allocated to the older-established disciplines. The two-year curriculum now having been established does not seem to require any very great formal machinery to maintain it.

Regular, formal reviews of the whole curriculum do not occur: the informal system is considered sufficient. At the end of each year a Faculty questionnaire on courses and methods of assessment and examinations is circulated to all students and open meetings are held to discuss the findings when they have been published. Departments and course organizers

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 116 Estimate for 1979: 116	Basic Medical Sciences Examination Part I (contribution from in-course assessments)	1
2	30 weeks	105	Basic Medical Sciences and Pharmacology: Part II (contribution from in-course assessments)	2
3				3
4				4
5				5
6				6

sometimes produce their own questionnaires, and most departments have Staff/Student Consultative Committees. Any problems encountered by students quickly come to the attention of the staff responsible, leading to prompt remedial action.

In general, the departments have over-all responsibility for the content, administration, and revision of the courses. These duties are executed by designated course organizers in the case of non-medical science departments or interdepartmental courses. Minor rearrangements within the existing timetable are negotiated between the parties concerned, subject to the Sub-Dean's approval, but more large-scale changes must go through the Curriculum Committee to Faculty.

The Deanery

The Dean of the Faculty of Medical Sciences is elected by the Faculty and re-elected annually; normally he serves for three years. The Sub-Dean is also elected (and re-elected annually) for a three-year term. He deals with internal Faculty administrative matters. Traditionally the Sub-Dean is also the 'Tutor to Medical Students'. He is supported by the Assistant Tutor, also elected, who is usually the incoming 'Tutor'. A Vice-Dean is appointed by the Dean.

Miscellaneous Topics

New members of staff are encouraged to attend courses run by the Institute of Education, and in particular the annual general introductory course in teaching. Three members of staff from University College have attended over the last two years.

Teaching materials, etc., are not exchanged extensively with other medical schools; however, some of the biochemistry lectures are shared with the Royal Free Hospital School of Medicine.

STUDENT ASSESSMENT

A new pattern of student assessment was introduced with the new curriculum; this allows the results of in-course assessment to make a critical contribution to the end-of-course examination marks. End-of-course assessment is more important than the in-course assessment, however. Objective, essay, and short-answer questions are used in both forms of assessment, together with practical work and, for some students, orals. In addition, the in-course assessments make use of prepared written work and projects.

Examiners maintain a flexible approach so that in borderline cases all a candidate's marks in the various assessments are taken into account.

Regulations

There is now an established system of limited compensation between subjects. Re-examination takes place only of a failed subject, rather than all those taken concurrently. Students must withdraw from the course if they fail the re-examination of a subject but some leniency is shown if the failure, or failure to take the resit, is due to illness; 'carrying' subjects is not permitted.

External examiners are not involved in the in-course assessments. They do, however, take part in all aspects of end-of-course examinations, assisting in

the setting of papers, acting as over-all moderators, and arbitrating in marginal cases.

Advice and Assistance to Students

Students' academic problems are likely to be solved in tutorials or in consultation with the departmental tutors. Students with personal or academic problems may approach the Tutor to Medical Students (the Sub-Dean), the College's Student Counselling Service, or the Student Health Service. Students are now (1976) assigned to personal tutors on entry to the course. There are no organized revision courses.

PROBLEMS

The most severe problem at University College—because it is the most prolonged—is the recruitment of medically (or dentally) qualified staff. A certain proportion though not a majority of such people is essential for undergraduate teaching in the basic medical sciences.

The degree course is considered especially valuable and it is regretted that not all students may take it. Ideally, University College would like to offer as standard a three-year course with a degree awarded to all students at the end of the third study-in-depth year.

DEVELOPMENTS

There are no plans to increase the number of students at present, although the College would be willing to do so in spite of the inconvenience, if a need for more doctors were established.

A proposed link between University College, University College Hospital Medical School, and the Royal Free Hospital School of Medicine, whereby a joint preclinical school would be established, has become a very long-term aspiration; the financial crisis has postponed the joint building projects which were to be the scheme's foundation. Links at personal and departmental level are being forged regardless. However, a link between UCL and UCHMS is now being formalized. UCHMS will become the Faculty of Clinical Sciences on amalgamation of the Medical School with UCL.

UNIVERSITY OF LONDON

University College Hospital Medical School

Qualifying Degree. MB BS (London)
Curriculum Stages Offered. Clinical
Curriculum Status. Revised 1974
GMC Correspondent. Dr P. M. Sutton

The information in this section was collected in 1975.
See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

- *† University College Hospital, Gower Street, London WC1E 6AU
- *† National Temperance Hospital, Hampstead Road, London NW1 2LG
- *† St Pancras Hospital, 4 St Pancras Way, London NW1
- * Whittington Hospital, Highgate Hill, London N19

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

* South Middlesex Hospital, Mogden Lane, Isleworth, Middlesex

- * Within AHA(T).
- † Within teaching district.

SELECTION

Selection for the course at University College Hospital Medical School (UCHMS) is conducted in partnership with University College London, whence most of its students come. Selection is thus for the five years of pre-clinical and clinical training and not just for the clinical course. About 15 per cent of school-leaver applicants are interviewed, and all of them have two interviews, one with representatives of University College and UCHMS together and the other with a single representative of either. When considering to whom to offer places, interview performance and the confidential report are regarded as slightly more important than the A-level grades achieved, although these are of great consequence. The order of preference expressed on the UCCA form may also be taken into account.

About 10 per cent of the available places are given to overseas students whose country has no medical school; graduates may be admitted to the five-year course if they have a good Honours degree.

A proportion of the entry to UCHMS comes from the preclinical schools at Oxford and Cambridge. Such applicants for direct entry to the clinical school are selected on the basis of their tutors' reports and the order of preference of schools expressed, and all are interviewed before being offered a place. (These applicants will of course all be graduates.)

FEATURES OF THE CURRICULUM

The clinical course is a new one, revised to meet new regulations of the University of London; it is University-sponsored with School-based examinations and it began in October 1974. At the same time a single annual entry to the clinical course commenced (previously students entered the course either in the spring or autumn); this is acknowledged to have been an improvement by allowing the teaching to be spread more evenly throughout the year and the number of students in a teaching group to be kept low.

The unit for patient-based teaching is the single-specialty firm of, normally, two consultants and three or four juniors. The firms are grouped into divisions and some activities are common to all teaching firms in a division. The average number of students attached to a firm is five, varying normally from four to six. Patient-based teaching is integrated with patient care and students learn principally through observation and participation. All initial attachments are to firms at UCH itself or the Whittington Hospital, where student exposure to patients can be planned and controlled: the 'senior' attachments may be at other hospitals where students can put into practice what they have learnt earlier, and act as 'mini-house staff'.

Theoretical teaching, where it is separate from any other form of clinical teaching, is carried out mostly by departments and is not co-ordinated with students' concurrent ward experience. There are daily lectures in medicine and surgery for junior clinical students. Other problem-oriented, teaching methods are found to be valuable and very popular; these range from clinico-pathological conferences to slide quizzes. Audiovisual aids are also available in a newly modernized 'teaching floor'.

A student's experience in clinical settings other than hospitals would normally be four weeks, this time being spent in general practice. The minimum period of residence stipulated is six weeks, but a typical period would be up to twenty-six weeks.

Intercalated Degree

No opportunity to take an intercalated degree within the UCHMS clinical course is provided. Students who wished to intercalate a year would do so normally between preclinical and clinical schools. Seventy per cent of the clinical students are in fact graduates.

Elective Experience and Course Options

In the final year elective period, over 95 per cent of the students go away from the medical school and 50 per cent go abroad. They are expected to use their time acquiring further clinical experience: the Dean must approve the choice, but will do so as long as it is medical 'in the broadest sense'. A file of information arising from previous students' electives may be consulted, and the medical school offers advice and some financial assistance for travel (there is a bequest fund).

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES		NAME	ACADEMIC YEAR
		TERMS TAUGHT (1 2 3 4)	APPROXIMATE LEARNING TIME		
1	Junior Clinical Year	+	2 weeks FT	Introductory Clinical Course Medicine Surgery Anaesthesia Junior Psychiatry Clinical Pharmacology	1
		R R R R	22 weeks FT		
		R R R R	14 weeks FT		
		R R R R	4 weeks FT		
		R R R R	4 weeks FT		
+	+	+	+	17 hours	
2	Senior Pathology Course	+	10 weeks FT	Pathology	2
	Senior Clinical Year	R R R	9 months FT	Rotating appointments commence: Obstetrics and Gynaecology 16 wks; Paediatrics 12 wks; CP and Community Medicine 4 wks; Senior Surgery 8 wks; Senior Psychiatry 4 wks; Radiology 1 wk; Dermatology/Ophthalmology 2 wks; ENT 4 wks; Communicable Diseases 1 wk; Geriatrics/Tropical Diseases 2 wks. Forensic Medicine	
		+	6 hours		
3	Final Year	R	3 months FT	Completion of Rotating Appointments	3
		+	4 weeks FT	Senior Medicine	
		+	8 weeks FT	Elective	
		+	8 weeks FT	Revision Course	
4					4
5					5
6					6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	48 weeks	1974: 106 (80 - UCL; 20 - Cambridge; 6 - Oxford) Estimate, 100 for 1979 (including some students from Oxford/Cambridge)		1
2	48 weeks	95	Part IV MB BS (Pathology etc)	2
3	34 weeks	124	Parts V, VI, VII, VIII MB BS (Clinical subjects) (some contribution from in-course tests)	3
4				4
5				5
6				6

CURRICULUM CONTROL AND DEVELOPMENT

Being a clinical school, and thus relatively small, UCHMS has an uncomplicated system for conducting curricular affairs. There is an Education Committee which holds delegated responsibility for all educational matters; it meets monthly and keeps the curriculum under constant review. The Education Committee reports to the Academic Board which selected the (staff) members of the Education Committee; an equal number of student members is elected by the Students' Medical Society. There are four departmental boards: in medicine, surgery, obstetrics and gynaecology, and pathology; they meet each month to discuss all academic aspects of their field, including the undergraduate teaching of it. All those who teach the subject or related subjects may attend.

The new clinical course was planned by the Education Committee under the supervision of the Academic Board, and it is being implemented by the Education Committee via the departmental boards. Individual departments determine the content, presentation, updating and administration of their courses within the framework agreed by the Education Committee and the departmental boards.

Questionnaires on various aspects of the course are devised from time to time by the Education Committee and the Students' Medical Society; these, together with the more formal feedback provided by the students on the Education Committee and the informal feedback obtained through the excellent staff-student relationships in the medical school, allow very full and profitable communication between all parties before decisions on the curriculum are reached.

The Deanery

The Dean, who is part-time, is elected for one year initially by the Committee of Teachers—all the recognized teachers at UCH; he is then re-elected annually, normally for a standard tour of duty of five to six years. The Vice-Dean is also elected; he acts as the Dean's deputy when required, and is concerned generally with academic and undergraduate affairs. The Postgraduate Sub-Dean is responsible for all postgraduate affairs, including career advice.

Miscellaneous Topics

UCHMS staff members attend the courses on teaching methods, etc., run by the Institute of Education at London University.

A Director is to be appointed to administer the Educational Area which is being developed with audiovisual facilities, seminar rooms, etc.

STUDENT ASSESSMENT

As well as the traditional preclinical subjects, pharmacology and general or introductory pathology are taught and examined at the preclinical institutions. 'Special' or senior pathology, taught in Year 2, is examined immediately after the course, as Part IV MB BS; this examination consists principally of objective-type questions and practical exercises. There is also a class examination in (clinical) pharmacology at the end of Year 1 which contributes up to a

maximum of 30 per cent of the marks in Part VI MB BS in Clinical Pharmacology and Therapeutics.

With respect to clinical subjects, students must pass the assessments in 'practical' and 'theoretical' aspects independently. Except for clinical pharmacology and therapeutics (see above) the critical assessments are entirely end-of-course in nature for both aspects; objective-type, short-answer, and essay questions are used.

In addition to the above, there are non-critical class examinations at the end of Year 1, and each firm at the end of an attachment completes a form grading each student on attitudes, competence, etc., in the clinical situation. Through the course a total of sixteen reports is completed for each student: they are discussed with the student and filed in the medical school office, and are available to examiners in Final MB BS for 'borderline' candidates.

Regulations

Compensatory passes are not awarded in the Final examinations, and if a subject is failed the re-examination is taken in that subject only. Exact regulations have not yet been agreed for the procedure following repeated failure in examinations but University regulations do permit up to four attempts at the Final examinations; it is likely that a double failure in Part IV may be carried into the final year.

External examiners are involved in setting examinations, moderating the over-all standard, and arbitrating in marginal cases.

Advice and Assistance to Students

The Vice-Dean has access to all the clinical reports on students and would interview any students who appear to be in trouble. It is likely that revision classes will be organized for students in need of them, but this side of the new curriculum has not been planned in detail.

To assist with their personal problems, students have personal tutors.

PROBLEMS

Although a large new lecture theatre is being provided, lecture rooms and laboratory space are insufficient. The library is short of funds; this has affected the purchase of new books and journals. The over-all staff-student ratio is below average and most clinical teachers carry very heavy service commitments, particularly the academic departments of obstetrics and gynaecology and surgery.

Reorganization of the NHS has not directly affected undergraduate teaching. None the less, it has resulted in easier access to other hospitals and exciting prospects of association with general practitioners. However, medical school representatives spend much time on the proliferating committees.

DEVELOPMENTS

No change is anticipated in over-all student numbers: the target is 100, with a ceiling of 108. Fewer students will transfer from Oxford and Cambridge in the future, and the difference will be made up by more students from University College.

On the curriculum, the theme for the next few years will be 'consolidation' of the new curriculum. The medical school is very fortunate in the number and range of patients available and the new curriculum is designed to exploit this advantage by giving a total of one year's contrasting experience away from UCH mainly at the Whittington Hospital but to a lesser extent at several others; and providing new attachments in geriatrics using the clinical resources at UCH itself. Eventually it hopes to become a two-hospital medical school, UCH and the Whittington Hospital.

It is likely (and now—summer 1976—certain) that within the foreseeable future, UCHMS will become the clinical medical faculty of University College.

UNIVERSITY OF LONDON

Westminster Medical School

Qualifying Degree. MB BS (London)
Curriculum Stages Offered. Clinical
Curriculum Status. Revised 1974
GMC Correspondent. Dr P. Fleming

The information in this section was collected in 1975.
See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

- *† Westminster Hospital, Dean Ryle Street, London SW1P 2AP
 - *† Westminster Children's Hospital, Vincent Square, London SW1
 - *† Gordon Hospital, 126 Vauxhall Bridge Road, London SW1
 - *† Queen Mary's Hospital, Roehampton, London SW15
 - *† St Stephen's Hospital, Fulham Road, London SW10 9TH
- * Within AHA(T).
† Within teaching district.

SELECTION

Great importance is placed upon the motivation, personal qualities, and academic potential of candidates. The successful candidate should be able to make a positive, life-long contribution to medicine.

Westminster, a clinical school, accepts entrants from Oxford and Cambridge, King's College and University College, and a dual selection process occurs: entrants via UCL and KCL are selected prior to entry into those colleges, ie over two years before they enter the Westminster; and candidates for the twenty-five or so places presently offered to students who undertake their preclinical studies at Oxford and Cambridge are interviewed in the May of the year preceding entry. Selection for the fifty (approximately) places available at King's College and University College is agreed with those colleges.

No candidate is admitted without interview. In recent years, the academic standard has been raised, and it is possible that it will be raised still further. It is felt that it would be preferable to select candidates after A-level results are known.

The number of mature students, graduates, and overseas students is limited to between one and five each.

FEATURES OF THE CURRICULUM

Westminster Medical School offers only a clinical course; at the present time it follows the University of London University-sponsored course and students take University-based examinations. Students commenced the present course in October 1974.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES			ACADEMIC YEAR
		TERMS TAUGHT 1 2 3 4	APPROXIMATE LEARNING TIME	NAME	
1	Junior Clinical Course	+ + + + + + +	2 weeks 25 weeks 130 hours 38 hours	Introductory Clinical Methods Course Junior Medical and Surgical Firms Clinical Lecture Course Histopathology	1
	'Special'	R R	5 months	Rotation between special firms Obstetrics and Gynaecology 16 weeks Pathology and Epidemiology 16 weeks Paediatrics 8 weeks Psychiatry 8 weeks	
2	Firms	R R +	7 months 4 weeks	Completion of Special Firms started in Year 1 Pathology revision course	2
	Senior	R R	13 weeks	Commencement of 'Senior Firms' (see below)	
3	Firms	R R	27 weeks	Senior firms continued: Senior Medical Firms: 8 weeks Senior Surgical Firms: 8 weeks Special Departments - Out-patient Clinics: 8 wks Anaesthetics: 2 weeks General Practice: 6 weeks Elective Period: 8 weeks Revision Course	3
		+	4 weeks		
4					4
5					5
6					6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	46 weeks	1974: 69* Estimate for 1979 : 75*		1
2	46 weeks	44 (earlier 'split' entry explains this figure)	Part IV MB BS (Pathology etc)	2
3	36 weeks	75	Parts V, VI, VII, VIII, MB BS (Clinical Subjects)	3
4			<p>*Note: In 1974, the intake was made up as follows: students from King's College - 30; University College 11; Cambridge - 20; Oxford - 4; and 'others' - 2. In 1979 it is estimated that the intake will comprise 50 students from King's College, 10 - 15 students from University College, and 10 - 15 students from Oxford/Cambridge.</p>	4
5				5
6				6

Clinical Aspects

Receiving students from King's College, University College, Oxford, Cambridge, and occasionally other institutions, the School runs an introductory Clinical Methods Course of two weeks. Twenty-five weeks are then spent on junior medical and surgical firms. During this time the major part of patient-based clinical teaching is specifically a teaching activity. Three broad objectives have been specified for this period: (i) to ensure that students are capable of carrying out a competent clinical history and examination; (ii) to teach on certain specified topics (different for each group of firms) which supplement the lectures; and (iii) to teach on any other topic at the discretion of the teachers. At the same time a Clinical Lecture Course and Histopathology Course are being run: these run in parallel, and a small number of combined teaching sessions are held. The objective of the clinical lecture course is that the student will get a bird's-eye view of general medicine and surgery. Subject matter is mainly based on systems. Teachers from many departments are involved in the course and in all more than fifty staff members are involved, but in future years it is planned to have closer integration between the clinical and pathological teaching sessions. However, topic teaching on such subjects as 'Pain' and 'Infections' has already been arranged.

The remaining part of the student's clinical years is mainly spent in rotating attachments. In the first year, between four and six students are attached to a firm, in Year 2 the number increases to between twelve and fifteen, and in Year 3 the number drops to two. A firm normally consists of two consultants and four juniors. On the senior medical and surgical firms, the major part of patient-based clinical teaching is carried out through the attachment of a student to a firm to become a junior working member of the firm. In specialist departments the major part of patient-based clinical teaching is separate from patient care—except when students are resident for obstetrics. In special subjects the theoretical teaching is carried out on a departmental basis while for medicine and surgery the theoretical teaching is in the co-ordinated lecture course.

Students are required to spend eight weeks in residence (in obstetrics) but a more usual amount of time would be twelve weeks. Six weeks would be spent in clinical settings outside hospital (general practice).

Intercalated Degree

No opportunity is available for taking an intercalated degree at the Westminster: students would take their intercalated year between preclinical and clinical schools.

Elective Experience and Course Options

Students take an elective period of eight weeks during the last two terms of the second clinical year and the first two of the third year; the elective can be used for a wide variety of activities. It has not yet been decided how to assess the elective and to what extent this will be taken into account in the final assessment of the student. It is proposed that most elective studies will be in the Medical School and Hospital; however, students may be permitted to take clinical electives in other centres away from the School.

CURRICULUM CONTROL AND DEVELOPMENT

The Academic Board has the over-all responsibility for administering the medical course, but most of the details of curriculum planning are referred to the Academic Policy Committee, a variety of *ad hoc* committees, or the Assistant Dean (Curriculum). The Academic Policy Committee is responsible for detailed discussion of the curriculum and for preparing proposals for the Academic Board. The Staff/Student Committee (which consists of equal numbers [six] of staff and students) frequently discusses curricular matters. However, the effective lynch-pin of the system is the Assistant Dean (Curriculum); much of the task of allocating time to different subjects is done by informal discussions between the Departments concerned and this Assistant Dean. He can convene a meeting of the Academic Policy Committee to help resolve the more difficult problems. Once time has been allocated, a department is virtually free to arrange the subject matter as it wishes.

In a small school such as the Westminster, it is felt that much is achieved by the free flow of information. Student opinion is being increasingly relayed to the Dean's Office. Questionnaires to students have been found to be very useful and illuminating. This process, while being felt very worth-while, is very time-consuming and it is thought that there could be some justification for creating a Department of Medical Education to carry out relevant research and to assist departments.

The Deanery

There is a part-time Dean, elected (and re-elected annually) by the Academic Board; the system is flexible, and the present Dean has been in office for eleven years. His deputy is an elected, part-time Sub-Dean, and there are two part-time Assistant Deans at the Westminster itself—one with general curricular responsibilities and the other concerned with selection and electives. Part-time Assistant Deans have also been appointed at St Stephen's Hospital and Queen Mary's Hospital, Roehampton.

STUDENT ASSESSMENT

Clinical Subjects: Regulations

At the present time, examinations are University-based. Plans are being put forward to move to a school-based examination scheme—this would allow the School to introduce a greater degree of in-course assessment. At the present moment, pathology is examined (for students reading for London degrees) at the end of the second clinical year; this is Part IV of the MB BS examination. The methods used are objective-type questions, essays, practicals, and orals, but the School operates some internal in-course assessment for its own purposes.

The final clinical examination (theoretical and practical, to be passed independently) also follows the University guidelines. The theoretical aspects are mainly tested by means of an end-of-course system with in-course assessment accounting for 15 per cent of the total marks. The end-of-course techniques used are objective-type questions, essays, and orals; in the in-course assessment, objective tests, and essay questions are used. Practical aspects are

tested in an end-of-course examination using long cases, short cases, and orals.

Within the School itself, there is a form of in-course assessment: at the end of each clinical firm the senior teachers of the firm are asked to rate students on a five-point scale in terms of their knowledge and clinical ability. There is also, at the end of the Junior Clinical Course, a semi-formal clinical examination with short cases.

External examiners, in accordance with the rules and regulations of the University of London, are involved in setting, arbitrating, and moderating in most end-of-course examinations—there is no involvement of external examiners in the in-course-assessments.

Advice and Assistance to Students

In relation to their academic studies, each student is assigned to a Director of Studies who supervises his progress and gives advice where necessary. He can also assist with a student's personal problems, but the arrangements are very informal; staff-student relationships are very good at the school and students themselves normally contact the Dean, Sub-Dean, one of the Assistant Deans or their Director of Studies if they have problems. All students' academic records are kept so that the Directors of Studies have easy access to them. The Directors of Studies are expected to keep the Dean informed of important problems concerning their own students.

PROBLEMS

The Westminster Medical School suffers from some of the problems which affect all the London schools—a declining population and the development of regional centres are causing a gradual reduction in the number of patients referred to the main teaching hospitals. Consequently, the Westminster is making great use of its associated hospitals, St Stephen's and Queen Mary's, Roehampton.

Teaching strength is constrained (because of financial considerations) in general practice, geriatrics, and immunology. Similarly, financial constraints have indefinitely postponed the building of a preclinical Biomedical Centre with King's College and St Thomas's Hospital Medical School.

DEVELOPMENTS

Westminster, a clinical school, receives students from several other institutions. There has been a long association with King's College and there has been close liaison between the two schools over the planning of the new basic medical sciences course at King's so that it logically leads to the Westminster Clinical Course. Students are also received from University College and from the Universities of Oxford and Cambridge.

A proposal is being made for the School to have school-sponsored courses and school-based examinations. This revision would enable much greater use to be made of in-course assessment—assessments could be conducted at the end of the clinical courses rather than after an interval of a year or more. Dismantling of the large Finals Examination would free time for additional elective studies or remedial studies.

In collaboration with the Department of Community Medicine, current trends in medical practice are being extrapolated and it is becoming possible to identify areas of teaching in which considerable change is required. It is intended to define the course objectives more precisely in view of any changes in the nature of medical practice which are predicted.

The Westminster is now in the same region as St Stephen's Hospital, used a great deal for teaching. This has made it easier to involve people in teaching and some from St Stephen's have been appointed recognized teachers of the University of London. Queen Mary's Hospital, Roehampton, also used to a great extent for teaching, is no longer in the same region as the Westminster: it is not yet known how this will affect the teaching.

University of Manchester

Qualifying Degree. MB ChB

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Established course

GMC Correspondent. Professor W. I. N. Kessel

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

- *†Manchester Royal Infirmary, Oxford Road, Manchester M13 9WL; St Mary's Hospital for Women and Children, Whitworth Park, Manchester M13 9WH; Royal Eye Hospital, Oxford Road, Manchester M13 9WH (Manchester Central Health District)
- *†University Hospital of South Manchester, comprising Withington Hospital, Nell Lane, Manchester M20 8LR; Christie Hospital and Holt Radium Institute, Wilmslow Road, Manchester M20 9BX; and the Duchess of York Hospital for Babies, Burnage Lane, Manchester M19 2HS (Manchester South Health District)
- *†Hope Hospital, Eccles Old Road, Pendleton, Salford, Lancashire M6 8HD; Salford Royal Hospital, Chapel Street, Salford, Lancashire M60 9EP; Royal Manchester Children's Hospital, Pendlebury, Manchester M27 1HA (Salford AHA{T})

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

- *North Manchester General Hospital, Delaunays Road, Manchester M8 6RB; Monsall Hospital, Newton Heath, Manchester M10 8WR; Booth Hall (Children's) Hospital, Charlestown Road, Blackley, Manchester M9 2AA (Manchester North Health District)
- *†Wythenshawe Hospital, Southmoor Road, Manchester M23 9LT
- †Tameside General Hospital, Fountain Street, Ashton-under-Lyne, Lancashire OL6 9RW
- Victoria Hospital, Whinney Heys Road, Blackpool FY3 8NR
- Blackburn Royal Infirmary, Bolton Road, Blackburn, Lancashire BB2 3LR
- †Bolton District General Hospital, Farnworth, Bolton BL4 0JR
- †Burnley General Hospital, Casterton Avenue, Burnley, Lancashire BB10 2PQ
- †Bury General Hospital, Walmersley Road, Bury BL9 6PG
- †Royal Lancaster Infirmary, Lancaster LA1 4RP
- †Oldham and District General Hospital, Rochdale Road, Oldham OL1 2JH
- †Park Hospital, Moorside Road, Davyhulme, Nr Manchester M21 8SL
- Preston Royal Infirmary, Deepdale Road, Preston PR1 6PS; Sharoe Green Hospital, Fulwood, Preston PR2 4DU
- †Rochdale Infirmary, Whitehall Street, Rochdale, Lancashire OL12 0NB; Birch Hill Hospital, Rochdale, Lancashire OL12 9QB
- †Stepping Hill Hospital, Poplar Grove, Stockport, Cheshire SK2 7JE
- †Royal Albert Edward Infirmary, Wigan Lane, Wigan, Lancashire
- †Ormskirk and District General Hospital, Wigan Road, Ormskirk, Lancashire L39 2AZ

- ‡North Lonsdale Hospital, School Street, Barrow-in-Furness, Cumbria
 ‡Bradford Royal Infirmary, Duckworth Lane, Bradford, West Yorkshire BD9 6RJ
 ‡Caernarvon and Anglesey General Hospital, Gwynedd, LL57 2HW; Llandudno
 General Hospital, Llandudno, Gwynedd LL30 1LB
 ‡Chester Royal Infirmary, St Martin's Way, Chester CH1 2AZ; Chester City
 Hospital, Hoole Lane, Chester CH2 3EH
 ‡Noble's Isle of Man Hospital, Douglas, Isle of Man (AHA[T] arrangements n/a)
 ‡Leighton Hospital, Nr Crewe CW1 4QJ
 Royal Alexandra Hospital, Marine Drive, Rhyl, Clwyd
 ‡Maelor General Hospital, Croesnewydd Road, Wrexham, Clwyd
 ‡Victoria Hospital, Dunnikier Road, Kirkcaldy, Fife KY2 5AH (AHA[T]
 arrangements n/a)

* Within AHA(T).

† Within teaching district.

‡ Hospitals so marked, while used regularly for teaching, may not always fulfil the criterion of 'an average of at least six students'.

SELECTION

The selection policy is to consider academic competence and personal qualities. Grades achieved by applicants at O-level and A-level and the information in the confidential referee's report are regarded by the selectors as equally and extremely important. Interviews are no longer held but candidates who have been offered a place are invited to visit the medical school informally.

Up to 10 per cent of places are taken by overseas candidates, preferably from developing countries; special arrangements obtain with Malawi, Botswana, Lesotho, Swaziland, Sierra Leone, and Mauritius.

FEATURES OF THE CURRICULUM

Early Years

After the premedical course, teaching is focused on three themes: 'Cell Biology', 'Man as an Integrated Whole', and 'Man in Relation to Society'. The course is integrated and teaching in cell biology is linked to the parallel courses in anatomy, pathology, physiology, etc.

A first aid course is run by the Red Cross for the first-year medical students. It is entirely voluntary but students are strongly encouraged to attend and about 25 per cent of them complete the course.

Clinical Aspects

There is a certain amount of clinical teaching in the preclinical courses, to illustrate and amplify some aspects. Clinicians take part in many of the classes in most of the subjects, for example radiologists in the anatomy course.

A separate Introductory Clinical Course, previously given at the start of the clinical course itself, has now been abandoned. Instead, students receive instruction in clinical methods during their first medical and surgical attachments.

Clinical teaching is given by firms of two consultants and three or four juniors. Psychiatric, paediatric, and obstetric/gynaecological firms are single-specialty but 'general' medical and surgical firms would include a 'specialist' as well as a 'generalist'. In Year 4, student groups contain about eleven

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT	1	2	3			
1	Pre-medical	+	+	+		212 hours 212 hours 96 hours	Physics Chemistry Zoology	1
2	Pre-clinical Junior	+	+	+		270 hours 854 hours 134 hours 44 hours 5 hours 23 hours	Anatomy Physiology Cell Biology Social Sciences Psychology Statistics	2
3	Pre-clinical Senior	+	+	+		87 hours 189 hours 85 hours 59 hours 95 hours 37 hours 21 hours 21 hours	Anatomy Physiology Psychology Cell Biology Pharmacology Medical Biochemistry Bacteriology Pathology	3
4	Junior Clinical Year	R	R	R		16 weeks ½ time 13 weeks ½ time 5 weeks ½ time 2 weeks ½ time	Clinical attachments - Medicine Surgery Psychiatry General Practice	4
		+	+	+		220 hours	Basic Integrated Systematic Courses: -Lectures and Practicals in Bacteriology, Pharmacology	
		+	+	+		160 hours	-Lectures and seminars in Clinical subjects	
5	Residential Clinical Year	R	R	R	R	9 weeks FT 9 weeks 8 sessions 2 weeks FT 9 weeks FT 9 weeks FT 8 weeks ½ time 2 weeks ½ time 2 weeks ½ time 2 weeks ½ time 2 weeks ½ time 4 sessions	Medicine Surgery Community Medicine General Practice Obstetrics/Gynaecology Paediatrics Psychiatry Dermatology E.N.T. Ophthalmology Geriatrics Venereology	5
6	Final Clinical Year	+	R	R	R	8 weeks FT 4 weeks FT 2 weeks FT 3 weeks PT 2 weeks PT 2 weeks PT 2 weeks PT 2 weeks PT 15 hours 120 hours	Elective Medicine Orthopaedics and Trauma Surgery Obstetrics Anaesthetics Communicable Diseases Paediatrics Clinical Pharmacology Final Year Clinical Lectures	6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	29 weeks	1974 9 Estimate for 1979: 20 (max)	First Professional Examination	1
2	29 weeks	1974 200 Estimate for 1979: 200	(termly examinations) Review of in-course assessment	2
3	29 weeks	191	(termly examinations) Second Professional Examination (exemption possible as a result of in-course assessment)	3
4	39 weeks	1974 229 (includes 55 students from St. Andrew's) Estimate for 1979: 275 (includes 75 students from St. Andrew's)	Third Professional Examination (Pharmacology and BISC subjects)	4
5	45½ weeks	206	(Clinical assessments)	5
6	40 weeks	167	(Clinical assessments, cont'd) MCQ Paper (see text) Final Professional Examination - clinical and further written papers: (exemption possible, following satisfactory clinical assessment and MCQ performance)	6

students; in Year 5, one to two; in Year 6, approximately fourteen. The very favourable staff : student ratio in Year 5 allows students to assume responsibility and thus gain valuable experience. In general, students learn 'practical' aspects of clinical subjects through observation and participation in patient care (rather than from specifically 'teaching' activities), the level varying from firm to firm.

Theoretical teaching is given in the Basic Integrated Systematic Course, a co-ordinated series of lectures given in afternoons in Year 4, in which clinical subjects and pathological disciplines are combined. There is no formal whole-class teaching in Year 5, but a series of lectures on clinical subjects is given in the final year. Neither these nor the BISC are co-ordinated with students' concurrent practical clinical experience.

The course includes four weeks of non-hospital clinical experience and 36 weeks in compulsory residence. Typically, however, 45 weeks are spent in residence by each student as the fifth-year psychiatry attachment is usually spent 'living in'. The whole of Year 5 is therefore residential, and this entails dispersing the 275 students to hospitals throughout north-west England, North Wales, the Isle of Man, and Scotland. (During Years 4 and 6, however, teaching is concentrated in the three major hospitals in Manchester.)

Intercalated Degree of BSc

Students may take an intercalated BSc Honours degree between the preclinical and clinical stages, unless they choose pathology which is taken during the clinical stage. The number of places is not fixed but students must attain a specified academic standard: typically, 15–20 students take an intercalated degree in any year. Subjects studied in the last three years were anatomy, medical biochemistry, bacteriology, pathology, pharmacology, physiology, and psychology. The course lasts one year and involves both course and research work; it is assessed principally by examination.

Elective Experience and Course Options

The elective period is taken at the beginning of the final year: about two-thirds of the students take it away from Manchester and about a quarter go abroad. The elective may involve the student acquiring clinical experience or undertaking research, or a special course of study. The Department of General Practice has a small bursary, open to competition, to enable students to visit general practices abroad. All the available elective opportunities are listed in a booklet, published annually—well over a hundred are offered. If a student suggests a project not listed, the Dean must approve it.

A report is written by the student after his elective and this is read by his supervisor: the GP, consultant, or research worker to whom the student is attached. The reports are not 'critical' in the assessment system, except in marginal cases, when they may help to decide the outcome. It is hoped to make the electives more of an educational exercise, with students discussing their theme with a member of the home department before going to a unit outside Manchester, and writing their report on a particular problem or topic, rather than merely producing a descriptive account.

CURRICULUM CONTROL AND DEVELOPMENT

The Medical Curriculum Committee is the body established to oversee the whole course and to make recommendations for change to the Faculty of Medicine. It meets three times in an academic session and more often when necessary. The curriculum is not reviewed on a regular basis, in the sense of reallocating time or rearranging the order of courses, but the Medical Curriculum Committee is empowered to consider any problem referred to it. Its members include all professors, the senior Faculty officers, and student representatives. There are then Staff-Student Year Committees, one for each year of the course; these are not strictly speaking sub-committees of the Medical Curriculum Committee, but in practice would report to it if a significant change were proposed. They were created when the present curriculum was planned in 1968 and have continued to monitor it and examine critically both timetable and teaching. Each Committee comprises one academic member of each department teaching in that year, and several students. They meet at least once a term. The Medical Students Representative Council can and does comment freely on the curriculum and teaching matters, though student opinion is expressed formally by student members of the Year Committees.

In addition to the 'constitutional' arrangements described above, three *ad hoc* bodies have been set up to examine whether a major realignment of the course should be contemplated. They are: the Long-Term Review Committee, the Committee for the Preclinical Course, and the Committee for the Clinical Course. These are small working parties, whose members were chosen by the Dean from nominations submitted by departments, and are broadly representative of subject interests and the student body.

The individual departments normally administer the courses, being in charge of content, presentation, and updating, subject to the approval of the Medical Curriculum Committee. Each preclinical and paraclinical department nominates a member of staff to liaise with a counterpart in St Andrews (whence a portion of Manchester's clinical entry comes) to ensure that the two groups of students have broadly similar experiences.

The Deanery

The Dean—who is part-time—is appointed for a fixed term of three years by the Nomination Committee. It is most unusual for the appointment to be extended. Each Dean is appointed one year in advance of assuming office.

There is also a full-time Executive Dean and a part-time Dean of Clinical Studies, assisted by three Sub-Deans of Clinical Studies based in the three main teaching hospitals.

Miscellaneous Topics

The University runs an annual course on teaching methods, etc., for its staff and between twenty and twenty-five medical school teachers have attended during the last two years.

The medical school has its own self-contained Audiovisual Service with a mobile television production unit: CCTV viewing facilities are extensive. A great deal of teaching material is exchanged with St Andrews partly to ensure compatibility between the two institutions.

The new medical school building has multi-user laboratories.

STUDENT ASSESSMENT

All the professional examinations (except for First MB at the end of the pre-medical year) are integrated: no examination is a single-subject one. Questions submitted for examination papers are first considered by the Emendation Committee, a group of teachers from a number of disciplines, which rejects those felt to be not easily comprehensible or inappropriate.

Early Years

In-course assessment is significant: course examinations are held at the end of each term on that term's work, the sixth one at the end of Year 3 constituting Paper 2 of the Second MB. Students may be exempted from Paper I, Section A (on subjects taught in Year 2) and/or Paper I, Section B (on subjects taught in Year 3), on the basis of the termly course assessments. Paper 3 of the Second MB is taken only by potential honours or distinction students and students wishing to be considered for an intercalated degree course. Each student's progress is reviewed at the end of the third and fifth terms.

Assessment techniques used throughout are objective-type and essay questions, and oral examinations, with short-answer questions in addition being included in the Second MB examination. Tutors' reports help in decisions concerning borderline students.

In assessment of the paraclinical subjects the same system applies. As they are taught in Year 3, pathology, bacteriology, and pharmacology are examined in Paper 2 of the Second MB, which is the sixth preclinical term's course assessment. Performance in course examinations during Year 4 can exempt students from parts of the Third MB at the end of Year 4. (Students from St Andrews may be exempted from the pharmacology elements of the Third MB on the basis of in-course assessment in their third year at St Andrews.)

Clinical Subjects

In order to graduate, students must pass examinations which are held predominantly at the end of Year 6; the 'theoretical' clinical assessment and the 'practical' clinical assessment must be passed independently. They sit an MCQ paper which combines questions from all the clinical subjects and is marked as a unitary whole. This is followed by Internal Clinical Assessments consisting of clinical/oral examinations (long and short cases) in the major disciplines. The Assessment in Psychiatry is held during Year 5: a written report takes the place of the Clinical Assessment in Community Medicine. The examiners meet to review the results of these examinations. Students who have passed the MCQ examination are not asked to appear for any more theory papers. If they have failed, they are required to sit separate theory papers in each of the six subjects. Students who have passed the Internal Clinical Assessments at a standard which is considered to be 'beyond reasonable doubt', ie better than a bare pass standard, are not required to sit any further clinical examinations. Students who fail in any assessment are required to sit further clinical/oral examinations. External Examiners are present for the examinations held after the Examiners Meeting and monitor the Internal Assessments and MCQ papers.

In order to obtain Honours in the examination as a whole or a mark of distinction in any subject, the student must sit special theoretical and clinical/oral examinations.

Throughout the clinical years, firm heads write confidential reports at the end of each attachment. They are graded—distinguished/satisfactory/poor, with comments, and may be taken into account at the end of Year 6 when assessing borderline or potential honours students. The student's own record card must be 'signed up' at the end of each attachment before he or she can proceed to the next one.

Regulations

Compensatory passes are permitted in the Second MB and Third MB integrated examinations but a persistently poor performance in a major subject might not be excused. Single subject failures in the integrated Finals examination are rare: a department wishing to prevent a student graduating because of a poor showing in their component of the examination would have to justify this stand before the Examinations Committee.

Normally a student would retake only the failed subject in an examination from which he/she had not previously been exempted. However, in Year 6 failure in the April MCQ examination results in a student having to take all the written papers in June. Decisions as to whether to request a student to repeat a year, to permit him to 'carry' a subject, or to require him to withdraw from the course are made at the examiners' discretion. Each case is considered on its own merits.

External examiners take part in all 'professional' end-of-year examinations, helping to set the papers, moderating the over-all standard and arbitrating in marginal cases. They are also similarly involved in many significant in-course assessments.

Advice and Assistance to Students

For students with academic problems, the Dean, Executive Dean, heads of department, and departmental tutors are available for discussion. There are university advisers to men and women students. There is also the Medical Progress Committee (all staff membership, chaired by the Dean) which inquires into academic problems. The committee always interviews a student, before making its recommendations for his or her future. Preclinical students are assigned in groups of ten to tutors, each student having a tutor in each of the major preclinical subjects. Every hospital used for teaching has an 'undergraduate tutor' in it: clinical students may turn to the undergraduate tutor in the hospital to which they are attached. Revision courses are arranged for students who fail the Final Examination.

Any of the arrangements mentioned above could identify and help with students' personal problems also. In addition there is the Student Health Service and the Contact Service run by students themselves.

PROBLEMS

There have been delays and setbacks in the provision of clinical facilities for teaching: hospital development has fallen behind the expansion of the medical

school. However, NHS reorganization has not affected the medical school adversely and relationships remain very close. Indeed the new opportunities to develop community medicine and to relocate specialist care should, it is felt, be welcomed by the medical school.

Recruitment of medically qualified staff to the pre- and paraclinical departments is proving difficult in view of the financial incentives offered by the NHS. A decline has been noticed in the quality of applications for such medical school posts.

DEVELOPMENTS

Revision of the curriculum (if it is to occur) will depend on the outcome of current discussions. Meanwhile specific aspects are being discussed separately and informally, with a view to change.

From time to time proposals are made to divide the clinical school into three discrete entities, each based exclusively on one of the Manchester teaching hospitals. The main reason proffered is the size of the student body: a tripartite clinical programme would, it is suggested, allow each group to have an identity missing at present. A policy decision has now been made to reject such proposals.

National University of Ireland

The National University of Ireland (NUI) has a collegiate structure, similar to the Federal one of the University of London. Its three component medical colleges are University College Cork, University College Dublin, and University College Galway. The functions of the central university administration are however less than those of the University of London in relation to its medical schools; they relate principally to examination matters (external examiners for instance normally visit each of the schools).

The Minister for Education has recently (summer 1976) announced that the University is to be dissolved and its constituent colleges raised to the status of separate universities. Heads of a Bill for this purpose are being drafted and it is proposed to introduce this in Parliament shortly.

A computerized Central Admissions Office is coming into operation to cover admissions for the academic year 1977-8. It will deal with the three Colleges of the National University (or the three Universities) and also the University of Dublin (Trinity College).

NATIONAL UNIVERSITY OF IRELAND

University College Cork

Qualifying Degree. MB BCh BAO (NUI)

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Established course

GMC Correspondent. Dr R. P. Godfrey (previously Professor D. J. O'Sullivan)

The information in this section was collected in 1975.

See Important Note on p. 134.

Note

Because of the differences between Health Service arrangements, the relationships between the medical schools and their associated hospitals are different in the Irish Republic and the UK.

In the Republic, medical schools form their own attachments to hospitals, making financial arrangements to send medical students there and to provide (traditionally part-time but increasingly full-time) Chairs, etc. In Dublin particularly, a number of general teaching hospitals are used by each medical school. This means that the arrangements for providing 'theoretical' clinical instruction and 'practical' clinical instruction are generally separate, the first being largely conducted at the medical school and the second at the hospitals.

In an attempt to co-ordinate the experiences of students in different hospitals, a number of schools now appoint 'resident' staff members—'hospital tutors'—in each affiliated hospital, who are, in effect, junior lecturers: a considerable part of their time is devoted to liaison and in the day-to-day administration of teaching. 'Hospital education committees' have also been formed in some hospitals.

Major Hospitals used for Undergraduate Teaching

St Finbarr's Hospital, Cork. (To be replaced for teaching purposes by the new Cork Regional Hospital, due for completion in 1977.)

Limerick Regional Hospital, Limerick

North Charitable Infirmary, John Redmond Street, Cork

Mercy Hospital, Grenville Place, Cork

South Charitable Infirmary and County Hospital, Old Blackrock Road, Cork

Victoria Hospital, Infirmary Road, Cork

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Erinville Maternity Hospital, Western Road, Cork

Eye, Ear, and Throat Hospital, Cork

St Mary's Orthopaedic Hospital, Gurrabraker, Cork

St Stephen's Chest and Psychiatric Hospital, Sarsfield Court, Glanmire, Cork

Note. 'AHA(T)' arrangements do not apply in the Republic of Ireland. Hospitals are recognized by the Minister of Health as teaching hospitals.

SELECTION

For entry into University College Cork, academic considerations predominate. Applicants' performance in school-leaving examinations is graded on a 'points' scoring system and most places are allocated directly as a result. In deciding

the last few places the order of preference or a confidential report may be taken into account and interviews are occasionally held.

As at all colleges of the National University of Ireland, admission is generally restricted to candidates born and/or educated and/or resident in Ireland (thirty-two counties). Each year, a few, usually three, students from developing countries and up to three 'special' cases such as distinguished Honours graduates are admitted. These distinguished Honours graduates are normally admitted to the First Medical Year.

Until 1970-1, there was no limit on entry to the premedical course but entry from it to Year 2 was competitive. For the next two sessions there was no premedical year and all prospective medical students entered a First Science (Common) year with other categories of student, and entry to the medical course proper depended on performance in the First Science (Common) examinations; the aim was to allow students to make a more informed career choice. However, the medical school has decided to revert to the previous situation and now again offers a separate premedical course. Confidential reports from headmasters and headmistresses are relatively new and the medical school is not routinely making them a factor in selection until their usefulness is apparent.

FEATURES OF THE CURRICULUM

Early Years

Efforts are made to demonstrate the importance of a satisfactory knowledge of the scientific basis of medicine and to emphasize the importance of human behaviour in medicine.

In the second preclinical year a number of clinicians give lectures in the physiology course and physiologists give clinical demonstrations; the time involved amounts to twelve hours.

Clinical Aspects

The Introductory Clinical Course is a multidisciplinary course in which eighteen teachers from different departments take part. It consists of lectures (some given by GPs) and patient-based instruction, and two full weeks are spent working as nurses under supervision of ward sisters. The aim is to give students a comprehensive and uniform introduction to clinical medicine in order to apply the knowledge and skills to specific disease states later on; to utilize to the full the facilities in the teaching hospitals and the experience of senior medical and nursing staff; and to give as broad and varied an introduction as possible to the medical scene. Topics highlighted are the role of the laboratories, case-records, and the emotional impact of physical illness.

In Cork, the standard unit for patient-based teaching is the mixed specialty firm but in the smaller hospitals clinical teaching teams are used (for example, all the physicians in a hospital) and in some specialties (for example, obstetrics) the teaching firm represents a single specialty. During the junior and senior clerkships in the major specialties when students are half-time or full-time in the hospital, they become junior members of the team and learn through participation in patient care. At other stages, when the other specialties are studied in a more fragmented way, teaching is a specific activity separate

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT						
		I	II	III	IV			
1	Pre-Medical	+	+			180 hours 156 hours 156 hours 78 hours	Biology Chemistry Experimental Physics Biostatistics (or Mathematics)	1
		+	+	+				
		+	+	+				
		+	+	+				
2	1st Medical Year	+	+	+		270 hours 140 hours c. 220 hours	Anatomy Physiology Biochemistry	2
	Pre-clinical I							
3	2nd Medical Year	+	+			255 hours 124 hours 30 hours 9 hours 10 weeks & time 24 hours	Anatomy Physiology Pathology and Medical Microbiology Medical Ethics Introductory Clinical Course Psychology and Sociology	3
	Pre-Clinical II				+			
4	3rd Medical Year	+	+	+		8 weeks & time 30 weeks & time	Junior Clinical Clerkship } Rotating Clinical Attendance } Medicine, Surgery, and Midwifery; includes c. 50 hrs lectures.	4
		+	+	+				
	Clinical I	+	+	+		c. 200 hours c. 200 hours 27 hours 38 hours c. 20 hours	Pathology and Medical Microbiology Pharmacology Medical Ethics Social and Preventive Medicine Lectures in Psychology (7 hrs); and Radio- diagnosis (c. 5 hrs); Post-mortem Attendance (c. 8 hrs)	
		+	+	+				
5	4th Medical Year	+	+	+		40 weeks & time 76 hours 76 hours c. 60 hours 38 hours 114 hours c. 30 hours 30 hours 112 hours	Clinical Instruction and Hospital Practice (including an attachment in laboratory medicine); Obstetrics and Gynaecology Paediatrics Psychiatry Surgery Medicine (including Medical Biochemistry); ENT and Ophthalmology Therapeutics Medical Jurisprudence (40 hrs); Social Medicine (72 hrs)	5
		+	+	+				
	Clinical II	+	+	+		1 week PT 8 weeks	Anaesthetics Elective	
		+	+	+				
6	5th Medical Year	+	+	+		35 weeks & time c. 76 hours c. 75 hours c. 45 hours c. 100 hours c. 5 hours c. 5 hours	Clinical Instruction and Hospital Practice Obstetrics and Gynaecology Paediatrics Surgery and Operative Surgery Medicine "Problems of General Practice" Dental Diseases	6
		+	+	+				
	Clinical III	+	+	+				
		+	+	+				

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	26 weeks	1974 (see text) Estimate for 1979: 70	Pre-medical Examination	1
2	28 weeks	1974: 79 Estimate for 1979: 65	College First Medical Examination (some contribution from in-course assessment)	2
3	30 weeks	72	Second Medical Examination (some contribution from in-course assessment)	3
4	38 weeks	1974: 71 Estimate for 1979: 65	Third Medical Examination Part I (Pathology, Microbiology, Ethics) (contribution from in-course assessment)	4
5	48 weeks	72	Third Medical Examination Part II (Social & Preventive Medicine; Medical Jurisprudence) (contribution from in-course assessment) Final Medical Examination: Psychiatry (contribution from in-course assessment)	5
6	38 weeks	84	Final Medical Examination (Medicine & specialties, Surgery & specialties, Obstetrics/Gynaecology, Paediatrics) (contribution from in-course assessment)	6

from patient care. Theoretical teaching is organized and delivered by individual departments, in separate lecture courses. So far it has not been possible to co-ordinate the theoretical with the patient-based teaching.

All students go to Limerick Regional Hospital for two to four weeks to enable them to experience the work and characteristics of a busy, non-specialized regional hospital. Students' clinical experience outside hospitals usually consists of the equivalent of up to two weeks, in addition to several visits to health centres, child development clinics, etc.

Twenty-six weeks is the required minimum period of residence but typically students spend forty-five weeks resident in hospital.

Intercalated degree of BSc

Anatomy, pharmacology, and physiology degrees may be intercalated between Years 3 and 4; a pathology degree would be intercalated between the medical course and the 'intern' year—after Year 6. However, only physiology has been studied in recent years. Students must reach a specified standard in examinations before being accepted for the degree course which is based on both research and course work. It is assessed by examination and dissertation.

In future, funds may become available to assist more students to intercalate: presently up to two or three do so each year.

Elective Experience and Course Options

From Year 3 onwards, students are encouraged to spend some or all of their summer vacations gaining extra clinical experience. Between Years 3 and 4 about two-thirds of them do so, for about six weeks, and the 'experience' may be working for example as a hospital porter. Half of them would be away from Cork. In the long vacation between Years 4 and 5 about three-quarters of the students obtain some relevant experience, for seven to eight weeks; 80 per cent of them would be away from Cork. Between Years 5 and 6 almost all students undertake an eight-week elective, and almost always away from the medical school. Occasionally a research project is chosen in preference to conventional clinical work; and general practice electives are becoming popular. In social medicine a number of optional projects are possible.

Usually students make their own arrangements for electives, but a number of contacts have been built up with hospitals in Britain and the USA. The Southern Health Board helps to place 20–50 students each year in its other hospitals.

CURRICULUM CONTROL AND DEVELOPMENT

The curriculum itself and the system which controls it have been under review. Until recently an annual 'stocktaking' was carried out by asking each department directly what changes, if any, it desired: a proposal with serious implications for the rest of the course was referred to an *ad hoc* Committee. The new arrangements are described below.

The Medical Faculty (as before) is responsible for over-all definition and administration of the curriculum; it must approve alterations and can initiate reappraisal and reforms. All professors and statutory lecturers are members. Out of a series of *ad hoc* bodies set up by the Faculty, two committees have

emerged as the most productive and have been constituted as standing committees of the Faculty. They are the Preclinical Curriculum Committee and the Clinical Curriculum Committee. Each committee will consist of representatives of all academic departments teaching in that stage of the course. Several members will be non-professorial and total membership of each will be nine. They will report to Faculty on any curricular matter where they feel change is desirable: objectives, teaching methods, timetabling, for example. It is hoped that this sort of review will become a regular, annual procedure.

The Clinical Teaching Advisory Council is also a comparatively new body, which will meet at least termly. It provides a forum for discussion between academic and non-academic clinical teachers (membership is divided equally between the two groups) where views about the clinical curriculum can be expressed. It does not have the Clinical Curriculum Committee's authoritative role in planning, however. The Chairman is a senior governor of the College; Faculty representatives are the Dean and five other staff; general teaching hospitals send two members, and specialized hospitals, one.

Until the present structure evolved, changes to the curriculum were brought about by the Medical Faculty itself, or by the Dean's office, or by an *ad hoc* Curriculum Committee. Further changes in several areas are being considered by the new Curriculum Committees; there is a possibility of a 'co-ordinating committee' being established to ensure their activities are compatible and to clarify the borderline areas.

The individual departments are on the whole responsible for designing the content and presentation of courses, for updating, and for administering their courses. However, the Introductory Clinical Course, for example, requires interdepartmental co-operation, and supervision from the Dean's office. Some departments, not all, have found it useful to have 'Subject Boards' where representatives of the staff and of the students in that year or stage meet informally perhaps once a term to discuss their teaching. At the students' request, departments with common interests can form similar staff-student interdepartmental boards.

The Deanery

The Dean, who is part-time, is elected by the Faculty for a period which hitherto has been unlimited but in future will be a maximum of three years. There are no sub- or vice-deans, but there is a medically qualified administrative officer (half-time).

Miscellaneous Topics

A new one-day course of instruction for staff was introduced in the session 1974-5 for all staff at University College Cork; this was organized by the teaching staff. Medical school staff are encouraged to attend the conferences arranged by the national and international medical education associations.

Some departments have developed their own audiovisual units and exchange a considerable amount of teaching material with counterparts in other schools, but no examination questions are exchanged.

STUDENT ASSESSMENT

At all stages of clinical assessment (preclinical, paraclinical, and clinical in both its theoretical and 'practical' aspects) in-course assessments contribute a maximum 20 per cent of the total marks available; the system is thus a mixture of end-of-course and in-course assessment.

Early Years

In the preclinical years, both in-course and end-of-course assessments make use of objective-type and essay questions. In addition, in-course assessments involve the use of orals and the evaluation of practical course work.

Clinical Subjects

During the clinical course the methods of in-course assessment include both written papers (MCQ, short written answer, and essay questions) and staff judgements of a student's effectiveness in the clinical situation. The firms who take students for senior clinical clerkships record their impressions on a standard questionnaire, often after discussion among all staff, senior and junior, in the firm. These records are pooled centrally and at the end of the year an over-all rating is reached, which influences the final result.

In the Final Medical Examination the marks are divided equally between the 'practical' and theoretical parts. Students must pass the examination in each subject, and must also pass the clinical component of it separately but may compensate a marginal fail in the theoretical part with a good pass in the 'practical'.

Regulations

Compensation is permitted between certain preclinical subjects and between the paraclinical disciplines; the regulations do not permit compensation between the clinical subjects. A student who fails in the re-examination of a subject will generally be required to resit in that subject only, and not any others which might have been examined concurrently. Repeated failure by a student in preclinical examinations will lead to a request to withdraw, but paraclinical subjects might be 'carried'.

External examiners are involved in setting important examinations, moderating the over-all standard and arbitrating in marginal cases; they are also involved in important in-course assessments.

Advice and Assistance to Students

The Dean of Student Affairs and his staff are available to help students with academic problems from all Faculties. In the medical school, the Dean and the Administrative Officer give advice or refer students to the appropriate department. In a small medical school, staff are well aware of students' difficulties and students are not afraid to approach teachers or the Dean. The Administrative Officer is also a part-time Student Health Officer in the Student Health Service. He will assist students with personal problems, and the Department of Psychiatry assists if required.

There are no formal revision courses but departments may arrange supplementary tuition for students who have failed in their subjects.

PROBLEMS

The staff-student ratio at all levels is poor; more full-time staff are required, which would allow more elective projects to be offered and greater advantage to be taken of the abundant 'clinical material'. The service commitments of part-time clinical teachers are very heavy and while their contribution to teaching is most valuable, the medical school is unable to expand and improve clinical teaching as widely or as quickly as it would like.

Relationships with the health service authorities and with the hospitals are very good and fruitful. Fewer small hospitals will be used with the advent of the new teaching hospital, and the inevitable present problems of liaison will then diminish.

DEVELOPMENTS

The new teaching hospital, Cork Regional Hospital, is scheduled to open in 1977; this will contain most clinical and paraclinical units needed for teaching and a library to serve medical undergraduates and postgraduates and other health professions. There will be promising opportunities for teaching in psychiatry—the hospital will have a psychiatric wing and liaison psychiatry should increase still further—and also in geriatrics, as it will have a geriatric assessment unit.

In the curriculum, changes on several fronts are anticipated: the restored premedical year will have a more medical flavour with behavioural sciences, biochemistry and medical statistics (biomathematics) being introduced; behavioural sciences will feature more strongly in Years 2 and 3; in Years 4 and 6, it is hoped to achieve smoother transition from preclinical to clinical studies, better integration between the theoretical and the clinical teaching, and greater balance between hospital and community clinical experience; and a growing number of general practitioners will join in the teaching programme. Also, the Introductory Clinical Course is constantly changing in the light of experience.

No permanent change is anticipated in the size of intake. Present numbers represent an equilibrium between staffing needs of the health services in the province and the capacity of the resources of the medical school and teaching hospital.

NATIONAL UNIVERSITY OF IRELAND
University College Dublin

Qualifying Degree. MB BCh BAO (NUI)

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status: Premedical: established

Preclinical: revised 1973

Clinical: revised 1975

GMC Correspondent. Professor P. N. Meenan

See Note on p. 354.

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

Mater Misericordiae Hospital, Dublin

St Vincent's Hospital, Elm Park, Donnybrook, Dublin 4

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Coombe Lying-in Hospital, Dublin 8

National Maternity Hospital, Holles Street, Dublin 2

Our Lady's Hospital for Sick Children, Crumlin, Dublin 12

Royal Victoria Eye and Ear Hospital, Adelaide Road, Dublin 2

The Children's Hospital, Temple Street, Dublin 1

Note. 'AHA(T)' arrangements do not apply in the Republic of Ireland. Hospitals are recognized by the Minister of Health as teaching hospitals.

SELECTION

For entry into University College Dublin, academic considerations are paramount. School-leavers are selected on the basis of results in the Matriculation or Leaving Certificate examinations, and a points system is used. Only in the event of a tie for the last few places are other factors given weight: whether the school is the student's first choice, length of time taken to acquire good matriculation grades, and strength of science subjects. Only very exceptionally is an interview held.

A residency requirement renders ineligible candidates not born, or educated or resident, in Ireland (thirty-two counties) unless they are training for medical missionary work or come from a developing country. Five places in the premedical year are reserved for candidates from developing countries, and five places in the first preclinical year are reserved for honours graduates in subjects related to medicine, including dental graduates.

Until 1971, admission to the premedical year was open and entry from it to the preclinical course depended on competitive examination. A sub-committee is examining the present admission policy and procedure, which has the advantages of impartiality but which relies solely on academic considerations. Interviews would be impracticable, but it is hoped ultimately to introduce a more personal approach.

FEATURES OF THE CURRICULUM

Radical changes are taking place in the curriculum. The new preclinical course began in October 1973; all details of the new clinical course have not yet been finalized. The purpose of the curriculum change is to achieve: vertical integration, with clinical teachers participating in the early years and preclinical teachers contributing in the later years; transverse or horizontal integration between related departments; fewer lectures, with greater concentration on clinical teaching where theoretical concepts are exemplified in current clinical problems; and stronger representation of the behavioural sciences. Over-all, the curriculum will be more balanced, less compartmentalized.

Early Years

There is considerable and regular clinical teaching although not significant in terms of clinical training. Each week in Years 2 and 3 and in the first two terms in Year 4, one-and-a-half-hour clinical sessions are held in the hospitals which correspond closely with topics in the lecture schedules of anatomy, physiology, biochemistry, and pharmacology. They cover the major clinical specialty areas. Also, students may opt to attend integrated medical-surgical clinics which run throughout the year. The objectives of these arrangements are to familiarize students with the clinical situation and to underline the relationship between it and their lectures and practical work. This early clinical experience is very popular with students but has been found to impose a strain on staff. An integrated course in psychological and sociological principles has been a feature of the premedical course for some time; it is now being extended into both preclinical years—at this stage the methods and the timing are still experimental—so that students will enlarge their perspective on human behaviour alongside their studies of physical structure and function.

Clinical Aspects

The two-and-a-half-year clinical course begins in April of Year 4. It includes two months required residence in hospital, and a further thirteen months of constant involvement through students' living very near a hospital. Students whose homes are very close to the hospital may spend the residence period at home, freeing hospital accommodation for other students to spend more than the minimum time in hospital residence.

Students rotate in groups of four; they are attached to firms and in some cases to 'clinical teaching units', which consist of five or six staff and are single-specialty. Patient-based teaching is carried out within the firm or unit as part of everyday patient care. During their attachments students attend the daily and weekly conferences and case discussions, which are often multi-disciplinary, and are expected to take advantage of all the teaching activities in the hospital.

The theoretical teaching in clinical subjects occurs in a series of lectures which are departmentally based but in co-ordinated sequence. These College lectures are correlated to the clinical work undertaken by students at the same time. However, a major feature of the new curriculum involves the down-grading of 'theoretical' clinical instruction at the School in favour of practical and theoretical clinical instruction in the hospitals. During the period of

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT						
		1	2	3	(4)			
1	Pre-Medical Course	+	+	+		150 hours	Biology Chemistry Physics Social and Behavioural Sciences	1
		+	+	+		100 hours		
		+	+	+		125 hours		
		+	+	+		100 hours		
2	1st Medical Year Pre-Clinical	+	+	+		330 hours	Anatomy Biochemistry Functional Histology Radiology Social and Behavioural Sciences Medical and Surgical 'Integrated Clinics'	2
		+	+	+		162 hours		
		+	+	+		120 hours		
		+	+	+		27 hours		
		+	+	+		14 hours		
+	+	+		27 hours				
3	2nd Medical Year Pre-Clinical	+	+	+		210 hours	Physiology Pharmacology Social and Behavioural Sciences Integrated Clinics	3
		+	+	+		155 hours		
		+	+	+		14 hours		
		+	+	+		27 hours		
4	3rd Medical Year Pre-Clinical Clinical Course	+	+			c. 120 hours 10 hours	Pathology Microbiology	4
		+	+					
			+	+		(?)	Medicine and Surgery lectures and Seminars (see text)	
		+	+		c. 70 hours	Social and Preventive Medicine		
		+	+		28 weeks	Clinical Clerkships commence (see Year 5)		
5	4th Medical Year	+				13 weeks	Clinical Clerkships Continue (Medicine & Surgery) ENT, Ophthalmology, Medical Jurisprudence First 6 months of Year 5 rotations: Psychiatry (2 months) Paediatrics (2 months) Obstetrics and Gynaecology (2 months) Elective (2 months) Medicine & Surgery Seminars (see text)	5
		R	R	R	R	(?)		
						6 months		
		+	+	+	+	(?)		
6	5th Medical Year	R				2 months	Conclusion of fifth year rotation Medicine and Surgery Seminars (see text) Medicine (and sub-specialties) Surgery (and sub-specialties) Surgical Anatomy, Surgical Pathology Revision Lectures	6
		+				12 weeks		
		R	R			12 weeks		
		R	R			(?)		
		+	+			(?)		
		+				(?)		

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	25 weeks	1974: 136 Estimate for 1979: 135	Pre-Medical Examinations	1
2	27 weeks	1974: 148 Estimate for 1979: 130	First Medical Examinations (contribution from in-course assessment)	2
3	27 weeks	136	Second Medical Examinations (contribution from in-course assessment)	3
4	46 weeks	1974: 142 Estimate for 1979: 125	Third Medical Examination (Pathology and Microbiology) (contribution from in-course assessment)	4
5	48 weeks	128	Fourth Medical Examination (ENT, Ophthalmology, Social and Preventive Medicine, Ethics and Forensic Medicine)	5
6	32 weeks	151 (including re-sitting students)	Final Medical Examination Part I (Obstetrics/Gynaecology, Paediatrics) Final Medical Examination Part II (Medicine, Surgery, Psychiatry)	6

hospital residence (third to fourth medical year) lectures in the School are given only on one afternoon each week. Most of these are in social medicine and forensic medicine with occasional lectures in medicine and surgery. These are continued because it is considered important from time to time to lecture to the entire class as a unit.

Medicine and surgery seminars in the clinical course include therapeutics and clinical pharmacology. Also, subjects are grouped under headings such as cardiology, respiratory medicine, gastro-enterology, etc. Teaching is integrated and members of the clinical staff of the hospitals participate with the professors, lecturers, and tutors for nine hours weekly (in addition to the students' attachment to firms).

In the final months, classes in the hospitals will integrate basic science with clinical topics. The College has appointed a Tutor in Medicine and a Tutor in Surgery, to both of the major teaching hospitals, and they are also appointed in paediatrics and obstetrics and gynaecology. They supervise the teaching programme and deal with problems of any kind which the students encounter.

Intercalated Degree of BSc

There is no fixed number of places for the BSc in Medical Subjects but students must obtain honours in the First or Second Medical examinations to secure a place. Up to two or three students normally take such a degree each year. The course lasts one year and includes research work and course work; it is assessed by dissertation and by examination. Subjects offered are anatomy, medical microbiology, pathology, pharmacology, and physiology: the only student to take the degree in the last two years studied physiology. A small number of students study for a BSc each year after completing the medical course.

Elective Experience and Course Options

It is probable that there will be an eight-week elective period sometime during Years 5 or 6. The purpose will be to widen clinical experience: students will be able to take the elective out of Dublin and even abroad.

CURRICULUM CONTROL AND DEVELOPMENT

A new structure for implementation and supervision of the curriculum has coincided with the introduction of the new one. Faculty now has two sub-committees responsible for the two main stages of the curriculum and their existence, it is hoped, will make for easier discussion and greater flexibility. A regular annual review procedure may be established. The Preclinical Sub-Committee consists of the Dean and the professor and another staff member from each department running preclinical courses. It reviews progress and considers proposals for change. The Clinical Sub-Committee consists of the Dean, the clinical professors and two clinical teachers from the major teaching hospitals. It is still active in planning the new clinical course and has not yet settled down into a purely reviewing role.

A Curriculum Sub-Committee was appointed to design the new curriculum. Its members are the Dean, senior professors, and representatives of the major teaching hospitals. It has remained in being to plan the clinical components of Years 2, 3, and 4 but in future may be reduced to yearly meetings,

or dissolved as the standing sub-committees described above have superseded it. Individual departments determine the content, presentation, and updating of teaching and administer the courses in co-operation with the new sub-committees.

The Staff-Student Committee is active and meets twice or more each term. Two students from each medical year, the Dean, hospital tutors, representatives of academic staff, and of non-academic clinical staff are the members. When matters affecting a particular department are discussed, a member of that department is invited to attend. Comments about teaching and the curriculum in general are taken seriously and if necessary forwarded to the Preclinical or Clinical Sub-Committee.

The Deanery

The Dean is the Executive Secretary of the Faculty; he is elected for three years and may be re-elected. The Dean is part-time. There are no sub-deans, but recently a working party recommended the appointment of a full-time medically qualified administrator.

Miscellaneous Topics

Some departments (for example, Microbiology) have exchanged teaching materials and MCQ questions with other medical schools.

STUDENT ASSESSMENT

Curriculum changes have brought changes in the pattern of assessment, directed mainly towards the introduction of 'critical' in-course assessment.

Early Years

In preclinical subjects a mixture of in-course and end-of-course assessment techniques are used; in-course tests contribute up to 40 per cent of the total marks available. Both include objective tests, assessments of practical work and oral examinations, but in addition essay questions are used in end-of-course examinations. In the paraclinical subjects, in-course assessments (including objective questions, prepared written work, practical course work and oral tests) also contribute significantly. Here, end-of-course examinations involve objective questions, essay questions and oral tests; in addition, a practical exam is held in microbiology.

Clinical Subjects

The new pattern of assessment is under discussion. The present system requires a student to pass both the final written and the final clinical assessment independently. It is almost entirely based on end-of-course examinations: only in medicine does an in-course MCQ account for 10 per cent of the final marks. Techniques used in the end-of-course theoretical assessment are objective-type questions, essay questions and oral examinations for all students. In the 'practical' clinical assessment long cases, short cases, and oral tests are employed. Several departments run in-course assessment for internal purposes and these may become more significant in the new system.

Regulations

Compensatory passes between subjects are permitted in the premedical and preclinical years, provided the failure is marginal. At the second attempt at an examination a student is normally re-examined only in the subject failed but at the third attempt all concurrent subjects must be taken again. No subject can be 'carried', a student failing in re-examination must repeat the year. Up to the end of Year 3, a student must withdraw if an examination is not passed within two years of registering for it.

In all the major assessments, external examiners are involved in setting examinations, moderating the over-all standard and in arbitrating in border-line cases; they are not greatly involved in the in-course assessment.

Advice and Assistance to Students

Academic problems may be discussed by students with the heads or other members of departments; and clinical students are encouraged to turn to the hospital Tutors (qv). The University's Student Health Service, the chaplains, and the Dean of Residence for Women Students all provide help and guidance in connection with personal problems.

Revision courses in anatomy and in obstetrics and gynaecology are arranged for students failing in these subjects. Students who fail in the Final examinations are interviewed by the professor(s) of the subject(s) concerned and individual tuition may be arranged.

PROBLEMS

Great difficulties are found in recruiting medically qualified teachers to the preclinical departments. In general, the staff-student ratio is much lower than in the UK, which prevents the desired amount of individual and small group teaching. The Medical School relies heavily on consultants in the affiliated hospitals and is unable to give them the academic status or the financial recognition they would like.

The medical school has taken over space vacated by other departments who have moved to the new university campus: accommodation is therefore no longer a problem. However, faculty administration is understaffed, though the arrangements are improving: the financial situation is blamed for this.

DEVELOPMENTS

Over the next few years all energy will be concentrated on implementing the new curriculum. In the long term the clinical schools of University College Dublin and Trinity College Dublin may combine to achieve a more rational use of resources, though there have been no moves in this direction for some time.

Periodically, the suggestion is made to abandon the premedical year but circumstances in Ireland still show its usefulness. There is speculation about postgraduate education and the role of the medical school in it; and about the implications of EEC directives and the Merrison report for the length of the undergraduate course and its objectives.

NATIONAL UNIVERSITY OF IRELAND

University College Galway

Qualifying Degree. MB BCH BAO (NUI)

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Premedical: modified 1974

Preclinical, clinical: established

GMC Correspondent. Professor C. McCarthy

See Note on p. 354.

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

Regional Hospital, Newcastle, Galway (including Merlin Park Hospital)

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

St Bridget's Hospital, Ballinasloe, and the County Hospital at Castlebar are used for teaching regularly but not intensively.

Note. 'AHA(T)' arrangements do not apply in the Republic of Ireland. Hospitals are recognized by the Minister of Health as teaching hospitals.

SELECTION

The main criterion for selection is academic ability—students are selected on the basis of performance in school-leaving examinations, according to a 'points' system. The general background of a student may also be taken into account, and occasionally an interview might be held. Normally places are only available to students born and/or educated in Ireland (thirty-two counties), although in certain circumstances other candidates would be considered. Three places are reserved for applicants from developing countries. Occasionally an 'exceptional' student may enter the 'first medical' (ie first preclinical) year.

In 1969, a limit was imposed on the number of medical places available, although entry to the premedical year was unrestricted; in 1970, a restriction was also imposed upon the premedical year entry, and the total number is now fixed at seventy.

FEATURES OF THE CURRICULUM

The course lasts six years: the premedical year is compulsory, except for the few exceptional candidates who may be permitted to enter the first medical year direct. There follows a period of nearly two years of preclinical studies, an introductory clinical course, and three years of clinical work.

Early Years

The premedical year contains an interdisciplinary course in human biology, introduced in 1974.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				APPROXIMATE LEARNING TIME	NAME	ACADEMIC YEAR
		TERMS TAUGHT						
		1	2	3	(4)			
1	Pre-Medical Year	+	+	+		162 hours	Chemistry Physics Biology Human Biology (including Behavioural Sciences)	1
		+	+	+		135 hours		
		+	+	+		78 hours		
		+	+	+		100 hours		
2	1st Medical Year	+	+	+		261 hours	Anatomy (with Histology and Embryology) Physiology Biochemistry	2
		+	+	+		139 hours		
3	2nd Medical Year Intro. Clinical Stage	+	+			63 hours	Neuroanatomy Physiology Biochemistry	3
		+	+			104 hours		
		+	+			69 hours		
				+		96 hours		
				+	48 hours	Introductory Clinical Course (including Behavioural Sciences) Pathology and Bacteriology Pharmacology	3	
				+	12 hours			
4	3rd Medical Year	+	+	+		150 hours	Pathology Bacteriology Pharmacology Medicine) Lectures Surgery) Medicine (60 or 120 hours) one term attached to one subject, Surgery (120 or 60 hours) two terms attached to the other	4
		+	+	+		86 hours		
		+	+	+		120 hours		
		+	+	+		60 hours		
		+	+	+		30 hours		
		R	R	R		30 weeks PT		
+	+	+		80 hours	Experimental Medicine Preventative Medicine	4		
+	+	+		60 hours				
5	4th Medical Year	+	+	+		135 hours	Lectures in Medicine (30 hrs), Surgery (30 hrs), Paediatrics (25 hrs), O + G (50 hrs) Paediatrics Obstetrics and Gynaecology ENT/Ophthalmology/Dermatology Psychiatry Forensic Medicine and Pathology Preventative Medicine Medical Ethics Therapeutics Medical Psychology	5
		R	R	R		10 weeks $\frac{1}{2}$ T		
		R	R	R		10 weeks $\frac{3}{4}$ T		
		R	R	R		7 weeks $\frac{1}{2}$ T		
		R	R	R		3 weeks $\frac{1}{4}$ T		
		+				24 hours		
		+				20 hours		
		+	+	+		10 hours		
		+	+	+		30 hours		
		+				10 hours		
6	5th Medical Year	+	+	+		c. 200 hours	Lectures and Tutorials in Medicine and Surgery Medical or Surgical Attachment (complementing experience in Year 4) Obstetrics/Gynaecology: lectures and tutorials Junior Medical Internship Junior Surgical Internship Selective Internship	6
		+				10 weeks PT		
		+	+	+		84 hours		
		R	R			4 weeks PT		
		R	R			4 weeks PT		

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	28 weeks	1974: 70 Estimate for 1979: 70	Pre-medical Examination	1
2	30 weeks	1974: 71 Estimate for 1979: 70	College Examination (Physiology, Biochemistry) (some contribution from in-course assessment) First Medical Examination (Anatomy)	2
3	30 weeks	65	Second Medical Examination (Physiology, Biochemistry) College Examination (Neuroanatomy)	3
4	30 weeks	1974: 59 Estimate for 1979: 70	Third Medical Examination Part I (Pathology, Bacteriology, Pharmacology, Experimental Medicine, Psychology) (contribution from in-course assessment)	4
5	30 weeks	63	Third Medical Examination Part II (Forensic Medicine, Preventative Medicine, Medical Ethics) Fourth Medical Examination (Psychiatry, ENT, Ophthalmology) (contribution from in-course assessment)	5
6	30 weeks	74	Final MB Examination ("Fourth University Examination in Medicine") (Medicine, Surgery, Obstetrics/Gynaecology, Paediatrics) (contribution from in-course assessment)	6

Clinical Aspects

The introductory clinical course, held in the second and third terms of the third year, is interdisciplinary in organization; it lasts ten weeks, and consists of fifty lectures and thirty tutorials. During this period, students are free also to attend the wards, and indeed each of them is assigned as a junior nurse to a ward for eight hours a day for one week during the course. This period is intended to familiarize the student with hospital routine and with patients; the student actually works as a nurse, under the direction of the ward sister. Responsibility for the organization of the course lies with the Clinical Vice-Dean. Marks for both the clinical and theoretical parts of the course contribute 10 per cent of the marks to the Final MB examination in medicine and surgery.

During the first clinical year proper, there are 100 lectures and students are at the same time attached to medical and surgical firms (one term of one and two of the other, to choice) and must clerk patients. In addition, four to six tutorials are held weekly; these are specifically a teaching activity, separate from patient care. Pathology and bacteriology are also taught. In the second year, there are about 140 lectures and students are attached in rotation to paediatrics, obstetrics and gynaecology, ENT and ophthalmology. During the obstetrics and gynaecology period, students are expected to spend six weeks in residence. As in the first clinical year, a number of tutorials are held and students are able to attend wards at any time. During the third, and final clinical year, the students are attached to either a medical or surgical firm (the choice depends on which firms were taken in the first clinical year) and have a series of lectures and a number of tutorials. A teaching firm is normally made up of six clinicians from one specialty (one consultant and five juniors) and the number of students attached to a firm is normally ten.

Typically, students spend fifteen weeks in residence in or near a hospital. However, Galway City is the smallest in the British Isles to sustain a medical school; no students will live very far from the hospital at any time. Little time is spent by students in non-hospital clinical settings; a general practice attachment of one week is optional, but in addition to this a student might spend some six to twelve hours on visits, etc.

Intercalated Degree of BSc

At Galway, students have the opportunity of taking an intercalated degree; this would normally be between the preclinical and clinical stages, but may be taken at the end of the clinical course. While there is no fixed number of places, students must attain a specified academic standard, and two or three students enter for the degree each year. It is possible to take a BSc degree in anatomy, physiology, or biochemistry, and if a student wished to read pharmacology or experimental medicine, it is probable that this could be arranged. The degree involves both research work and course work; it is awarded on the basis of a dissertation and examinations.

Elective Experience and Course Options

During the final clinical year, there is a period of one month when the student can choose a third 'junior internship' from a number of possibilities. The

period can be spent either in the teaching hospital or away from it, and most students do the latter. The student's performance on the elective is not assessed in any way.

At the end of Year 4 the Professor of Experimental Medicine arranges a summer programme, whereby a small number of students have the opportunity to get 'direct medical computational experience in a multi-disciplinary environment'.

CURRICULUM CONTROL AND DEVELOPMENT

Ultimate control within the medical school rests with the Medical Faculty which consists of all statutory teachers of medicine; this body is responsible to the academic council of the University and it meets monthly. There is also a Curriculum Committee, whose main function is to consider suggested curriculum changes. It has student members from each clinical year and representatives of each department in the school.

Regular general course reviews are not held: however, individual courses may be considered by the Curriculum Committee if so requested by staff or students. Apart from 'Human Biology' and the 'Introductory Clinical Course', which are administered by co-ordinators, departments take general responsibility for the content, presentation, and administration of courses.

The Deanery

The Dean of the Medical Faculty is a part-time appointment; he is elected by Faculty every three years. He is supported by two vice-deans: the Clinical Vice-Dean and the Preclinical Vice-Dean. They are appointed by the Dean.

Miscellaneous Topics

The College runs an annual training course in teaching methods.

STUDENT ASSESSMENT

Over the last few years progressive assessment has been introduced. This has proved very useful in monitoring students' progress.

Early Years

In the preclinical and paraclinical subjects, assessment is mainly by end-of-course assessment; methods used include objective-type tests, questions demanding short written answers, and essays. There is also an element of in-course assessment and this takes the form of objective-type tests.

Clinical Subjects

Assessment of the clinical subjects is also by a combination of end-of-course and progressive assessment. Marks from the Introductory Clinical Course contribute to the final examination and a proportion of the marks here is also derived from the assessments at the end of each surgical, medical, paediatric, and obstetric attachment (these assessments are based on multiple-choice questions, case notes and a general assessment by members of staff).

The final examination is split with some subjects being taken at the end of the penultimate year and other subjects at the end of the final year. The final clinical 'practical' examinations consist of long cases and short cases; 'theoretical' aspects are tested by objective, essay, and short-answer questions, and oral examinations. The two aspects, theoretical and practical, must be passed independently.

Regulations

If a student fails a major assessment, he is normally re-examined in the failed subject only, except very early in the course. A student will be asked to repeat a year if he has failed the second or third year examinations on resit. A student will be asked to withdraw from the medical course if he fails to pass the resit examinations at the end of a repeated year. A student may carry a subject in the clinical years only, but may not sit finals until Parts III and IV are passed.

External examiners take an active part in most examinations (but not in-course assessments) and are involved in setting the examination, maintaining an over-all standard and arbitrating in marginal cases. Most students are seen by an external examiner at some stage of each major examination.

Advice and Assistance to Students

Students with problems connected with their studies are expected to discuss them with members of the appropriate departments. For personal problems, the College has a system of 'Deans of Residences', one for men and one for women students.

No formal revision courses exist; informal arrangements may be made where practicable for individual students.

PROBLEMS AND DEVELOPMENTS

There are two main problems relating to the clinical medical school. The first is a very poor staff/student ratio; all consultant teaching staff—including professors—are part-time university employees, and there are too few of them. The College feels that some full-time academic and professorial staff would be desirable.

The second problem relates to the lack of facilities for teaching and research in the hospital. Lecture and laboratory facilities are inadequate for the number of students; there is no provision for professors' or lecturers' offices, research laboratories, seminar rooms where patients may be taken for teaching, or student common rooms or cloakrooms. While the need for teaching space has been acknowledged by the University, it does not seem that any funds will be forthcoming.

University of Newcastle upon Tyne

Qualifying Degree. MB BS

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Established course; under review

GMC Correspondent. Mr N. Shott

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†Royal Victoria Infirmary, Newcastle upon Tyne NE1 4LP

*†Newcastle General Hospital, Westgate Road, Newcastle upon Tyne NE4 6BE

*†Princess Mary Maternity Hospital, Great North Road, Newcastle upon Tyne
NE2 3BD

*†St Nicholas Hospital, Gosforth, Newcastle upon Tyne NE3 3XT

(The Freeman Road General Hospital will also be extensively used for teaching, when it is commissioned.)

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

(A large number of hospitals in the region are used for final year appointments: probably in none of these would there be more than six students at any time.)

* Within AHA(T).

† Within teaching district.

SELECTION

As a result of keen competition for medical school places a high academic standard is required. Successful candidates must also have appropriate personal qualities and motivation for a medical career. Selection is undertaken by a small committee of selectors under the Chairmanship of the Dean of Medicine; grades are awarded according to the academic ability, personality, and motivation of the individual candidates. If necessary, candidates are interviewed, but mostly, interviews are confined to candidates about whom selectors wish to obtain further information, for example, graduate, mature, overseas candidates, and candidates with health difficulties. All those offered places are invited to visit the Medical School and to meet the Dean, officers, and staff.

A limited number of graduates is admitted and a limited number of overseas candidates, preferably from the under-doctored countries. A maximum of ten students from Oxford and Cambridge are admitted each year directly to the clinical stages of the course.

There have been no radical changes in selection procedures in recent years, but more graduates and mature students are now admitted; fewer overseas

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES			NAME	ACADEMIC YEAR
		TERMS TAUGHT (1; 2; 3; 4)		APPROXIMATE LEARNING TIME		
1	Pre-Medical	+	+	372 hours	Biology Chemistry Physics	1
		+	+	186 hours		
		+	+	186 hours		
2	Stage I (pre-clinical)	+	+	87 hours	Cells, Tissues and Body Fluids Blood Cardio-vascular System Anatomy Family and Community Medicine Biostatistics (10 hrs); Use of Library - Methods of Learning (10 hrs) Respiration Digestive System Metabolism, Nutrition and Diet Nervous System Special Senses Growth and Development	2
		+	+	43 hours		
		+	+	55 hours		
		+	+	177 hours		
		+	+	40 hours		
		+	+	20 hours		
		+	+	53 hours		
+	+	59 hours				
+	+	73 hours				
+	+	61 hours				
+	+	16 hours				
+	+	16 hours				
3	Stage II (para-clinical)	+	+	7 hours	Growth and Development Genetics Kidney, Nutrition, Hydrogen ion & Temp. Regn. Reproduction and Human Sexuality Microbiology General Pathology Pharmacology Environmental Medicine and Biostatistics Clinical Biochemistry Hospital Orientation	3
		+	+	10 hours		
		+	+	41 hours		
		+	+	26 hours		
		+	+	132 hours		
		+	+	58 hours		
		+	+	75 hours		
+	+	18 hours				
+	+	16 hours				
+	+	9 hours				
+	+	3 weeks FT				
4	Stage III (clinical)	R	R	10 weeks ½ time	General Medicine General Surgery Paediatrics Family Medicine Casualty Orthopaedics Radiology Interdisciplinary Systems Courses Clinical Elective	4
		R	R	10 weeks ½ time		
		R	R	10 weeks ½ time		
		R	R	5 weeks ½ time		
		R	R	58 hours		
		R	R	2 weeks ½ time		
		R	R	1 week ½ time		
+	+	268 hours				
+	+	13 weeks FT				
5	Stage III (clinical)	R	R	7 weeks ½ time	Psychiatry Gynaecology Neurology Dermatology Pathology clerking Ophthalmology Cardiology, Dental Surgery Practical Pharmacy Interdisciplinary Systems Courses Lectures - Anaesthesia, Forensic Medicine, Clinical Pharmacology and Therapeutics Stage IV Attachments commence (see below)	5
		R	R	7 weeks ½ time		
		R	R	3½ weeks ½ time		
		R	R	3½ weeks ½ time		
		R	R	3½ weeks ½ time		
		R	R	1½ weeks ½ time		
		R	R	1 wk each ½ time		
+	+	147 hours				
+	+	c. 25 hours				
+	+	c. 3 months				
6	Stage IV (clinical)	R	R	9 months	Stage IV Attachments continue: General Medicine (8 wks); General Surgery (8 wks); O + G (8 wks); Child Health (4 wks); Psychiatry (4 wks); Geriatrics (2 wks); ENT (2 wks); Anaesthesia (2 wks); Venereology (1 day); Elective (6 wks).	6
		R	R	9 months		

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	32 weeks	1974: 5 Estimate for 1979: 6	Pre-Medical Examination	1
2	31 weeks	1974: 108 Estimate for 1979: 130		2
3	40 weeks	135	Stage I MB BS (contribution from in-course assessments) Stage II MB BS	3
4	46 weeks	1974: 108 Estimate for 1979: 140		4
5	46 weeks	95	Final MB BS Part I (all subjects studied hitherto)	5
6	37 weeks	104	Final MB BS Part II (all clinical subjects) (contribution from in-course assessments)	6

candidates have been admitted recently. There are no plans for major changes in the selection procedure.

FEATURES OF THE CURRICULUM

The curriculum is designed to provide a 'more simple and more logical view of the study of medicine' for the student to 'stimulate and hold his interest'. The traditional separation between preclinical and clinical is to a large extent removed, and as far as is practicable the course of study is based on the systems of the body; departments then make their contributions to particular systems. Up to six students each year are taken in to a premedical year; the medical course proper lasts five academic years and is split into four stages.

The whole course at Newcastle is based upon interdisciplinary teaching; throughout the preclinical and clinical years, interdisciplinary courses are run. In the first stage all courses are interdisciplinary with the exception of certain aspects of anatomy. (The interdisciplinary nature of the teaching means that estimates of teaching time may often be overly low ones.)

Early Years

Stage I (the preclinical stage) courses include such subjects as biostatistics, use of the Library, and methods of learning, in addition to interdisciplinary courses. In over-all approach, these latter are designed to stress that disease can only be considered logically and comprehensively on a systematic basis, and to demonstrate that all disciplines are concerned in the proper understanding of a disease and its management. In Stage II, the paraclinical subjects are studied.

Clinical Years

During Stages I and 2, about fifty hours of clinical teaching are given, followed by an Introductory Clinical Course in July of the second preclinical year. During Stage 3, which lasts about two years, students undertake prescribed clinical clerkships in the mornings and in the afternoons receive integrated instruction based on the systems of the body.

A minimum period of six weeks' residence is stipulated; however, students will normally spend forty weeks in or near a hospital—but mainly during the final year when they are attached singly or in pairs to selected clinical units on a whole-time basis.

The teaching units for patient-based teaching are firms which consist of between two and ten clinicians. During the first two clinical years, patient-based clinical teaching is separate from patient care and three to six students are attached to a firm. In the final year no more than two students are attached to a clinical unit at any one time. In most cases such students are resident, take an active part in the work of the unit and are given a reasonable amount of responsibility.

Theoretical teaching on the basis of interdisciplinary courses takes place during the first two clinical years only and is separate from patient-based teaching.

Intercalated Degree of BMedSci

Students of above average ability may take an intercalated course for the Honours BMedSci degree; normally no more than ten students can be provided with supervision and facilities. The course which lasts one year during which students undertake some research and some course work can be taken in one or more of a number of disciplines and is usually taken between the pre-clinical and clinical stages. The degree is awarded on the basis of written examination, dissertation and in-course assessment.

Elective Experience and Course Options

There are two opportunities for elective studies: at the end of the first clinical year and during the final year. The first period is of thirteen weeks and the subjects, to be approved by the Dean, are in all branches of hospital and community medicine. This has proved a useful introduction to the wide range of subjects available. A tutor guides students in their choice. As many as 50 per cent of the students elect to visit North America during this period.

The second period lasts six weeks and students study clinical subjects largely of their own choice—most students choose from orthopaedics, cardiology, neurology, and dermatology. This elective is generally taken at a hospital within the Region.

The option is open to students at the start of the clinical course to undertake a special project, under the supervision of a member of academic staff. This is intended to develop a critical approach to scientific problems and an appreciation of the techniques of experimental science. The project is carried out over two years and students who complete projects submit dissertations. The result of the project assessment is taken into account in the award of honours in the final MB BS examination.

CURRICULUM CONTROL AND DEVELOPMENT

The Board of the Faculty of Medicine is the ultimate authority, but over-all structure and content of the curriculum is determined by the Medical Curriculum Committee. The membership of this Committee is; the Dean, the Clinical Sub-Dean, heads of recognized University departments, and the Stage Committee Chairmen. There is a Stage Committee for each of the four stages—these are responsible for the over-all administration of the stages and for co-ordinating the component courses within the stages. System and Topic Course Committees are responsible for the detailed planning and organization of the courses within the stages—membership can vary with the topic from six to twenty. There is an Examination Sub-Committee, directly responsible to the Board of the Faculty, for each Professional Examination.

The Staff/Student Committee exists to provide a formal channel of communication whereby student opinion on the curriculum can be taken into account. Staff-student stage discussion groups provide feedback to the Stage Committees.

The Deanery

The Dean is appointed by the Council after consultation with the Senate. The appointment is for five years, renewable, and there is no time limit. There is

also a Clinical Sub-Dean who has responsibility for the clinical course in general. It is hoped to supplement these two people with a part-time Academic Sub-Dean, a part-time Associate Dean, and a part-time Postgraduate Dean.

STUDENT ASSESSMENT

Early Years

Stage I is assessed in December of the second preclinical year. It is partly an end-of-course assessment and the following methods are used: short answer questions, essays, open book examinations, practical examinations and selective orals. In addition the performance of candidates during the courses for Stage I is taken into account—this accounts for 40 per cent of the marks.

The paraclinical subjects (Stage II) are assessed exclusively by end-of-course methods—short-answer questions, essays, and orals.

Clinical Subjects

The theoretical aspects of clinical studies are assessed by end of course examinations held at the end of the second clinical year consisting of written papers (MCQ's and essay-type) and an oral. The examiners in this part of the final examination may take into account progress in clinical appointments. The practical aspects of the clinical course are examined at the end of the final year. This examination incorporates an MCQ paper (oriented to clinical problem-solving), a clinical and oral examination, and an in-course assessment of clinical competence made by consultants to whom the student is attached on a whole-time basis during the final year. In the clinical examination each candidate is examined on a long case (which may be in any discipline) and on a series of short cases.

Regulations

As the major examinations are integrated, compensation arrangements do not apply. The paper as a whole is either passed or failed. Students failing major examinations on resit may be required to retake courses or years of study, or to withdraw, depending upon circumstances.

External examiners do not play a role in the Stage II MB BS examination but otherwise are involved in setting the examinations, maintaining an overall standard and arbitrating in borderline cases. External examiners are not, however, involved in the in-course assessment in any way.

Advice and Assistance to Students

On entering the Medical School each student is appointed to a tutor for the duration of his course. The tutorial system is a personal one and is designed to establish a personal relationship between students and staff and to provide information or counsel on any matter.

All members of the academic staff are available to help students with their academic problems. The Faculty Sub-Committee on student progress exists to consider the problems experienced by individual students and consequently works in close consultation with the medical school departments. There are a number of welfare agencies to deal with personal problems: University Health Service, the chaplaincy, etc.

PROBLEMS

Delay in the building of the new medical school is leading to overcrowding. The present facilities were built for preclinical and paraclinical departments only and the clinical departments which have developed at the Royal Victoria Infirmary are inadequate. Library facilities are inadequate, being overcrowded with both books and students.

Preclinical departments are under-staffed and are experiencing difficulties in obtaining sufficient medically qualified staff. In the clinical area, there is a danger of over-use of certain patients because of a heavy postgraduate teaching load, additional to the undergraduate teaching.

Because of recent cutbacks, it seems unlikely that sufficient money will exist for the provision of technical support for the audiovisual and television facilities.

The reorganization of the NHS has made the decision-making process unwieldy. Despite this, liaison with the hospitals used for teaching is generally excellent, and the Medical School is well represented on the area and regional health authorities.

DEVELOPMENTS

Complete integration has not yet been achieved, and teaching has been too concentrated, detailed, and with too much factual content. Self-learning has not been sufficiently encouraged and little opportunity has been provided for academic and personal interests. Many of the social, emotional, and ethical aspects of medicine have not been sufficiently emphasized. Exposure to general practice has been inadequate. Some of the present in-course assessments have not been entirely satisfactory and the Committee structure has been too cumbersome.

Because of all these points, the Curriculum Review Committee has been reviewing the Curriculum; the Committee has twelve members and has met some fifty times since February 1972. Its recommendations for a revised curriculum have now been approved and adopted. Two Working Parties, one for the first two years and one for the last three years, have been concerned with the detail of the curriculum and courses. The Committee structure will be changed. Teaching will be less concentrated; library reading and original work will be encouraged; the clinical content of the first two years will be increased; and integration between the stages will be improved. There will be increased teaching of general practice and social medicine; the use of seminars and small-group discussions will be extended where possible; and specialist clinical disciplines will be given more emphasis.

Throughout the course there will be more emphasis upon the patient in relation to the community.

STOP PRESS

The New Curriculum starts in October 1976 with an intake of 130 students. The annual intake will continue at this rate until the new Newcastle Medical School opens, when it will rise to 200.

In the New Curriculum the first two years (Stage I) will consist of a study of human biology, taught throughout on an integrated and systematic basis, which commences after a four-week introductory course on cell biology. One morning each week will consist of a clinical session and an ongoing course on human development, behaviour, and ageing will continue throughout all six terms. In the fifth and sixth terms there will be core courses on the medical laboratory disciplines.

The next two years will continue much as at present. However, systematic courses on trauma, immunology, and oncology will be included during the third and fourth years (Stage II—present Stage III) and clinical appointments will be held in oncology, plastic surgery, and the medical laboratory disciplines. The final year (Stage III—present Stage IV) will be little changed. Electives, long-term projects, and the intercalated Honours BMedSci course will continue. There will be changes in the timing and structure of some examinations.

Administration

An Associate Dean and an Academic Sub-Dean have been appointed, and the appointment of the Clinical Sub-Dean continues. These, together with the Dean of Medicine (Chairman), are *ex-officio* members of a new Curriculum Committee which comprises ten members nominated by the Board of the Faculty of Medicine, two co-opted members and four students nominated by the student body. There are eighteen system and topic course sub-committees of the Curriculum Committee, which are responsible for the planning of the systematic courses both in Stage I and Stage II. Integration of the curriculum is carried out by the Curriculum Committee, to which the System and Topic Sub-Committees report. Other sub-committees (examination committees, Staff/Student discussion groups, Stage co-ordinating committees) also report to the Curriculum Committee. The Curriculum Committee is responsible to the Board of the Faculty of Medicine.

University of Nottingham

Qualifying Degree. BM BS

Curriculum Stages Offered. Preclinical; clinical

Curriculum Status. Course commenced in 1970

GMC Correspondent. Dr J. G. McCrie

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*† Nottingham Children's Hospital, Chestnut Grove, Nottingham NG3 5AF

*† Nottingham City Hospital, Hucknall Road, Nottingham NG5 1PB

*† Nottingham General Hospital, Park Row, Nottingham NG1 6HA

*† Mapperley Hospital, Porchester Road, Nottingham NG3 6AA

*† Nottingham Eye Hospital, The Ropewalk, Nottingham NG1 5EQ

*† Nottingham Hospital for Women, Peel Street, Nottingham NG1 4GP

Note. The University Hospital, Nottingham, will be the main centre of teaching activity when it is completed in the late 1970s.

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Derbyshire Royal Infirmary, London Road, Derby, DE1 2QY. (Use of this hospital is below the above criterion at present, but its use is increasing and will soon exceed it.)

* Within AHA(T).

† Within teaching district.

SELECTION

All available information about candidates is taken into account by the selection committees. Initial selection for interview is carried out by independent panels composed of heads of departments, and virtually all applicants ultimately offered places are interviewed. The interview panel consists of two heads of department, together with a senior member of staff from another department. This ensures that both medical science and clinical departments are represented. The Faculty's Admissions Officer (a senior lay administrator) also attends all interviews and is responsible for all administrative work involved in the selection procedures.

There are no quotas for any particular category of applicant and while there is no fixed upper age-limit, applicants of over 30 would need special consideration. The main characteristics looked for are: ability to cope with and contribute to the medical course, motivation towards medicine, personal qualities, and outside interests and potential for future development. There are no plans to change the selection procedures. Graduates are normally

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				NAME	ACADEMIC YEAR		
		TERMS TAUGHT	APPROXIMATE LEARNING TIME						
		1	2	3	4				
1	B. Med. Sci. Part I Year 1	+	+			72 hours	Introductory Course Cell Structure and Function Cell Excitation Embryology The Community Cell Biochemistry Theme Discussion Groups Behavioural Sciences General Anatomy Introduction to Nervous System Cardiovascular System Respiratory System (14 hrs); Locomotor System (30 hrs); Haemopoietic-Lymph-Vascular System (35h)	1	
		+				36 hours			
		+				18 hours			
		+				8 hours			
		+				38 hours			
		+	+			83 hours			
		+	+			20 hours			
		+	+			27 hours			
		+	+			126 hours			
		+	+			44 hours			
		+			48 hours				
		+			99 hours				
2	B. Med. Sci. Part I Year 2	+	+			26 hours	Cell Biochemistry Alimentary System, Kidney, Reproductive System General Pathology The Community Theme Discussion Groups Central Nervous System Behavioural Sciences General and Biochemical Pharmacology Metabolism and Nutrition Endocrine System, Disordered Metabolism Commencement of Options (see below)	2	
		+				56, 40 + 36 hrs			
		+				90 hours			
		+				42 hours			
		+				25 hours			
		+				60 hours			
		+				35 hours			
		+				24 hours			
		+				29 hours			
		+				35 + 15 hours			
		+			2 months FT				
3	B. Med. Sci. Part II	+	+			6 months FT	'Study in Depth': one of a number of options is studied: Biochemistry, Community Health, Human Morphology, Pathology, Physiology (including Pharmacology)	3	
		+							
	BM BS Part I			+			2 weeks FT		Introductory Course Junior Medicine (and medical specialities) Junior Surgery (and surgical specialities) Pathology Community Health** Central Integrated Teaching
			R	R			12 weeks PT		
			R	R			12 weeks PT		
			+	+			80 hours		
			+			12 hours			
			+			68 hours			
4	BM BS Part II 'The Middle Year'		R			6 weeks	Remaining 6 weeks of BM BS Part 1 * Child Health Psychiatry Orthopaedics/Accident Surgery/Anaesthetics/ Rheumatology/Physical Medicine Obstetrics and Gynaecology Ophthalmology/ENT/Dermatology General Practice Elective Central Integrated Teaching (covers broad aspects of the above subjects, including Pathology, Community Health and medico-legal topics)	4	
			R	R	R				8 weeks
			R	R	R				8 weeks
			R	R	R				8 weeks
			R	R	R				8 weeks
			R	R	R				8 weeks
			R	R	R				4 weeks
			R	R	R				4 weeks
			+	+	+				90 hours
5	BS Part III		R			6 weeks	Remaining 6 weeks of the 'middle year' Senior Medicine and specialities - Geriatrics, Neurology, Chest, Venereology, Psychological Aspects of Medicine Senior Surgery and specialities - Plastic Surgery and Burns, Neurosurgery, Thoracic Surgery, Urology, Psychological Aspects of Surgery Community Health ** Central Integrated Teaching (Includes Medicine, Surgery, Therapeutics, Pathology, Community Health, Radiology, and Forensic Medicine) Additional Hospital Practice	5	
			R	R	R				12 weeks
			R	R	R				12 weeks
			+	+	+				12 hours
			+	+	+				90 hours
	BS Part IV		+			8 weeks FT			
6						Notes:	* The first 20 weeks of BM BS Part 1 are taken within Academic Year 3, the remaining 6 weeks in Academic Year 4	6	
							** The first 42 weeks of the 'middle year' fall within Academic Year 4, the remaining 6 weeks in Academic Year 5.		
							** Students also undertake follow-up of patients in their homes		

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	32 weeks	1974: 48 Estimate for 1979: 160	(In-course assessments) Summation of In-course Assessments (unsatisfactory students take 'resit' examination)	1
2	36 weeks	47	(In-course assessments) In-course Assessment surmed for B.Med.Sci. Part I (unsatisfactory students take 'resit' examination)	2
3	46 weeks	1974: 41 Estimate for 1979: 144	(In-course assessments) B. Med. Sc. Part II (see text) BM BS Part I (Medicine, Surgery, Community Health, Pathology) (multi-disciplinary written examination)	3
4	46 weeks	44	BM BS Part II (Obstetrics/Gynaecology, Child Health) (rotating: written, clinical and oral examinations are taken following the relevant attachments)	4
5	38 weeks	42	Part III MB BS (all subjects except Obstetrics/Gynaecology, Child Health) Part IV MB BS (all or any subjects, depending upon individual students' earlier progress)	5
6				6

expected to have at least an upper second-class degree, but, if accepted, they are not exempted any part of the course.

FEATURES OF THE CURRICULUM

The curriculum has been planned to enhance curiosity, encourage good habits of learning, and lead to a familiarity with the broad field of medicine, but attempts to avoid the need to acquire an excessive and unnecessary amount of factual information. It seeks to integrate subjects, whether taught at the same or different times.

Early Years

During the first two terms the introductory ('initiation') courses include *inter alia* teaching about methods of medical inquiry, and discussion (and associated visits) about the scope and responsibilities of medicine. The remainder of the teaching during the first two years is organized under three themes, 'The Cell', 'Man', and 'The Environment', interdepartmentally. These years provide 'an understanding of the structure and functions of man, his response to drugs used in the treatment of disease, his place in the community, his growth and development, his behaviour and emotions, and his response to some of the main forms of environmental stress'.

There being only limited opportunity to dwell upon matters in depth in the first two years, every student must take the opportunity to study a subject in some detail in the third year (BMedSci Part II). This replaces the availability of intercalated degree courses offered elsewhere, but mirrors their objectives. Scientific method and the ability to make observations, handle data, test hypotheses, and relate these activities to the literature are emphasized. A project is undertaken and reported upon. Although the options are in single disciplines, the training is intended and believed to be of general value, in whatever direction a career subsequently develops.

Clinical Aspects

Clinical teaching is introduced to the students from their arrival at medical school. In the introductory course attention is given to the scope and responsibilities of medicine, the role of the doctor, the organization of the health service (including general practitioner and hospital care), methods of medical inquiry and measurement in medicine. Also visits to clinical situations are made. In the teaching of the Basic Medical Sciences course, clinical application of knowledge is emphasized. Practising clinicians take part in teaching and there are clinical demonstrations and extensive use of videotape. In addition to this clinical slant the student is expected to have mastered practical techniques that will be an essential element in the clinical years, and he is also given instruction in emergency medical care.

During the twenty-six clinical months, emphasis is placed on clerking where the students participate in the work of the unit to which they are attached. Each firm typically consists of two consultants and three or four juniors. On average five students are attached to each firm. Also, under the guidance of the Department of Community Health, students follow up some hospital domiciliary care and rehabilitation. In addition to clerking there is

small group on-site teaching, the aim being to provide instruction on specific topics related to each attachment and to allow opportunity for discussion.

One or two afternoons a week are devoted to integrated topic teaching carried out by interdisciplinary teams: this is the principal vehicle for 'theoretical' clinical teaching. There is an emphasis on interdisciplinary teaching throughout the clinical course, and theoretical and patient-based teaching are interrelated by the curriculum. Basic Medical Science departments contribute to the clinical teaching.

Another form of integration is achieved by allocating to firms students who followed different subjects during the Special Medical Sciences Course. A number of subjects are considered in small teaching groups, seminars, and formal lectures and include contributions from several departments: such subjects are community health, pathology, psychiatry, radiology, forensic medicine, and medical ethics.

No minimum period of residence for students is specified but the minimum would be approximately eighteen weeks and the average thirty weeks; they are expected to live in hospital for twenty-four hours when their firm is on emergency duty. Time spent outside the hospital in other clinical settings is limited to one month's attachment in general practice, and one month's elective period (see below).

Intercalated Degree

There is no opportunity for taking an intercalated degree at Nottingham: as indicated above, the School feels that the BMedSci Part II period obviates the need. The degree of BMedSci (Honours) is awarded to all students satisfactorily completing the first three years of the course—including, for reasons connected with the University's regulations, the first term of clinical work, a period not strictly a part of the BMedSci course.

Elective Experience and Course Options

For the BMedSci Part II, full-time 'study-in-depth' period, options presently available include, biochemistry, community health, human morphology, pathology, and physiology (with pharmacology). It is hoped to add the behavioural sciences to this list.

There is one elective period of four weeks; this is during the clinical course in Year 4 and may be—and generally is—taken away from the School. The period is used for acquiring clinical experience or to follow some course of study. The elective can be used to give the student additional time in a weak subject. Satisfactory attendance is required and while a formal assessment is not made, any comments by the assessor of the elective attachment are entered into the student's record. In arranging the elective, the student is interviewed by the Clinical Sub-Dean and is given advice and guidance about his choice. The Clinical Sub-Dean makes all the necessary arrangements and ensures that accommodation is available.

CURRICULUM CONTROL AND DEVELOPMENT

Whilst the Board of the Faculty of Medicine has over-all responsibility for the curriculum, there are three main committees which 'advise' it. These

committees represent all departments concerned with a stage of the course as a whole, and are responsible for the day-to-day running of courses through course co-ordinators. They are: the Medical Sciences Curriculum Sub-Committee, with responsibility for the curriculum for the BMedSci degree, meeting four times a session; the Examinations Committee, with responsibility for the examinations for the BMedSci degree, meeting four times a year; and the Clinical Curriculum and Examinations Sub-Committee, which until recently was meeting monthly.

While departments have administrative responsibilities in relation to the running of interdepartmental courses, they recommend and advise changes through the course co-ordinators or curriculum committees.

The Deanery

The Dean is appointed by the Senate on the nomination of the Board of the Faculty from among the professors who are members of the Faculty, for an initial period of three years, and is eligible for re-election. The department from which the Dean comes is given an extra staff member to undertake some of the Dean's departmental work. At present there is an office (part-time) of Associate Dean, but as he was particularly concerned with establishing the new curriculum, it is not known whether it will continue.

The Vice-Dean is elected from among the members of the Board of the Faculty to hold office for a period of not more than three years and to undertake such duties as are assigned to him by the Dean. There is also a Clinical Sub-Dean who has had the task of establishing the clinical course: 'clinical tutors' exist in each of the main Nottingham hospitals, acting principally as 'link men'. There is also an Associate Postgraduate Dean.

Miscellaneous Topics

A course on teaching methods, assessment techniques, etc., is offered annually to new teachers by the University. It consists of a two-day introductory period, followed by a further component of about one day per week for four to six weeks.

STUDENT ASSESSMENT

The assessment system during the BMedSci course consists of a large series of tests and other assessments spread over the course. The results are cumulative and contribute towards the class of degree awarded at the end of the third year. In-course techniques used are objective-type tests, essay questions, prepared written work, practical projects, and oral tests. In Year 3, pathology is assessed in a more traditional, end-of-course manner, with objective-type questions being used: an assessment is also made in-course of prepared written and practical work. Assessment of the study-in-depth year requires the submission of a dissertation.

Assessment in the clinical years is both in-course and end-of-course in nature. In the 'theoretical' part of the assessment, multidisciplinary end-of-course examinations are held, mainly in the form of MCQs. Other methods used in these end-of-course examinations are short answer questions, essays, and oral tests. In-course assessment for theoretical aspects consists of less

formal objective and oral tests. Regarding the 'practical' clinical aspects of the course, an important part of the in-course assessment is the 'Student Evaluation Report' which is completed by the firm or department to which the student has been attached for any given period. The final clinical examination consists of long cases, short cases, and assessments based on 'provided' data.

The formal BM BS examinations consist of Part I (at the end of first six months Junior Medicine and Junior Surgery), Part II (Obstetrics and Gynaecology, and Child Health) during the 'Middle Year', Part III (at the end of Senior Medicine and Senior Surgery), and Part IV (at end of the final two-month additional hospital practice). Part IV is only intended to be taken by weak students and potential Honours graduates, and is not a conventional final clinical examination.

Regulations

'Compensatory passes' (between 'themes') may be permitted at the discretion of the examiners, but can only occur in the first two years of the course, as later examinations are generally interdisciplinary in nature. Students failing on re-examination in the preclinical years would normally be required to withdraw, but in the clinical years this situation would normally lead to an extension of the course. However, a student failing in a single clinical attachment can repeat it during the period of additional hospital practice in Year 5.

External Examiners play an important role in the examination process, no examination papers being set without their approval. They see a selection of marked scripts, take part in oral examinations and 'moderate' marking to ensure that it is fair and consistent.

Advice and Assistance to Students

During the BMedSci course, each student has a tutor who gives advice on both academic and personal problems. In the clinical years the Clinical Sub-Dean is available for advice, assisted by six clinical tutors.

A student required to repeat any part of the course receives special supervision. Formal 'revision courses' are not offered.

PROBLEMS

Because of building delays, the school had the good fortune to operate for the first five years at a small size. This provided a splendid opportunity for the development of personal relationships and for curricular and teaching experiment.

The initially delayed building programme is now in full swing, and the school expects to expand in size quite rapidly. The main problems will be to relate the expansion accurately to the availability of resources, and to retain, at a much larger size, as many as possible of the features which have been established and tested and have been judged to be successful.

DEVELOPMENTS

The present arrangements may be summarized as follows. Students begin to acquire as early as possible the knowledge and skills which are special to their training and vocation. From the day of first entry onwards, they are shown how to apply the scientific method to medicine and how to use the tools of medicine, notably clinical observation, laboratory experiment, and the study of populations. In the first two years of the course, the student's interest is focused on man—the structure and function of man, his response to drugs used in the treatment of disease, his place in the community, his behaviour and emotions, and his response to some of the many forms of environmental stress. The third year is devoted to a special medical sciences course, during which every student can study a particular subject in depth: these courses are designed to foster critical study of principles, develop independence and precision of thought and activate the ability to work independently. In the course in clinical practice, emphasis is on clerking, small-groups, on-site teaching, and formal integrated teaching. There is emphasis throughout the course on integrated teaching.

The school plans to continue to develop along these lines, with little radical change foreseen in the near future. However, it is possible that a general option may be introduced for the BMedSci Part II period, for the weaker students; this would lead to an 'Ordinary' degree. It is also possible that moves may be made towards the introduction of a more 'adaptive' preclinical course, providing more opportunities for students to proceed through courses at varying paces: this is 'the logical progression from intermittent assessment'.

University of Oxford

Qualifying Degree. BM BCh

Curriculum Stages Offered. Preclinical; clinical

Curriculum Status. Preclinical: revised 1971

Clinical: revised 1972 (further changes imminent—described under 'Developments')

GMC Correspondent. Mr P. H. Brown

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†Radcliffe Infirmary, Woodstock Road, Oxford OX2 6HE

*†Churchill Hospital, Headington, Oxford OX3 7LJ

*†John Radcliffe Hospital, Headington, Oxford OX3 9DU

*†Littlemore Hospital, Headington, Oxford OX4 4XN

*†Nuffield Orthopaedic Centre, Headington, Oxford OX3 7LD

*†Warneford Hospital, Headington, Oxford OX3 7JX

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

(No other hospitals are used for teaching within the above criterion. However, small numbers of Oxford students would generally be found in hospitals in Kettering, Northampton, and Swindon, in addition to the Oxford locality.)

* Within AHA(T).

† Within teaching district.

SELECTION

Admission to the preclinical course is in the hands of the constituent colleges of the University and places within the over-all intake are allocated to colleges according to a mutually agreed scheme which takes into account the existence (and legal status) of single-sex and mixed colleges. As a qualification for entry, evidence of good academic achievement and potential is of paramount importance although, *ceteris paribus*, other personal attributes may carry some weight. In particular, tutors seek to ensure that entrants are capable of coping with, and benefiting from, an Honours degree course as well as passing their professional examinations. The great majority of candidates take an Entrance Examination (set by the University) in Natural Sciences, and, apart from a very occasional overseas applicant, all who are to be offered a place are interviewed. The University has established a Qualifying Examination in Zoology to cater for candidates who are accepted on performance in subjects which have a physical or mathematical bias. About five graduates are admitted each year but this is not a fixed proportion and places are offered strictly on individual merit and in competition with the school-leavers.

There is an (informal) machinery, supervised by the Preclinical Adviser, to provide a means by which the ablest applicants can gain admission to the

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES				NAME	ACADEMIC YEAR
		TERMS TAUGHT	APPROXIMATE LEARNING TIME				
		1	2	3	(4)		
1	First B.Sc. Course: Part I	+	+	+		111 hours	Physiology I Morphology I Biochemistry
		+	+	+		286 hours	
		+	+			119½ hours	
2	First BM Course (Part II)	+	+			54 hours	Physiology II Morphology II Biochemistry Principles of Cellular Pathology Principles of Experimental Pharmacology
		+	+			101 hours	
	+	+			50 hours		
		+	+			133 hours	
		+	+			97 hours	
					+	(see below)	Commencement of BA Honours Degree Course
3	BA Honours Degree Course	+	+			189 hours	BA Honours Degree Course: Students select subjects from a number of options (see text)
						+ private study + College Tutorials	
4	Second BM Course Stage I					15 weeks FT	Introductory Course (Pathology, Clinical Method, Clinical Pharmacology, Radiology and Psychology as applied to Medicine) General Medicine Geriatrics General Surgery Accident Service
		R	R			9 weeks FT	
	Stage II	R	R			1 week FT	
		R	R			6 weeks FT	
		R			4 weeks FT		
					R	(see below)	Stage III Rotations commence in July
5	Stage III	R				4 weeks FT	Orthopaedics Neurology Obstetrics/Gynaecology Psychiatry
		R				4 weeks FT	
		R				8 weeks FT	
	Stage IV	R	R			8 weeks FT	ENT/Ophthalmology/Orzmatology/Infectious Diseases/ Community Medicine/Chest Diseases/Prescribing/ Radiology/Venereology Paediatrics Elective
		R	R			8 weeks FT	
					R	(see below)	Stage V Rotations commence in August
6	Stage V	R				7 weeks FT	Medicine (with Ethics, Forensic Medicine, Therapeutics) General Practice Surgery Practical Anaesthetics Radiotherapy/Plastic Surgery/Oral Surgery
		R				1 week FT	
		R				5 weeks FT	
		R				1 week FT	
		R				2 weeks FT	

Note: Stages III and IV may be taken in either order

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	24 weeks	1974: 104 Estimate for 1979: 100	First BM Examination (Physiology 1 and Morphology 1)	1
2	24 weeks		First BM Examination (all Year 2 subjects)	2
3	24 weeks		Final Honours B.A.	3
4	45 weeks	1974: 65 Estimate for 1979: 100	Stage I BM Ch Stage II BM Ch	4
5	48 weeks		Stage III BM Ch Stage IV BM Ch	5
6	16 weeks		Stage V BM Ch (clinical and oral only)	6

University (at another College) if no place is available at their College of first choice.

Admission to the clinical school—which is not automatic for Oxford pre-clinical students—is organized separately. Again, academic considerations predominate and all successful candidates must hold an Honours degree. In the case of Oxford and Cambridge applicants, reports from the college tutors as well as examination results are taken into account, and in the case of applicants from elsewhere similar evidence is sought. Applicants from Oxford, and most from elsewhere, are normally interviewed by a small committee. Those Oxford students who transfer to London hospitals for their clinical training are normally expected to read for the London MB BS.

FEATURES OF THE CURRICULUM

The curriculum consists of a five-term preclinical (First BM) course, a four-term Honours BA course, and a clinical stage extending over two years and four months.

Early Years

The preclinical course finishes in March of Year 2. Colleges may arrange extra tuition for their entering students, when necessary, and most commonly this is given in zoology. The College tutorial system is the mainstay of Oxford teaching. College tutors supervise all their students' work over the preclinical course, undertaking teaching in their own field and calling upon colleagues for assistance in others. The tutors supplement and consolidate the lectures and practicals which are provided by the departments (and thus the raw 'official' teaching and figures given in Table A are underestimates). Seldom are more than one or two students present at each tutorial.

Behavioural sciences do not feature separately in the preclinical course although psychological aspects of behaviour are treated from the biological point of view in Neuro-anatomy/Neurophysiology (taught within Morphology II and Physiology II), in Year 2. Sociological aspects are, it is felt, best discussed at a later stage when students see 'real' social problems.

Following the preclinical course, students follow a four-term Honours BA degree course, although students who by some means have already obtained a BA Honours degree or equivalent before they enter the preclinical course can proceed directly into the clinical school. Most students take the Honours School of Physiological Sciences, whose course lasts four terms: students select six out of twelve possible courses. A small percentage of students choose courses in the School of Psychology, Philosophy, and Physiology, and a very few students choose to read Biochemistry as a single-honours degree subject—there is a choice of subjects within it, as there is within PPP. Teaching is by departmental lectures, practicals, and regular College-based tutorials, the latter being regarded as probably the most valuable to the student. In addition, a great deal of independent and vacation study is mandatory. Assessment is by formal written and oral examination.

Clinical Aspects

There is some clinical teaching in the preclinical course: about thirty-five lectures are clinically oriented and most of these are given in the hospital.

They cover clinical anatomy, clinical physiology, and applied morphology, and in addition talks are given to the Physiology class in Year 2, on physiologically based clinical research. Also, the Medical School Office organizes visits for groups of students to general hospital departments and to the Maternity Hospital.

The two year and four months clinical course which is in 1975 being replaced by a changed and extended course, see below, is divided in five stages, each of approximately five to six months. The unit for clinical teaching is usually a firm of two to three consultants, four to five juniors, and one to two research assistants, but may not be so in the smaller specialties: in medicine and surgery sub-specialists are deliberately scattered around the 'general' firms.

A typical student group contains six students in Year 4, ten in Year 5, and six in Year 6. Patient-based clinical teaching is an integral part of patient care: the apprenticeship principle is encouraged and students are expected to participate in patient care throughout the course, so that, for example, their case-notes become part of the 'official' record.

The first fifteen weeks of the clinical course is occupied by the full-time Introductory Clinical 'Bridge Course'. This is interdisciplinary in conception though only some teaching sessions are multidisciplinary in terms of personnel. It includes 'special pathology' (three complete post-mortems must be performed by each student), clinical pharmacology, radiology, psychology as applied to medicine, and an introduction to clinical method—history-taking, the clinical examination, etc. There are lectures, seminars, panel discussions, laboratory work, bedside teaching, clinical demonstrations, and of course tutorials. The course is based on the study in depth of particular problems in human pathology, and by coming at the very beginning of the clinical course, lays the groundwork for a logical approach to human disease. An 'Introductory Course Committee' supervises the course and attempts to balance the 'paraclinical' and 'clinical' elements.

In subsequent stages of the clinical course there is some formal 'theoretical' teaching not connected with concurrent clinical work, but most 'theoretical' teaching is given within the firm attachments. A two-year cycle of lectures is organized by the Director of Clinical Studies: they are given at 5 pm and attendance is optional. In addition, students of all stages are expected to attend the interdisciplinary case conferences, CPCs, surgical demonstrations, and therapeutics seminars.

Each student is attached to a tutor at all times during the clinical course. The student can also request another member of staff to help in respect of a particular specialty. The pattern is a one-hour tutorial a fortnight, with one or occasionally two or three students present. In obstetrics and gynaecology tutorials are held weekly.

The equivalent of two weeks is spent in non-hospital clinical settings. There is no compulsory minimum period of hospital residence, but the average student would spend fourteen weeks 'living in'. Furthermore, most students live near enough to one of the hospitals to spend evenings and weekends there without strictly speaking being 'resident'.

Intercalated Degree

All students—except as indicated above—take the BA degree course. However, a few students proceed to intercalate a further, postgraduate degree before entering the clinical course. They study for the degrees of MSc (1 year) or DPhil (2–3 years), which are research degrees. Approximately fifteen students a year take the opportunity—the number of places is not fixed—and do research, mainly in physiology, pathology, anatomy, pharmacology, or biochemistry.

Elective Experience and Course Options

In addition to the variety of options available to students in the BA Honours degree course, there is an elective period. Nearly all students leave Oxford for this period and many go abroad: India, Ethiopia, South Africa, Australia, Greenland, Canada, and the USA have all been chosen recently. Annual exchanges are in operation with two North American medical schools and one in Brazil. The 3,000-word essay which is required for the Stage IV assessment (see below) may be an account of the elective experience.

CURRICULUM CONTROL AND DEVELOPMENT

Although there is a bipartite structure in that matters relating to the pre-clinical course are administered separately from matters relating to the clinical course, there is a Joint Standing Committee for Medicine which acts as a bridge between the Boards of the Faculties of Physiological Sciences and Clinical Medicine and is primarily concerned with medical education in its wider aspects; its duties include consideration of the curriculum and proposals for the admission, teaching, and examining of medical students.

The Board of the Faculty of Physiological Sciences approves and supervises the broad pattern of the 'preclinical' courses run for both medical and non-medical students. It meets twice a term and has up to twenty-two members, including the Regius Professor of Medicine, the five preclinical professors *ex officio*, the Preclinical Adviser, ten elected and up to two co-opted members, and one representative appointed by each of the Boards of the Faculties of Biological and Agricultural Sciences, Clinical Medicine, and Psychological Studies. The Faculty is divided into the three Sub-Faculties of Anatomy, Pathology, and Pharmacology (APP), Biochemistry, and Physiology. It is an assembly of all academic staff in these disciplines, who elect their representatives to the Faculty Board which acts as executive to the Faculty. The Sub-Faculties meet once a term to discuss matters of current interest. All preclinical departments have departmental committees which among other things review teaching, propose modifications and therein provide a channel for bringing forward new ideas. The constitution is determined by the departments themselves and departmental committees have considerable influence on the content and organization of courses which remain firmly departmental responsibilities within the confines of the general syllabus laid down by the Faculty Board.

The Board of the Faculty of Clinical Medicine has the same role of oversight and authority with regard to the clinical course as the Board of the Faculty of Physiological Sciences in its sphere. It meets three times a term and

is chaired by the Vice-Chancellor or pro-Vice-Chancellor of the University. Other members include the Regius Professor of Medicine, twelve elected and two co-opted members, the Director of Clinical Studies, the Director of Postgraduate Medical Education and Training and representatives of the Board of Physiological Sciences (1), of the AHA(T) (1 medical, 1 non-medical) and of the RHA (1 non-medical). The Faculty of Clinical Medicine is the assembly of all academic staff which meets once a term and elects certain members of the Faculty Board.

The Joint Standing Committee for Medicine referred to above meets once a term and comprises the Regius Professor of Medicine, the Preclinical Adviser, the Director of Clinical Studies, four representatives of the Physiological Sciences Board and four of the Clinical Medicine Board. There is also a Curriculum and Examinations Committee of the Clinical Medicine Board which is specifically concerned with undergraduate education. It meets once a term and comprises the Director of Clinical Studies (chairman), the Regius Professor of Medicine, the Preclinical Adviser, two elected persons, and two faculty representatives. There are Joint Consultative Committees for the Physiological Sciences and Clinical Medicine Boards respectively. They meet once a term and provide a regular opportunity to discuss clinical and other academic questions with student members; student members (undergraduate and postgraduate) outnumber the senior staff members.

The Faculty of Clinical Medicine is divided into specialty groupings though these are still experimental. Heads of clinical departments traditionally arrange the content and organization of most courses in consultation with the Director of Clinical Studies (who is personally responsible for the lecture series) and within guidelines defined by the Faculty Board. A Bridge Course Committee, with representatives from the departments concerned, deals with the organization and timetabling of the multidisciplinary Bridge Course in Stage I.

Various procedures are adopted for initiating and effecting curricular changes. The establishment of the Honours School of Physiological Sciences was largely due to the efforts of individuals and departments. On the other hand, the present clinical curriculum (introduced in 1972), was planned by the Director of Clinical Studies and the Curriculum and Examinations Committee. A special body was constituted to review this curriculum in its turn, the Curriculum Review Committee, which received written evidence from individual students, individual staff and from departments. Its recommendations must, of course, be approved by the two relevant Faculty Boards and then the General Board of all faculties. The proposed new curriculum (see under 'Developments') will be implemented by the Curriculum and Examinations Committee.

The Deanery

There is no Dean of Medicine at Oxford: the Regius Professorship of Medicine is the position nearest to that of a Dean, in representing the medical school externally and in the high proportion of his time given to medical school matters. He is appointed by the Crown and his relationship to the other preclinical and clinical professors is one of 'primus inter pares'. Supporting him are the Director of Clinical Studies and the Director of Postgraduate

Education and Training—who are both in clinical practice—and the Pre-clinical Adviser: all are part-time appointments. The Colleges have wide discretion in many areas affecting (particularly) preclinical students, and the Preclinical Adviser maintains close and informal contact between the medical school and the Colleges.

Miscellaneous Topics

The University runs a course of instruction for teachers annually but it is not known how many medical teachers have attended. There is a Department for Educational Studies and also an advisory committee for audiovisual aids for the University as a whole.

STUDENT ASSESSMENT

Early Years

Assessment in the first three years is mainly by means of end-of-course examinations (mainly essays and short-answer questions) but laboratory course work must be carried out satisfactorily before a student is admitted to the examinations. In anatomy, intermittent MCQ tests are administered, but these are not part of the 'formal' examination system. In the paraclinical subjects the assessment procedures are similar.

Clinical Subjects

Intermittent assessments correspond to the five stages of the clinical course. Each assessment includes: a multi-subject paper (except in Stage IV where a 3,000-word essay is required), consisting of essay and, occasionally, MCQ questions; and clinical/oral examinations. Case-histories, case-notes, and post-mortem reports form part of the assessment system.

Regulations

In the preclinical course, each subject is examined quite separately, and compensatory passes are not possible. Students are re-examined only in subjects in which they have failed.

Compensatory passes between subjects are possible in the clinical course, but only within a Stage. Here, if a Stage assessment is failed as a whole it must all be repeated.

The reaction to a student twice failing a major examination or a stage assessment varies: in the preclinical course, the decision is the College's, but in the clinical course a student may 'carry' or repeat a stage, depending on personal circumstances. Students are more likely to withdraw if poor health (mental or physical) is the cause of the difficulty. Withdrawal occurs most frequently in the first preclinical year and the first clinical year.

External examiners are used extensively in all critical assessments: they take part in setting the examinations, they moderate the over-all standard, and they act, with internal examiners, as arbitrators in marginal cases.

Advice and Assistance to Students

Preclinical students are helped by their College tutors who are responsible for both their academic and general well-being. Most colleges also have moral tutors, chaplains, and medical officers, who may be consulted. Clinical students are helped by their personal and subject tutors and by the Director of Clinical Studies: the Medical School Medical Officer may also be involved.

Formal revision courses for failed/repeating students are not available but the student's tutor would provide necessary tuition or request the appropriate department to do so.

PROBLEMS

There are no problems at Oxford which are regarded as severe with respect to undergraduate medical teaching. However, the proliferation of committees following NHS reorganization has increased the pressure on the time of NHS clinical staff.

DEVELOPMENTS

Some colleges would like to increase their intake of preclinical students but departmental resources are not sufficient and an increased intake would disturb the staff-student ratio, presently regarded as satisfactory. The clinical school target is 100 students a year, which will be achieved as soon as the new teaching hospital (the John Radcliffe Hospital) is completed. More clinical places will then be available to Oxford preclinical students, and because of the opening of the Cambridge clinical school, fewer Cambridge students will wish to come to take the Oxford clinical course. Though fewer Oxford students will in future transfer to London hospitals, considerable interchange is expected to continue with both Cambridge and London schools as it is felt to benefit all parties.

STOP PRESS

A new clinical course is being introduced from September 1975. The main points of improvement over the curriculum described are: (a) the course is five months longer, at two years ten months, to allow more time for clinical medicine, a revision period at the end of the course, as preparation for immediate professional responsibilities, at least two weeks instead of one week in general practice, a period at a 'non-teaching' district hospital for all students, and an elective period no longer restricted to clinical experience; and (b) a more congenial assessment system, restoring greater weight to the final end-of-course examination but introducing more informal and genuinely 'continuous' in-course assessment. In particular: the assessment at the end of Stage V will include written papers in medicine and surgery; submission of case commentaries will be dropped but the present requirement for three post-mortem reports and the 3,000-word essay retained; firms will hold clinical and oral assessments as each student group finishes their part of the rotation

Table A1. Planned New Curriculum. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES			ACADEMIC YEAR
		TERMS TAUGHT	APPROXIMATE LEARNING TIME	NAME	
1				PRE-CLINICAL COURSE WILL REMAIN AS AT PRESENT	1
2					2
3			(see below)	The Introductory Course commences early in Sept.	3
4	2nd Year Course Stage I		14 weeks FT	Introductory Course: Special Pathology, Clinical Method, Clinical Pharmacology and Therapeutics, Radiology, Psychology as applied to Medicine	4
	Stage II	R R R R	11 weeks FT 11 weeks FT	General Medicine General Surgery	
5	Stage III	R R R R	(see below) 8 weeks FT 8 weeks FT 8 weeks FT	Stage III Rotations commence in July Psychiatry Orthopaedics/Neurology Geriatrics/Radiotherapy and Oncology/Infectious Diseases/Chest Medicine/Community Medicine/ Plastic and Oral Surgery	5
	Stage IV	R R R R R R	8 weeks FT 8 weeks FT 8 weeks FT	Obstetrics and Gynaecology Paediatrics Accident Service/ENT/Ophthalmology/Dermatology/ Venereology	
6	Stage Va	R R	(see below) 10 weeks FT 10 weeks FT	Stage Va Attachments commence in August General Medicine General Surgery	6
	Stage Vb	R R R R R R +	8 weeks FT 2 weeks FT 6 weeks FT 6 weeks FT	Elective General Practice Regional Hospital Attachment Revision	

Table B1. Planned New Curriculum, Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1			PRE-CLINICAL ASSESSMENTS AS AT PRESENT	1
2				2
3				3
4	36 weeks		Stage I of 2nd BM BCh (written/clinical/oral examination) Stage II of 2nd BM BCh (written/clinical/oral examination)	4
5	48 weeks		Stage III of 2nd BM BCh (written/clinical/oral examination) Stage IV of 2nd BM BCh (written/clinical/oral examination)	5
6	42 weeks		Stage V of 2nd BM BCh (written papers, clinicals and orals in Medicine and Surgery including Therapeutics and Clinical Pathology).	6

rather than holding them for the whole class of students together at the end of a Stage—a satisfactory assessment will exempt a student from a written examination for that Stage; a Board of Examiners will gather together the reports from clinical firms and decide which students are able to proceed to the next Stage and to the Stage V examination.

One of the chief reasons for this revision of the curriculum was the failure of postgraduate education programmes to develop as had been expected. The obligation remains upon a medical school to give vocational training over and above a 'basic' education, it is felt.

The Curriculum Review Working Party has also recommended that 'Stage Committees' should be established to administer and review Stages II to IV of the new curriculum, on the lines of the Bridge Course Committee. They would facilitate integration and prevent repetition.

The new curriculum is outlined on Tables A1 and B1.

Royal College of Surgeons in Ireland

Qualifying Diploma. LLMRCPI, LLMRCSI

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Established, but evolving

GMC Correspondent. Dr H. O'Flanagan

See Note on p. 354.

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

St Laurence's Hospital, North Brunswick Street, Dublin 7 (often referred to as 'the Richmond', one of its component hospitals)

The Charitable Infirmary, Jervis Street, Dublin 1

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Coombe Lying-In Hospital, Dublin 8

Our Lady's Hospital for Sick Children, Crumlin, Dublin 12

Rotunda Lying-In Hospital, Parnell Street, Dublin 1

St Brendan's Psychiatric Hospital, Grangegorman, Dublin

The Children's Hospital, Temple Street, Dublin 1

International Missionary Training Hospital, Drogheda, County Louth

James Connolly Memorial Hospital, Blanchardstown, County Dublin

St Mary's Hospital, Cappagh, Finglas, Dublin 11

Note. 'AHA(T)' arrangements do not apply in the Republic of Ireland. Hospitals are recognized by the Minister of Health as teaching hospitals.

SELECTION

The Royal College of Surgeons in Ireland is the only independent medical school in the British Isles, receiving virtually no state subsidies. Its selection policy is therefore unique: it admits one-third of its students from Ireland, one-third from 'developing countries' (notably South African Asians) and one-third from 'developed countries', particularly Norway, the United States, and the Far East. Prior academic attainment is taken as the main guide to selection, but as all students take the premedical year, acceptable admission qualifications cover a broader subject range than is usual in the United Kingdom. Twenty-five students each year enter as a result of passing the Entrance qualification in General Education. This examination is taken primarily by South African Asians but is also taken by others (for example, Americans). The Irish entrants are frequently the children of graduates of the College.

Two or three mature students (for example, nurses or laboratory technicians) are admitted each year, but because the American entrants are generally graduates, the average age on entry to the College is high.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES			NAME	ACADEMIC YEAR		
		TERMS TAUGHT		APPROXIMATE LEARNING TIME				
		1	2	3	(4)			
1	Pre-Medical	+	+	+	+	260 hours 150 hours 120 hours 30 hours 12 hours 12 hours	Chemistry Physics Biology Behavioural Sciences Introductory Hygiene Reproductive Medicine	1
2	Pre-Clinical Year I	+	+	+	+	177 hours 181 hours c. 200 hours 30 hours c. 28 hours	Anatomy Biochemistry Physiology Behavioural Sciences Histology	2
3	Pre-Clinical Year II	+	+	+	+	106 hours 200 hours 26 hours 72 hours	Anatomy Physiology Behavioural Sciences Biochemistry	3
	Clinical Introduction	+	+	+	+	40 hours c. 40 hours 6 weeks PT 23 hours	Pathology Microbiology Clinical Introduction Pharmacology	
4	Phase I Clinical	+	+	+	+	120 hours 40 hours 6 months PT 3 months PT	Pathology Microbiology Clinical Instruction (Medicine and Surgery)	4
		+	+	+	+	50 hours 32 hours 4 hours 3 weeks 9 hours	Pharmacology and Therapeutics Psychiatry - Introduction Paediatrics - Introduction Tropical Medicine (taken in any year) Communicable Diseases	
5	Phase II Clinical	R	R	R	R	8 weeks 8 weeks 8 weeks 16 hours 50 hours 3 weeks 60 hours 10 hours	Obstetrics/Gynaecology Psychiatry Neonatal Paediatrics ENT Social Medicine Tropical Medicine (taken in any year) Clinical Pathology Therapeutics	5
		+	+	+	+			
6	Phase III Clinical	R	R	R	R	8 weeks 2 weeks PT 2 weeks PT 8 weeks 8 weeks 7 hours 16 hours 3 weeks 32 hours	Paediatrics Dermatology Radiology Medicine and specialties Surgery and specialties Anaesthetics Ophthalmology Tropical Medicine (taken in any year) Forensic Medicine and Toxicology	6
		+	+	+	+			

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	34 weeks	1974: 129 Estimate for 1979: 130	Pre-medical Examinations	1
2	34 weeks	1974: 120 Estimate for 1979: 130	First Medical Examinations (Anatomy, Physiology and Biochemistry)	2
3	34 weeks	115	First Professional Examinations (Anatomy, Physiology, and Biochemistry). Assessment in the Behavioural Sciences, and of the Introductory Clinical Course.	3
4	38 weeks	1974: 111 Estimate for 1979: 130	Second Professional Examinations (Microbiology and Pathology) Clinical Assessment (Medicine and Surgery) Part 1	4
5	38 weeks	121	Final Professional Examination Parts I and II (Obstetrics/Gynaecology/Neonatal Paediatrics; Psychiatry; ENT; Social Medicine)	5
6	38 weeks	105	Examinations in Forensic Medicine, Anaesthesiology, Eye Diseases and Chemical Pathology, Final Professional Examination (Medicine, Surgery, and Specialties; Paediatrics)	6

FEATURES OF THE CURRICULUM

As with all the Irish schools other than Trinity College Dublin, the curriculum lasts six years for all students, with only rare exceptions. The first year is effectively a premedical year, though it is called the 'preregistration year'. Years 2 and 3 are devoted to the study of the classical preclinical subjects.

An unusual feature of the teaching programme is the Tropical Medicine Course which lasts 3-4 weeks. This course caters for students' requirements in international health.

An introductory clinical course is held in the summer term of the second preclinical year. This is designed to introduce the student to interviewing techniques, the physical examination, and the concept of the problem-oriented medical record.

Clinical Aspects

From the first preclinical year, students are brought into contact with the teaching hospital. Once a term, they go in groups to the hospital to see relevant clinical material relating to their studies in anatomy, physiology, and biochemistry. The purpose is to stimulate the correct attitude and motivation towards clinical studies and to show the relevance of preclinical studies. First-aid classes are also held to stimulate motivation. It is hoped to increase the amount of clinical teaching in the preclinical course.

The clinical curriculum is divided into three phases. The first phase of instruction is in the basic clinical sciences and basic clinical methods. At the end of this period it is hoped that the student can write a history, examine a patient, write an 'initial plan' and have a knowledge of medicine and surgery. Phase 2 is devoted to the study of subjects like psychiatry, obstetrics, and neonatal paediatrics. The final phase is devoted to clinical medicine and surgery.

The major part of patient-based clinical teaching is carried out through the attachment of the student to the firm so that he becomes a junior working member of the unit. However, small-group teaching plays an important part during the clinical years. The College appoints tutors in the major clinical subjects to the main teaching hospitals. They look after the interests of students and ensure that their clinical experience fulfils the College's requirements.

Students are starting to spend some of their time in clinical settings outside hospital, in general practice attachments. The minimum required period of Residence is eight weeks, but the typical student spends twelve weeks there.

Intercalated Degree

There is no opportunity to take an intercalated degree: the College is not empowered to award degrees.

Elective Experience and Course Options

At present there is no compulsory elective period at the College, but students are encouraged to take some form of elective for a month or two during vacations in the fourth or fifth year. However, from June 1976, there will be a compulsory one- to two-month elective in the final year. Electives will be arranged through tutors in the main teaching hospitals—poorer students will

be advised to work in the subjects in which they are weak and the brighter students will be encouraged to do research in laboratory or clinical subjects. The emphasis generally will be on clinical electives.

CURRICULUM CONTROL AND DEVELOPMENT

The Academic Council, a standing committee of the Council of the College, holds ultimate responsibility for the curriculum but the Medical Faculty Board is responsible for advising the Council on matters affecting the Medical School. The Board meets two to three times a term. The Clinical Committee, a sub-committee of the Board considers matters relating to the clinical curriculum—this also meets two to three times a term. Students are represented on this Committee along with representatives of the clinical departments, deans of students and hospitals and the Dean of the Faculty. The Preclinical Committee exercises similar responsibility for the preclinical years. The over-all curriculum is controlled through these committees, but departments themselves have responsibility for determining the content and presentation of their courses, for updating their teaching, and for administering particular courses.

The hospital teaching committees are composed of the clinical teaching staff and students: their function is mainly to obtain informal feedback from the students about matters relating to the teaching, and to monitor teaching generally. They meet monthly in the two major general teaching hospitals.

The Deanery

There is a full-time appointment of 'Dean and Registrar'. He is in effect the Chief Executive of the College. The Dean of the Faculty of Medicine of the College is a separate, elected, and part-time post, the term of office being five years.

Miscellaneous Topics

In May 1975, the College held a training course for its teachers. This was held over a weekend and was under the aegis of the Institute of Education of the University of London. The course covered teaching methods, assessment techniques, course planning and management, and small-group learning. In 1976, a similar workshop was run for the College by the Centre for Medical Education, University of Dundee.

STUDENT ASSESSMENT

Early Years

The main emphasis in the College's assessment arrangements is on end-of-course assessment. The preclinical courses are assessed by end-of-course techniques including objective-type questions, essays, practical examinations and orals. While in-course assessment is carried out, it is not 'critical' and is only taken into account for borderline candidates. In the paraclinical subjects, examination is exclusively by end-of-course techniques: essays, practical examinations, and orals.

Clinical Subjects

In the clinical years, both 'theoretical' and 'practical' examinations are end-of-course in nature and students must pass both aspects independently. The theoretical examinations include objective-type questions, essays, and orals. The compulsory examination at the end of the fourth year tests core knowledge in medicine and surgery and the clinical skills of history writing, physical examination, and problem determination. If the student cannot demonstrate his ability in this respect, he can be required to take a further study period in clinical skills. The marks from this assessment are carried forward to the Final examination. This type of early clinical assessment has been introduced to prevent students entering phase 2 of the clinical course with an inadequate basic clinical knowledge.

The Final practical clinical examination makes use of long cases, short cases, tests of clinical knowledge, and an over-all assessment by the staff with whom the student has worked. The over-all assessment by the course teachers is an important aspect of the final examination and indicates a further degree of in-course assessment.

Regulations

At some stages of the course, compensatory passes are permitted. If students do fail, they are normally only re-examined in the failed subject.

External examiners play an important role: they take part in setting all major examinations; they are always concerned to moderate and maintain over-all standards; and they arbitrate in 'borderline cases'.

Advice and Assistance to Students

On the whole, the same provision is made for assistance with students' academic and personal problems. A chaplain and Superintendent of Schools are available, and members of the teaching staff help where necessary. The Tutors in the teaching hospitals (qv) will also assist as they are in any case expected to get to know all the students personally.

PROBLEMS AND DEVELOPMENTS

As with many schools, the main problems are of staffing and finance but these are not felt to be insuperable at the Royal College of Surgeons: indeed, a new medical school building is presently being completed adjacent to the old one. With respect to the curriculum, careful definition of objectives at departmental level continues.

University of St Andrews

Qualifying Degree. (None: obtained at clinical school)
Curriculum Stages Offered. Preclinical
Curriculum Status. Revised 1974
GMC Correspondent. Dr C. G. Ingram

The information in this section was collected in 1975.
See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

Not Applicable. However, students attend the following hospital from time to time during their final year:

Victoria Hospital, Dunnikier Road, Kirkcaldy, Fife KY2 5AH

Note. The 'AHA(T)' distinction does not apply in Scotland.

SELECTION

Applicants are selected on the basis of their school examination results and the confidential report; the information provided by the latter is considered almost as important as academic attainment. Interviews are not now used routinely, but they may be held in special cases: previously, most of the successful applicants to the course would have been interviewed.

As a matter of policy now, approximately 5 per cent of the intake are graduates; the students may be permitted to take an accelerated course, but if they did so, they would not be awarded a (further) degree.

FEATURES OF THE CURRICULUM

The three-year BSc (Medical Science) course has recently been remodelled: the first students began the new course in October 1974. It is designed to be an appropriate preliminary to the clinical course at Manchester which the students will (normally) follow but it is regarded as more broadly based than other preclinical courses as it leads to a science degree.

All students must have gained exemption (by means of school-leaving examinations) from either first-year physics or first-year zoology; about half of the intake are exempted from both subjects and study any one of a number of alternatives (see below).

Some courses (especially in Year 1) are shared with 'pure' science students, and others are provided for medical students only. Other courses again are attended by medical and science students together who then split into their respective groups for separate teaching at certain points.

In Year 3 a considerable amount of clinically related teaching takes place; the paraclinical subjects are introduced and clinicians participate in the teaching of applied physiology and applied biochemistry. Thus the preclinical

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	29 weeks	1974: 76 Estimate for 1979: 75	1st BSc Degree Examinations (contribution - exemption in Chemistry - possible from in-course assessments)	1
2	29 weeks	76	2nd BSc Medical Science II Degree Examinations (contribution - and possible partial exemptions - from in-course assessments)	2
3	29 weeks	74	2nd BSc Medical Science III Degree Examinations (contribution from in-course assessments)	3
4				4
5				5
6				6

teaching is linked to later clinical training and the relevance of the scientific studies is demonstrated. Groups of students visit the district hospital at Kirkcaldy and a neighbouring maternity hospital where they are taken on ward rounds and meet patients: each student does this on twelve afternoons during this year. Altogether the clinically related teaching occupies about 10 per cent of the Year 3 teaching time.

Intercalated 'Honours Year'

The BSc (Medical Science) degree is a non-medically qualifying degree awarded to all students who satisfactorily complete the three-year course. A fourth year may be intercalated between the end of the preclinical course and the beginning of the clinical course at Manchester; this converts the BSc (Medical Science) degree to an Honours degree. No fixed number of places is made available, though between five and ten students take the degree each year. Subjects in which the Honours year may be taken are anatomy, biochemistry, and physiology. Research and course work are combined and students are assessed by dissertation and formal examination.

Elective Experience and Course Options

During the first year of the course, students who are exempt from both physics and zoology must select one of a number of optional courses. Options are drawn from any subject available in the Faculties of Arts, Divinity, or Science.

CURRICULUM CONTROL AND DEVELOPMENT

There is no Faculty of Medicine or Medical Science: the medical science courses are provided by the Faculty of Science. The Faculty of Science has a 'Preclinical Committee' which is responsible for the courses run for medical students. This meets regularly, at least once a term, and its membership consists of the heads of each department involved in the medical science courses, representatives of the non-professorial staff, the Dean of Science, and the Pro-Dean (Medical Science); its decisions must be ratified by the Science Faculty Council.

The Staff-Student Council advises the Preclinical Committee on possible improvements to the curriculum: major and minor. It has six student members and four staff members and meets regularly, once a term or more often. An *ad hoc* committee of the Preclinical Committee was appointed for the purpose of revising the curriculum and was dissolved after the new curriculum had been successfully introduced.

Departments themselves determine the content and presentation of the courses and also administer them. They may introduce changes (for example, an annual updating) but major alterations must be referred through the committee structure.

Great efforts are made to ensure that the style and structure of teaching at St Andrews is not contrary to that at Manchester. Each department at St Andrews which is involved in the teaching of medical students has appointed one of its members as a co-ordinator who is in contact with an 'opposite number' at Manchester; thus, when the two groups of students come together they find that they have had broadly similar academic experience.

The Deanery

The Dean of Science is elected annually by Faculty, but a typical term of office would be from three to six years; he is assisted by two pro-deans, one concerned with all students in the Faculty and the other concerned solely with the medical students. The Pro-Dean (Medical Science) would be a teacher involved in a medical science course; in addition to 'internal' duties, he is responsible for promoting and maintaining the liaison with Manchester. There is no time-limit at present on this post.

Miscellaneous Topics

Four Scottish universities (St Andrews, Dundee, Heriot-Watt, and Stirling) combine to put on a course of instruction for new teachers. This course is held annually and four teachers from the medical science departments at St Andrews have attended it during the last two years.

STUDENT ASSESSMENT

The format of assessment and the methods used were chosen following consultations with Manchester. End-of-course and in-course assessments are combined, and in certain courses good performance in the latter can fully or partially exempt from the former. Assessment techniques used in the end-of-course examinations include objective-type questions, questions requiring short written answers, essay questions and in some subjects, practical tests. Techniques used for in-course assessment are: objective-type questions; prepared written work; and oral tests.

Regulations

Compensatory passes between subjects are not permitted. However, if a student fails in a subject he or she is normally re-examined only in that subject. If the re-examination is failed, a student may continue with the course and 'carry' the subject provided a minimum number of other subjects have been passed; if the minimum number of passes has not been obtained a student may be asked to repeat the year or to leave, depending on academic and other considerations.

External examiners take part in designing some of the end-of-course examinations, and maintain the over-all standard and arbitrate in marginal cases in all of them. They are not involved in the in-course assessment.

Advice and Assistance to Students

Each student is assigned to an Adviser of Studies for the three-year period; this member of staff monitors the student's progress and offers advice about academic matters and also about personal problems. Most departments allocate students to a Study Supervisor or Tutor to assist them in that subject. The Student Health Service, the chaplaincy and wardens of the halls of residence are also always available to help. Special revision courses and tuition are not arranged for students who have failed examinations.

PROBLEMS

It is proving extremely difficult to attract medically qualified people to work in the medical science departments at St Andrews—and there are no clinical departments. The over-all staff–student ratio is considered low.

DEVELOPMENTS

St Andrews is very conscious of being unable to offer a continuum from pre-clinical to clinical, fused together with vertical integration. Therefore, the assistance of local consultants in the teaching is more than just an attempt to add interest to the course. The intention is to develop the links with the Kirkcaldy hospitals much further; in addition to the formal connections, students are encouraged to do vacation work and undertake electives there in their clinical years.

University of Sheffield

Qualifying Degree. MB ChB

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Premedical: established

Preclinical: established: under review

Clinical: established: under review

GMC Correspondent. Professor G. Hudson

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†Royal Hospital, West Street, Sheffield s1 3SR

*†Royal Infirmary, Infirmary Road, Sheffield s6 3DA

*†Hallamshire Hospital, Glossop Road, Sheffield s10 2JF

*†Children's Hospital, Western Bank, Sheffield s10 2TH

*†Jessop Hospital for Women, Leavygreave Road, Sheffield s3 7RE

*†Lodge Moor Hospital, Redmires Road, Sheffield s10 4LH

*†Middlewood Hospital, Sheffield s6 1TP

*†Nether Edge Hospital, Osborne Road, Sheffield s11 9EL

*†Northern General Hospital, Herries Road, Sheffield s5 7AU

*†Wharnccliffe Hospital, Sheffield s6 1TP

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

*†King Edward VII Hospital, Rivelin Valley Road, Sheffield s6 5SH

Rotherham Hospital, Doncaster Gate, Rotherham, Yorkshire s65 1DW

*†Winter Street Hospital, Winter Street, Sheffield s3 7ND

*†Weston Park Hospital, Whitham Road, Sheffield s10 2SJ

* Within AHA(T).

† Within teaching district.

SELECTION

Initial selection is made on the basis of academic attainment, potential attainment, and personal qualities, as revealed in the application forms and the confidential report. An informal interview is then held of promising candidates by one of a panel of about twenty interviewers. A further assessment is thereby made of academic ability, general suitability (including approach to medicine, verbal facility, etc.) and motivation with regard to a career in medicine. The school normally prefers those who themselves indicate a clear preference to go to Sheffield. Up to five graduates enter the course each year, but few candidates over the age of 30 years are considered.

The medical school plans to check the effectiveness of interviews in selection and indeed the whole procedure by compiling more information about applicants. However, it is unlikely that any change will result for some time.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES			ACADEMIC YEAR		
		TERMS TAUGHT 1 2 3 4	APPROXIMATE LEARNING TIME	NAME			
1	Pre-Medical	+	+	+	270 hours	Biology Chemistry Physics	1
		+	+	+	270 hours		
2	Pre-Clinical Year I	+	+	+	190 hours	Biochemistry Human Biology and Anatomy, with Genetics Physiology Psychology Clinical Demonstrations	2
		+	+	+	430 hours		
3	Pre-Clinical Year II	+	+	+	200 hours	Physiology Psychology Clinical Demonstrations	3
		+	+	+	30 hours		
3	Introductory Clinical	+	+	+	30 hours	Clinical Demonstrations	3
		+	+	+	10 hours		
3	Introductory Clinical	+	+	+	10 weeks FT	Introductory Clinical Course: Clinical Lectures (4 time); Pathology, Microbiology, Pharmacology lectures, practicals, conferences and clinical demonstrations (4 time)	3
		+	+	+	9 weeks FT		
4	1st Clinical Year	+	+	+	30 weeks ½ time	Combined Course: Pathology, Medical Microbiology, Pharmacology, Haematology, Immunology Clinical Subjects: Medicine, Surgery, Anaesthetics, Accident and Orthopaedics, Psychiatry, Neurology, Pathology, Social Medicine	4
		R	R	R	30 weeks ½ time and then 7 weeks FT		
4	1st Clinical Year	+	+	+	9 weeks FT	Elective	4
		+	+	+	9 weeks FT		
5	2nd Clinical Year	R	R	R	12 weeks ½ time	Child Health Obstetrics/Gynaecology 'Special Subjects' - Dermatology/Ophthalmology/ENT 'Miscellaneous Subjects' - Dental Subjects/Forensic Medicine/Infectious Diseases/Medical Genetics/Radiotherapy/Rheumatic Diseases/Veneral Diseases/Chest Diseases/Radiodiagnosis/Plastic Surgery Community Medicine Elective Beginning of 6th Year Appointments (see below)	5
		R	R	R	12 weeks ½ time		
5	2nd Clinical Year	+	+	+	82 hours	Community Medicine Elective Beginning of 6th Year Appointments (see below)	5
		+	+	+	16 hours		
5	2nd Clinical Year	+	+	+	4 weeks FT	Community Medicine Elective Beginning of 6th Year Appointments (see below)	5
		+	+	+	1 month FT		
6	3rd Clinical Year	R	R	R	7 months FT	Sixth Year Appointments: Senior Surgery (with Anaesthetics, Radiotherapy and a surgical specialty) (6 wks); Senior Medicine (6 wks); Senior Medicine (with Neurology) (6 wks); Senior Accident and Orthopaedics (6 wks); Senior Psychiatry/General Practice (6 wks). Lectures - Medicine, Pathology (10 hrs), Psychiatry, Radiology, Surgery, Therapeutics.	6
		+	+	+	c. 60 hours		

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974: 17 Estimate for 1979: 25	First MB ChB Examination	1
2	30 weeks	1974: 120 Estimate for 1979: 150		2
3	40 weeks	127	Second MB ChB Examination (in-course assessments contribute and may exempt)	3
4	47 weeks	1974: 111 (including no students from Oxford or Cambridge - there are normally up to 6) Estimate: 150 for 1979* (including up to 6 students from Oxford/Cambridge)	Final MB ChB Examination Part I (all subjects in Year 4 (contribution from in-course assessment))	4
5	47 weeks	104	Final MB ChB Examination Part II (O and G, Child Health, Special Subjects, Community Medicine) (contribution from in-course assessment)	5
6	37 weeks	82	Final MB ChB Examination Part III (contribution from in-course assessment)	6

FEATURES OF THE CURRICULUM

The course consists of three premedical terms, five terms of basic medical science teaching, and three years and one term of clinical science.

Early Years

Students taking the premedical course who are exempt from one or more of the subjects therein take 'optional' courses, such as medical physics.

Clinical Aspects

Clinical demonstrations are a feature of the course from the beginning and both clinical and non-clinical teachers take part in them. During the basic medical science course, one hour a week is devoted to clinical demonstrations which are designed to illustrate the significance of aspects of basic medical science currently being studied.

In the third term of the second preclinical 'year' of the course, a full-time introductory clinical course is held. This is followed by the 'combined course', consisting of (part-time afternoons) co-ordinated teaching on pathology, medical microbiology, and pharmacology. The integration of the afternoon course is intended to give an understanding of the aetiology, pathogenesis, clinical manifestations, investigation, and treatment of disease processes in a logical way. In general, in the clinical years, theoretical courses and patient-based clinical teaching are independent of each other. Theoretical teaching is interdisciplinary for the first clinical year, and is departmentally based for the fifth and sixth years.

Regarding the patient-based clinical teaching, the major part of this is carried out through the attachment of students to firms. A firm will typically consist of a consultant and three juniors: teaching firms are drawn from one specialty.

A general practitioner attachment (in the sixth year) is a feature of the course: students are attached for the equivalent of two weeks on a one-to-one basis with one of the forty GPs who carry the title of Honorary Teacher in General Practice. Students would spend a minimum of four months in residence, and typically five months.

Intercalated Degrees of BSc and BMedSci

Intercalated degree courses are offered and are growing in popularity (eight candidates in 1975). There is no fixed number of places but candidates must obtain a reasonably good result in the second MB ChB examination. The degree is then taken between the preclinical phase and the clinical phase. A course leading to the degree of BMedSci (Honours) may be taken in the Faculty of Medicine, students studying two out of a number of disciplines. Alternatively, a single-subject Honours BSc may be taken in the Faculty of Pure Science (physiology, or human biology and anatomy). The latter requires four terms' study—the first term part-time—but the BMedSci course lasts one year. Both require research and course work.

It is planned to increase the number of subjects offered in the BMedSci by adding pathology and immunology to the present list of options (biochemistry, chemistry, chemical pathology, clinical physiology, pharmacology).

Elective Experience and Course Options

Sheffield was one of the first schools to introduce clinical electives and there are now two elective periods of study—one at the end of the fourth year and one at the end of the fifth year. Both periods are intended for students to acquire clinical experience or to undertake a short research programme. While the students' performance is assessed during the elective period, this is informal, and is not taken into account when evaluating the students' over-all performance. Students make their own arrangements for electives, but the tutor to whom the student is allocated will advise and assist. In addition, the Clinical Dean is regularly available to give advice. Students are advised to take the elective away from Sheffield, and the majority do so: a great many go abroad, the most commonly visited countries being Canada and the USA.

Optional courses in the premedical year are taken by students exempt one or more of the major courses.

CURRICULUM CONTROL AND DEVELOPMENT

Ultimate responsibility for the curriculum rests with the Board of the Faculty: this body meets monthly and has a total membership of about 100. The Policy Committee is given responsibility by the Board to deal with the general policy and over-viewing of the medical (and dental) curricula. It also meets monthly and has a membership of seven. The Policy Committee advises the Faculty on the length of teaching time to be allocated to each subject and has responsibility for the review of the arrangements for the curriculum. Departments carry the primary administrative and teaching roles but do not carry major responsibility for revising the curriculum in their own fields. The present 'Combined Course' is planned and supervised by a special working party.

At the present time there are four *ad hoc* preclinical working parties which have responsibility for the detailed planning and timetabling of the four aspects of a new curriculum for the second and third years of the course. Normally, these committees are made up of non-professorial members. Also, an *ad hoc* Clinical Curriculum Committee has recently completed its task of drawing up a broad outline plan for a revision of the fourth, fifth, and sixth years of the course—each of these years has a working party devoted to it. All these bodies are thus involved in the design of the new curriculum.

The Deanery

At Sheffield there is an academic dean and an administrative dean: both have administrative and clinical responsibilities, the majority of the Academic Dean's time being 'clinical' and the majority of the Administrative Dean's time being devoted to administrative matters. The Academic Dean is elected for a period of three years, renewable. The Administrative Dean's post is a permanent one: he is also normally elected Deputy Dean by Faculty.

In addition, there are two sub-deans who run the admissions system, and an elected Clinical Dean who is Executive Officer of the Clinical Curriculum Committee. Together with this Committee, he is responsible for the allocation of students to firms and for the organization of student assessment in the clinical years.

Miscellaneous Topics

There is a University Panel on Lecturing Techniques which provides facilities on a voluntary basis for the instruction and assistance of individual teachers. Heads of departments have a specific responsibility for training of probationary lecturers. An annual course is run by the University which gives instruction in teaching methods and the development of learning materials for students: attendance is now compulsory for new full-time staff.

A University Committee on Teaching Aids is involved in developing learning resources in the University as a whole. There is also a Joint (NHS/Faculty of Medicine) Committee on Audiovisual Aids which develops resources for students and staff in the Medical School and Associated Hospitals.

STUDENT ASSESSMENT

Throughout the undergraduate curriculum at Sheffield, student assessment is by both in-course and end-of-course systems.

Early Years

During the preclinical course assessment is mainly based upon in-course tests of performance, using techniques such as objective tests, essays, prepared written work, practical tests, and oral tests. In-course performance can exempt a candidate from the second MB ChB examination which is taken during the second term of the third year. This end of course examination, which consists of essay-type papers and orals, practicals and short answer type questions, is only compulsory for those students who are near the pass/fail borderline on their in-course assessment. (Also, those students who might obtain honours or distinction are invited to sit the examination.)

Both in-course and end-of-course examinations are important in the para-clinical subjects—in-course assessment counts for between 25 and 30 per cent of the marks, and includes such techniques as objective type questions and essays. Orals are only compulsory for students near the pass/fail borderline.

Clinical Subjects

A student must pass both theoretical and 'practical' examinations in clinical subjects. The theoretical examination is mainly judged on end of course examination performance, using techniques such as objective-type questions, essays and orals. In child health, however, in-course assessment makes up one half of the marks, and exemption from the final clinical examination in child health may be gained from in-course assessment and tutors' reports: testing is done by using objective-type tests, essay questions, and an assessment of prepared work.

The 'practical' clinical aspects are tested on the basis of both in-course assessment and end-of-course assessment: the Final examination consists of long cases, short cases, and assessments based on provided data. An over-all rating by the clinical staff who have taught a particular student is taken into account. Orals are taken by borderline and potential Honours candidates. In-course assessment consists of reports by the clinical staff involved in each particular appointment.

Regulations

A student with a borderline fail in any subject may be permitted to pass the whole examination, depending upon his performance in the other subjects taken in the same examination: this holds throughout the course. Students are normally re-examined in failed subjects only, not the whole diet of examinations. They are not, however, normally permitted to 'carry' subjects, and are also only infrequently allowed to repeat a year: the mechanism of permitting a student to read for 'conjoint' qualifications is used.

In the end-of-course examinations, external examiners take part in setting the questions, maintaining an over-all standard and arbitrating in marginal cases. They are further given details about the results of in-course assessments, and are consulted about future changes.

Advice and Assistance to Students

Many departments arrange students into tutorial groups to assist them with their academic studies, and the Faculty Office is open to assist students with any such problems they have. Regarding social or personal problems, the medical school operates a 'Social Tutor' scheme, with each tutor having one student from each year of the course allocated to him.

Revision courses as such are not provided for students who have failed examinations. However, in clinical subjects, a clinical appointment is usually arranged for revision purposes. In other subjects, individual advice is given to students by the head of the appropriate department: laboratory facilities are made available if necessary.

PROBLEMS

The major cause for concern at Sheffield is the commitment to increase medical student intake to 150 per annum. It is feared that the necessary facilities will not be available and that consequently standards of instruction might deteriorate. There are serious delays in building programmes for both preclinical and clinical facilities. It is doubted whether any expansion in staffing will be possible, and indeed in Sheffield a considerable number of NHS registrar posts have been designated as 'liable for reallocation'—the quality of clinical teaching is thus at risk.

DEVELOPMENTS

A new undergraduate medical curriculum has been accepted in principle.

The premedical year will not change, but the second and third years will be completely reorganized. While the over-all aims of the curriculum will remain the same, it is hoped to present the basic medical services as a co-ordinated whole and to show the applied medical sciences as a direct development from them. There will be five overlapping themes during these two years:

1. The Cell and its Reactions.
2. The Systemic Structure and Functions in Man.
3. Man: Behaviour and Biology.
4. Abnormal Cell Reactions.

5. Clinical Demonstrations, Interdepartmental Conferences, and Introductory Clinical Course.

Co-ordinated teaching will play an important role within this new course.

The following notes on the new clinical curriculum have been prepared by the Administrative Dean:

Fourth Year

At least half of each day is occupied with clinical teaching on the wards. Six appointments of eight weeks each are taken in rotation, two appointments being in medicine, two in surgery, one in accident and orthopaedics, and one shared between anaesthetics and psychological medicine. The remainder of the day is devoted to a systematic study of pathology, medical microbiology, and pharmacology, instruction in these subjects being integrated as far as possible with each other and with medicine and surgery. Following the integrated Final MB ChB, Part I, Examination in Pathology, Medical Microbiology, and Pharmacology and a Clinical Assessment in June of the fourth year, there is an Elective Period of three months' duration.

Fifth Year

The fifth-year course runs from the beginning of October to the end of June and has three twelve-week terms. The major clinical subjects studied in rotation in each of these terms are obstetrics and gynaecology, paediatrics, and psychiatry. General practice and community medicine are taught throughout the year in relation to, and integrated with, each of the major clinical subjects. Dermatology is studied in the paediatrics term and venereology is studied in the obstetrics and gynaecology term. Two whole-year lectures are given each week and cover community and preventive medicine and genetics as well as venereology, dermatology, and joint teaching areas. Teaching in rheumatology and infectious diseases are also represented in this year.

Each term ends with an end of term assessment in the clinical subjects of that term and it is possible to gain exemption from the Degree Examinations on the basis of satisfactory assessment. The Final MB ChB, Part II, Examination is held in July, the subjects being community medicine (including general practice and genetics), obstetrics and gynaecology, paediatrics, and psychiatry. The last three subjects are only taken by students who have failed to gain exemption in the end of term assessments and distinction candidates.

This examination is followed by three weeks' holiday and a three-week Elective Appointment.

Sixth Year (to be introduced in September 1977)

This will commence in September and will consist of a four-week Introductory Course based on management, four rotating appointments lasting six weeks each (medicine, surgery [including orthopaedics], specials and electives) and a four-week revision course. In the Elective students will normally be attached as individuals to consultants and specialties of their choice, predominantly in district general hospitals around Sheffield. Specials will include ophthalmology, ENT, neurology, chest medicine, cardiology, oncology, and laboratory medicine. Radiodiagnosis will be taught during the six weeks' appointment in medicine. The Final MB ChB, Part III, Examination in medicine and surgery will be held as at present in June of the Final Year.

University of Southampton

Qualifying Degree. BM

Curriculum Stages Offered. Preclinical; clinical (but see 'Features of the Curriculum' below)

Curriculum Status. Course first commenced in 1971

GMC Correspondent. Professor E. D. Acheson

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†Southampton General Hospital, Tremona Road, Shirley, Southampton, Hants
so9 4xy

*†Royal South Hampshire Hospital, Fanshawe Street, Southampton, Hants so9 4pe

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

*Basingstoke District Hospital, Aldermaston Road, Basingstoke RG2 4LZ

*Royal Hampshire County Hospital, Romsey Road, Winchester, Hants

*St Mary's General Hospital, Milton Road, Portsmouth, Hants PO3 6AD

*†Southampton Western Hospital, Oakley Road, Millbrook, Southampton,
Hants so9 4wq

(In the near future, hospitals will also be used in Poole and Salisbury, and later in Dorchester, Bournemouth, Swindon, Bath, and possibly the Isle of Wight.)

* Within AHA(T).

† Within teaching district.

SELECTION

For school-leaver applicants, academic performance, as shown by A-level grades, and the confidential report are considered equally most important, followed by evidence of motivation. Interviews are not held for this category of applicant, except in cases of doubt about health, etc., or where the candidate is not yet 18 years old. Mature applicants are interviewed, with particular reference to their motivation. After a place has been offered and accepted, each potential student is invited to visit the Medical School informally; they come in groups of forty or fifty to meet the staff and see the facilities.

A few places are available for overseas applicants, generally from developing countries. They are interviewed wherever possible in order to discover their proficiency in the English language and also their career intentions.

A Working Party has recently been established to review the present selection policy and to recommend what, if any, changes should be made to it.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES		ACADEMIC YEAR	
		TERMS TAUGHT 1 2 3 (4)	APPROXIMATE LEARNING TIME		NAME
1	Junior Pre-Clinical	+	180 hours	Anatomy (and Embryology), excluding morphology teaching in the systems courses	1
		+	122 hours	Biochemistry	
		+	66 hours	Human Reproduction	
		+	38 hours	Sociology	
		+	38 hours	Psychology	
		+	20 hours	First Medical Contact	
2	Senior Pre-Clinical	+	76 hours	Cells Tissues and Systems, including 16 hours Introductory Physiology	2
		+	24 hours	Man, Medicine and Society	
		+	100 hours	Pathology	
		+	50 hours	Biochemistry	
		+	28 hours	Sociology	
		+	28 hours	Psychology	
3	First Year Clinical	+	128 hours	Cardiovascular & Respiratory Systems (64 hrs. ea.)	3
		+	80 hours	Nervous System	
		+	40 hours	Epidemiology	
		+	62 hours	Gastrointestinal System	
		+	66 hours	Pharmacology	
		+	34 hours	Musculo-Skeletal Systems	
		+	52 hours	Nephrology	
		+	48 hours + 2 wks FT	Introductory Clinical Work	
		+	59 hours	Biochemistry	
		+	81 hours	Clinical Pathology	
		+	54 hours	Endocrinology	
		+	12 hours	Clinical Genetics	
+	37 hours	Growth and Ageing			
+	16 hours	Clinical Pharmacology			
+	12 hours	Haematology			
R	10 and 5 wks PT	Medicine, and Medicine with Geriatrics			
R	10 wks PT	Surgery (with Anaesthetics)			
R	3 wks PT each	Obstetrics/Gynaecology; Child Health; Psychiatry			
R	38 1/2 days	Community Care			
R	6 wks FT	Clinical Elective			
4	Study in Depth Year	+	3 1/2 days per week	Study in Depth: see text	4
		+	1/2 day per week over 30 weeks	'Wednesday Morning Club'	
		R	1 day (10 days per wk) 24 1/2-days over 4 1/2-days (30 wks)	Orthopaedics Ophthalmology/ENT/Dermatology (8 half days each) Venereology	
		R	10 weeks	First 10 weeks of final yr. attachments (see below)	
5	Final Year Clinical	R	30 weeks	<u>Final Year Attachments</u> (commenced in summer of Year 4) Medicine (10 weeks) Surgery and Anaesthetics (8 weeks) Obstetrics/Gynaecology (5 weeks) Child Health (5 weeks) Psychiatry (5 weeks) General Practice (7 weeks) Elective (5 weeks)	5
		+	4 weeks	Revision	
6					6

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	30 weeks	1974 116 Estimate for 1979: 130	Primary BM Examination (some contribution from in-course assessment)	1
2	30 weeks	79	Intermediate Part I BM Examination (some contribution from in-course assessment)	2
3	44 weeks	1974 65 Estimate for 1979: 130	Intermediate Part II BM Examination (some contribution from in-course assessment)	3
4	40 weeks	38	Assessment of Study-in-Depth Report	4
5	38 weeks	0	Final BM Examination (written papers, clinical and oral examination: in-course assessment may exempt from part of the clinical examination).	5
6				6

FEATURES OF THE CURRICULUM

The curriculum is planned largely on an integrated basis with no sharp division between preclinical and clinical stages. The first students began the course in October 1971.

Early Years

Much of the teaching (especially in Year 2) occurs in multidisciplinary courses. For example, the 'Cells, Tissues, and Systems' course gives a basic, multi-purpose introduction in cell biology, histology, physiology, and haematology as a foundation for later 'systems' courses; teachers are drawn from biology, physiology, haematology, clinical genetics, and human morphology. Similarly, 'Man, Medicine, and Society' is another introductory course, covering sociological, psychological, and epidemiological topics. There is no separate physiology course except for Introductory Physiology: instead the systems of the body are taught by teams of physiologists, anatomists, pharmacologists, pathologists, and clinicians.

These systems courses in Year 2 are intended 'to build a mental image of the systems based on functional anatomy, physiology, and pharmacology, and from which to predict their behaviour, under the various conditions to which they are likely to be exposed'. Special pathology, epidemiological aspects, and clinical demonstrations are included to reinforce and illuminate the teaching of normal relationships by showing the abnormal possibilities. Most of the titles of the courses are self-explanatory although it should be noted that the 'Gastro-intestinal System' contains a sub-section on human nutrition. A separate course in pathology appears in the first year.

Informal tutorials in biology may be arranged on request for entrants to the course.

Clinical Aspects

The Early Medical Contact programme in the first year of the course takes students to visit patients in their homes, and also to antenatal clinics and to attend a birth. Clinical teachers regularly take part in all the systems courses and demonstrate patients. In the summer term of Year 2 the Introductory Clinical Work consists of a two-week full-time course on clinical method, followed by sixteen three-hour sessions in which students practise the skills of history-taking and examination.

In medicine and surgery groups of five students are attached to firms of one to two consultants and three to five juniors. For obstetrics, child health, and psychiatry, ten students at a time are attached to the whole clinical unit, and an orthopaedics unit currently takes ten to thirteen students at a time. Ophthalmology, ENT, dermatology, and venereology take three to five students per clinic. All firms and units are single-specialty. Most patient-based clinical teaching is carried out within the firm or unit as an extension of patient care. In Year 3 students spend one half-day each week outside hospital following up the community aspects of their clinical specialty. Year 5 is full-time clinical apprenticeship, with no more than one or two students to each clinical team.

There is no comprehensive series of lectures on clinical subjects: theoretical teaching takes place within the firm or unit as tutorials, no great distinction

being made between 'theoretical' and 'practical' clinical teaching. In Year 3, three afternoons each week are set aside for formal teaching in paraclinical subjects, but this amount is likely to be reduced in the future.

Students must spend at least five weeks in compulsory hospital residence, but will typically spend 20-25 weeks therein as all clinical attachments outside Southampton will be residential. A further two weeks will be spent in non-hospital clinical settings, on attachment to general practice.

Intercalated Degree

There is no opportunity to take an intercalated degree at Southampton. The need for such is felt largely to be removed by the fourth-year study in depth, available to all students. Its introduction is, however, still a possibility.

Elective Experience and Course Options

All students choose a topic which they study 'in depth' for the whole of the fourth year; three and a half days per week in term time are timetabled for this. The subjects include non-clinical, paraclinical, and clinical ones and a greater variety will be offered in future. Students must undertake this work in Southampton. The reports which students submit on their study in depth are not part of the assessment system although a poor one might lead to the student taking the Final Examination six months late. As the student body is fragmented during the study-in-depth year, the 'Wednesday Morning Club' was instituted to provide a social focus for students and to preserve their medical orientation. Attendance is voluntary. The organizer arranges a series of speakers on such topics as management in medicine, statistics, data-handling, and ethics. In other sessions the student may discuss recent conferences or journal articles.

The elective periods in Years 3 and 5 are to enable students to obtain further clinical experience. The first period may be taken anywhere in the world, but in the second the student is confined to Wessex, to work in any centre used by the Medical School for clinical teaching.

CURRICULUM CONTROL AND DEVELOPMENT

The system for curriculum development and control was constructed to suit the circumstances of a new medical school, planning its courses *ab initio*. It is likely that it will change in detail as the school and its curriculum become established, but the principle of a standing co-ordinating committee is likely to remain.

The Co-ordinating Sub-Committee on the Curriculum planned the new curriculum and has remained in being to supervise it. Its membership comprises the Dean, faculty officers, eight professorial representatives, one regional hospital consultant teacher, four non-professorial staff, and four students. The Sub-Committee meets twice a term. It is assisted by Working Parties on the 'Biological Sciences', the 'Social Sciences in Relation to Medicine', the 'Clinical Curriculum', the 'Fourth Year', and 'Teaching Methods'. The frequency of the meetings of these Working Parties varies. Their membership may include non-professorial as well as professorial staff members, and some have student representatives.

Southampton Medical School is not organized into departments. Each individual course—whether single- or multi-subject—has its own Course Co-ordinator and Course Working Party; they determine course content and presentation. They also control the course budgets and are responsible for reviewing their courses in the light of experience and feedback.

In 1977, after two cohorts of students have graduated, there will be a major review of the whole curriculum. Meanwhile the appointment of a Research Fellow in Medical Education has been approved, to assist in this curriculum evaluation.

The Deanery

The present Dean is effectively almost full-time; he was appointed to serve for seven years. There is a Preclinical Sub-Dean and a Clinical Sub-Dean. There is already an Associate Dean at Portsmouth and more such will be appointed at the various other hospitals in Wessex which the school uses for teaching; they act as links between the hospital, the hospital teachers, and the medical school.

Miscellaneous Topics

The University runs an annual course on teaching and assessment methods for all its staff. Around forty teachers from the medical school have attended over the last two years. The medical school itself is developing a programme of talks and discussions on educational topics to be held probably once a fortnight.

The 'Teaching Media Centre' is a University Centre, with some funding from the NHS. Advice on educational matters (undergraduate and post-graduate) is available, in addition to the audiovisual and medical illustration services.

STUDENT ASSESSMENT

Early Years

The critical assessment is based mainly but not entirely on end-of-course examination. In-course assessment can contribute up to fifteen extra marks towards the end-of-course examinations. Thus a student can enter the examination in credit but not in deficit. This applies to both 'preclinical' and 'paraclinical' subjects.

Assessment techniques used in the end-of-course examinations are: objective-type questions, short written answer questions, essay questions, a practical examination (anatomy), problem solving/data handling (biochemistry and the systems courses), and oral tests. Techniques used in the in-course assessment include: objective-type questions, essay questions, prepared written work, assessment of practical project work (epidemiology) and practical tests (biochemistry, some systems courses, and the paraclinical subjects).

Assessment of the clinical subjects studied during the later part of the course takes place principally in Year 5. At the end of this year the Final BM Examination is taken, which consists of an MCQ paper, an essay paper, a

clinical examination (two long cases and 'physical signs') and an oral examination. Students may be exempted from the long cases as a result of obtaining good results in formal assessments at the end of the final year attachments. There is no requirement to pass in each of the written papers in the Final Examination, an over-all pass in the Examination as a whole being required; however, students must obtain a pass in the clinical section of the Final.

Regulations

Compensatory passes between subjects may be granted in the Primary examination which has definable subject areas. All other examinations are multidisciplinary in nature with consequent 'built-in' compensation, and if a student fails one of these, the whole paper must be retaken. A failure in a single subject in the Primary examination however would necessitate re-examination in that subject only. On failing in a re-examination at any stage of the course a student would normally be required to leave unless there were extenuating circumstances such as illness.

External examiners frequently take part in the setting of examinations; they moderate the over-all standard and arbitrate in marginal cases in all critical assessments, but are not involved in the in-course assessments.

Advice and Assistance to Students

The Student Progress Committee exists to identify students with academic problems and arrange help for them, and students are encouraged to approach Faculty Officers and the teaching staff. Personal tutors are also appointed to help with personal and academic problems: a student has the same tutor for the whole five years and each tutor has about five students. This arrangement is currently being examined and may change.

The school does not arrange revision courses for students who have failed examinations.

PROBLEMS

Current problems at Southampton are concerned mainly with clinical teaching facilities. Building delays have resulted in inadequate teaching accommodation. The two main teaching hospitals are in process of rebuilding but a new Mental Illness Unit and a Maternity Unit in particular are needed urgently. Clinical and non-clinical departments are geographically separate.

DEVELOPMENTS

A 'bridge' course is to be introduced to enable candidates with qualifications such as Arts A-levels or degrees to enter the medical course. This will be similar to the 'First MB', and will accommodate perhaps ten to twelve students per year. Another mechanism is under discussion which would facilitate the entry of science graduates into medicine: they would undergo an 'accelerated' course of four and a half years missing out the 'study-in-depth' and receiving extra clinical training in Year 4.

Delays in the building programme may hold back the planned increase in intake to 130 students.

UNIVERSITY OF WALES

Welsh National School of Medicine/ University College Cardiff

Qualifying Degree. MB BCH

Curriculum Stages Offered. Premedical; preclinical; clinical

Curriculum Status. Premedical: established

Preclinical: revised 1970/1

Clinical: revised 1970/1; developing

GMC Correspondent. Dr G. S. Kilpatrick

The information in this section was collected in 1975.

See Important Note on p. 134.

Major Hospitals used for Undergraduate Teaching

*†University Hospital of Wales, Heath Park, Cardiff, South Glamorgan CF4 4XW

*†Cardiff Royal Infirmary, Newport Road, Cardiff, South Glamorgan CF2 1SZ

*†Llandough Hospital, Penarth, South Glamorgan CF6 1XX

Other Hospitals (Peripheral, Specialist, etc.) used for Teaching an Average of at least Six Students at any Time

Bridgend and District Hospital, Merthyr Mawr Road, Bridgend, Mid-Glamorgan
CF31 1JT

East Glamorgan General Hospital, Church Village, Near Pontypridd,
Mid-Glamorgan CF38 1AA

Royal Gwent Hospital, Cardiff Road, Newport, Gwent

Singleton Hospital, Sketty, Swansea SA2 8QA

*†Velindre Hospital, Velindre Road, Whitchurch, Cardiff, South Glamorgan
CF4 7XL

*†Whitchurch Hospital, Whitchurch, Cardiff, South Glamorgan CF4 7XB

* Within AHA(T).

† Within teaching district.

SELECTION

Each application is considered on its merits and, while no special quality is sought above all others, motivation is looked for. Academic attainment, the confidential report (negative remarks being given particular attention) and, where applicable, interview performance are all equally important in the selection process. Applicants are only interviewed if there is something unusual about their application, if they have applied for places in the premedical course, or if they are mature or from abroad.

There is no quota or special policy regarding mature or overseas candidates but usually they comprise 8-9 per cent of an intake.

'Open' days for prospective students have been discontinued on practical grounds.

FEATURES OF THE CURRICULUM

Early Years

Whilst remaining students of the Welsh National School of Medicine, pre-medical and preclinical students receive their training at University College Cardiff. This is several miles distant from the new 'University Hospital of Wales' teaching hospital at Heath Park, where the Welsh National School of Medicine is based. The major courses are departmentally based, but planning agreements are made between departments so that the sequence and boundaries of their respective teaching of a subject do not conflict or duplicate each other. However, smaller integrated courses on certain topics (haematology, genetics, immunology, nutrition, and endocrinology) have been developed successfully. The Departments of Anatomy, Biochemistry, Physiology, Medicine, and Haematology contribute to some or all of them. Interdisciplinary committees have been set up to manage these.

Clinical Aspects

A considerable amount of 'clinical' teaching takes place in the Basic Medical Sciences course—79 hours in total, divided between anatomy, biochemistry, and physiology. The programme is drawn up in advance though topics vary from year to year. The final six hours of this clinical teaching are devoted to 'Medical School Symposia', attended by preclinical and clinical students, in which clinical and preclinical staff participate. The clinical lectures, demonstrations, and seminars are intended to supplement the basic teaching and indicate its importance and relevance to clinical studies; disease processes are portrayed as alterations of normal function and the symptoms and signs of diseases are demonstrated as reflections of these disturbances.

The clinical curriculum dates from 1970/1. Year 4 is a transitional year, with the behavioural sciences being carried over from the preclinical years and paraclinical disciplines taught until May. From the beginning of June in Year 4 students rotate through nine blocks of specialties and disciplines grouped together, until they reach the Final examination. Each block lasts for ten to eleven weeks, and takes approximately fifty students at a time. The subjects within a block are linked thematically and integrated where appropriate.

Patient-based teaching within the blocks is given by single-specialty firms of one consultant and two to three juniors. In Year 4 only two students are attached to a teaching firm; in Years 5 and 6 the figure is five. Clinical clerking is considered most important and students learn mainly through their observation of and participation in patient care, rather than through specific teaching activities. Instruction in clinical method is given in the one-week intensive Introductory Clinical course in the September before Year 4, and then for one day a week during the autumn and spring terms of Year 4.

Until recently, 'theoretical' teaching was also given in the blocks and therefore had to be repeated to each group of students. From October 1975 a series of 'core' lectures will be given to the whole class together in Year 5. These are departmentally based rather than interdisciplinary, and cover medicine and its main branches, surgery (general and urological) and obstetrics and gynaecology, in discrete periods. One lecture is given each afternoon except Fridays. In Year 6 there will be 'final year lectures' on selected topics.

Table A. Stages and Courses, by Year of Course

ACADEMIC YEAR	STAGE	MAJOR COURSES			NAME	ACADEMIC YEAR		
		TERMS TAUGHT 1 2 3 4 5 6		APPROXIMATE LEARNING TIME				
1	Pre-Medical	+	+	+	175 hours 179 hours 175 hours	Biology Chemistry Physics	1	
2	Junior Pre-Clinical	+	+	+	115 hours 192 hours 139 hours 20 hours 24 hours	Anatomy Biochemistry with Chemistry Physiology Sociology Psychology	2	
3	Senior Pre-Clinical	+	+	+	186 hours 195 hours 226 hours 16 hours 20 hours	Anatomy Biochemistry Physiology Sociology Psychology	3	
4	Clinical Year 1	+	+		1 week FT and 1 day/week thereafter	24 wks FT	Introductory Clinical Course Behavioural Sciences; General Pathology; General Pharmacology; Core Lectures; Social Medicine	4
			+		15 hours		GP Attachments	
5	Clinical Year 2	R	R	R	11 weeks FT	11 weeks FT	Block A: General Medicine with Paediatrics Block B: General Surgery	5
		R	R	R	c. 200 hours		Second Year Core Lectures: Introductory, Forensic Medicine, Anaesthetics, Surgery, Medicine and specialities, Urology, Obstetrics/Gynaecology; Paediatrics, Orthopaedics and Traumatic Surgery. Block C: Social Medicine, Psychological Medicine, Paediatrics. Block D: Medicine (with Cardiology, Cardiac Surgery, Neurology, Neurosurgery, Haematology, Geriatrics) Block E: Surgery First Block from F-J (Year 6) Elective	
		R	R	R	11 weeks FT	11 weeks FT		
		R	R	R	11 weeks FT	11 weeks FT		
6	Clinical Year 3	R	R	R	33 weeks FT		Remaining three from the following 11-week blocks Block F: Obstetrics/Gynaecology, Neo-natology, Psycho-sexual Instruction, Venereology, General Practice, Laboratory Medicine. Block G: General Medicine, General Surgery, Respiratory Medicine, Paediatrics. Block H: Accident, Trauma, Orthopaedics, Renal Diseases, Urology, Forensic Medicine, Paediatric Spina Bifida. Block J: ENT; Dermatology, Anaesthetics, Ophthalmology, and 4 week Cardiff Elective. Revision	6
			+		4 weeks			

Table B. Students' Learning Time; Intake; Major 'Critical' Assessments, by Year of Course

ACADEMIC YEAR	STUDENTS' LEARNING TIME	INTAKE	CRITICAL ASSESSMENTS	ACADEMIC YEAR
1	28½ weeks	1974: 4 Estimate for 1979: 4	Preliminary Examinations	1
2	28½ weeks	1974: 20 Estimate for 1979: 150		2
3	28½ weeks	115	2nd MB Examinations	3
4	47 weeks	1974: 120 (including 2 Oxford and 6 Cambridge students) Estimate for 1979: 150 (including 5-10 students from Oxford/Cambridge)	University Examination in Pathology, Microbiology, Pharmacology	4
5	48 weeks	110	University Examination in Social Medicine and Psychological Medicine	5
6	37 weeks	108	Final Qualifying Examination (written papers, clinical and an oral) (contribution from in-course assessment)	6

The theoretical teaching can thus no longer be closely related to concurrent clinical experience. However, small-group teaching and tutorials given by firms is increasing. Clinico-Pathological Conferences are held on Fridays.

Students' experience in non-hospital clinical settings is the approximate equivalent of five weeks. The minimum required period of residence is eight weeks; however, a typical student could spend the whole three years of the clinical course in residence as there is enough accommodation at the University Hospital of Wales for 60 per cent of all students there at any one time, and students also live in at other hospitals to which they are attached.

Intercalated Degree of BSc

To be permitted to read for an intercalated BSc degree—an opportunity enjoyed by up to ten students each year—students must reach the required standard in the Second MB examinations; individual departments limit numbers although no ceiling is placed on the total. The BSc has been taken in recent years in anatomy, physiology, and medical biochemistry; the year involves course work and research projects, the latter being included in the over-all assessment at the end of the year, when an examination is held.

Elective Experience and Course Options

The summer elective period in August–September between Years 5 and 6 may be taken outside the medical school, and 90 per cent of students do this. Exchange schemes operate with a number of foreign medical schools, and students are encouraged to visit other schools, either abroad or in Britain. They may undertake clinical work, research, courses of study, or any other type of relevant experience.

In Year 6, the 'Cardiff Elective' may be taken in any specialty at the University Hospital of Wales, other than general medicine and general surgery. Students may spend the time studying, doing research, or in active clinical work in the specialty chosen. However, a student's choice of elective may be 'guided' by tutors and the time spent on revision in a weak subject. This elective is part of a rotating block.

CURRICULUM CONTROL AND DEVELOPMENT

The preclinical and clinical stages of the course are organized separately, but a 'Joint Academic Committee' exists to correlate the stages at policymaking level. This is a small joint committee of University College and the Medical School.

At the preclinical stage, departments maintain responsibility for the content, presentation, revision, and administration of their own courses. Curriculum change may come as a result of staff or student initiative, and would be discussed at departmental board meetings. However, there is an 'Interdepartmental Staff–Student Committee', which consists of more or less equal numbers of staff and students, which meets each term to discuss academic and related matters. This makes recommendations to departments on interdepartmental courses, as its remit does not include intradepartmental or single-subject matters. It advises and reviews, but it cannot implement any changes it may propose. Interdisciplinary sub-committees have been established to

monitor and control the smaller integrated courses; under normal circumstances these meet yearly. Representatives of all departments teaching on a course attend. There is now also a Board of Studies for Behavioural Sciences, to organize and co-ordinate the teaching of the behavioural sciences generally.

At the clinical stage, Senate is the most senior body which must approve the curriculum and alterations to it. All professors in the Welsh National School of Medicine are members, together with representatives of non-professorial academic staff, non-academic clinical staff, preclinical staff, and students. The Clinical Curriculum Committee (membership: all professors, representatives of non-professorial staff, non-clinical academic staff, students, and other co-opted persons) is a sub-committee of the Senate which is responsible for the allocation of time to departments and subjects. Its chairman (the Dean of Clinical Studies) is also chairman of its executive sub-committee—the Clinical Curriculum Sub-Committee, whose eight members produce detailed plans and recommendations for the main Committee's approval. It reviews the clinical course on a regular and informal basis. 'Block Committees'—one for each block—hold meetings which may be attended by all teachers of any subject within that block; they administer and review the teaching, and may encourage interdepartmental teaching. Usually a small executive carries out any necessary administrative tasks. Each department is responsible for the content of its course within the block which must conform to some extent to the wishes of the Block Committee and the Clinical Curriculum Sub-Committee. The Senate-Student Liaison Committee has equal numbers of staff and student members. It is an advisory body, whose chairman is the Provost of the Medical School.

The recent change which has had repercussions on almost the whole course was the introduction of the behavioural science courses spanning Years 2, 3, and 4. Discussions were held between the heads of the sociology and psychology departments and the clinical and preclinical departments affected. The Senate and the Joint Academic Committee then discussed the proposals before they were implemented by the new Board of Studies.

The Deanery

The Welsh National School of Medicine is a Constituent Institution of the Federal University of Wales whose Provost is also, by the Charter of University College Cardiff, Chairman of the 'Joint Academic Committee' of the College and School for the regulation of matters of joint interest and concern. The Dean of Clinical Studies is concerned specifically with clinical students and clinical teaching; this is at present a permanent but part-time appointment. There are two 'Student Counsellors' at the Medical School who relieve both the Provost and the Dean to a considerable extent in relation to student problems of an academic and personal nature.

Miscellaneous Topics

A new 'Staff Development Course' at University College Cardiff is run by the Department of Educational Technology there.

STUDENT ASSESSMENT

Early Years

In the preclinical subjects, the critical assessment is essentially end-of-course in nature; assessment techniques include objective, short-answer and essay questions, also practical and oral examinations. However, the chemistry element of biochemistry/chemistry is assessed when its teaching finishes in Year 2 and the marks obtained are summed with the biochemistry examination marks in Year 3. The 'practical' examinations in physiology and biochemistry (which are theoretical examinations on the practical course) are taken at the end of the spring term in Year 3, before the main papers at the end of the summer term. Paraclinical subjects are assessed by end-of-course examinations only, using techniques similar to those in the preclinical examinations. There is no 'University Examination' in the behavioural sciences; there is a school examination in Year 4 which must be retaken if failed but which is not part of the qualifying examination.

Clinical Subjects

Students must pass the 'theoretical' and 'practical' aspects of clinical subjects independently. Both aspects are critically assessed by a roughly equal mixture of in-course and end-of-course assessments. MCQ or other papers are taken at the end of each block, and most disciplines require case records of case commentaries to be submitted. Firms record their opinions of students' performance, attitudes, competence, etc., in clinical work. All these are formally taken into account at both stages of the Final Examination. Social medicine and psychological medicine have oral and clinical examinations at the end of Year 5, the marks from these being summed together with marks from the block assessments. At the end of Year 6, written (an MCQ paper), oral and clinical examinations (long and short cases) in the other clinical subjects are held, the marks being augmented by those from the relevant block assessments. Performance during the electives may also be taken into account.

Regulations

Compensatory passes may be permitted at the preclinical stage; they do not apply to the clinical examinations. Students who have failed a preclinical examination retake the failed subject only; the final clinical examination is taken, passed or failed, and retaken as a whole. Following failure at a resit examination, each case is considered on its merits; 'carrying' a subject would normally only be allowed in the case of behavioural sciences, and students failing the second sitting of other examinations would normally be asked to retake a year or to withdraw, depending upon the circumstances.

External examiners assist in the setting of the preclinical papers. They moderate the over-all standard of all the examinations, and arbitrate in marginal cases. They are not however involved in the in-course assessments.

Advice and Assistance to Students

Students worried about their studies in a particular field are expected to ask the appropriate staff member or department for help. Students worried about their studies in general may approach course supervisors and tutors, and

clinical students can discuss problems with the Dean of Clinical Studies. Departments may organize revision classes for students in need of them, and remedial measures may also be prescribed for individual students by the Joint Academic Committee.

Course supervisors and tutors might also assist with students' personal problems, as could the Student Health Service. However, the Student Counselling Service will help with any problem, academic or personal, and the Medical School has two student counsellors, both half-time appointments, based at the teaching hospital.

PROBLEMS

Accommodation generally is not a problem, but the library is now too small for the increasing number of users. The supply of patients is satisfactory, though there is some shortage of general medical and surgical beds. The main handicap is the geographical separation of the preclinical and clinical schools.

With respect to the curriculum, it is felt that ideally pathology and pharmacology would be taught in the early years; this is not at present possible. More small-group teaching is desirable but again, difficult to organize. More philosophically, the curriculum as a whole is felt to be too congested, depriving students of 'sufficient time to think'.

DEVELOPMENTS

Modifications made to the clinical course in 1975/6 were mainly administrative in nature, being minor changes to suit local problems. From 1977, the preclinical intake will be 150. This will eventually mean fewer places for students joining the clinical course from Oxford and Cambridge. The School's expansion will also necessitate greater use of other hospitals.

Efforts will be heightened to integrate further within the preclinical and clinical stages and, where possible, between them.

