KING's FUND CENTRE

A Conference on the Future of Undergraduate Medical Education

24 April 1991

– A discussion document –

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CONTENTS OF THE DISCUSSION DOCUMENT

EXPLANATION OF THE DOCUMENT

This discussion document has been prepared as a result of the findings of the Enquiry into Undergraduate Clinical Teaching for the 1990s (see page ii). It is in two sections.

Section I will be reviewed at the first plenary session of the conference. It summarises the consensus of opinions expressed in the Enquiry and is in two parts. Part A sets out the aims of a possible new undergraduate curriculum and Part B outlines the consequences for achieving those aims.

Section II will form the basis for the group discussions in the morning (Groups A – E) and afternoon (Groups F – K) session of the conference. It comprises a series of recommendations and questions arising from the major issues identified in relation to implementation of this possible new undergraduate curriculum. The task of the groups is to suggest what action now needs to be taken in relation to the recommendations, and by whom, and to identify the requirements in terms of organisation, facilities and resources.

The suggestions arising from each discussion group will be reported back to the conference in the subsequent plenary session.

It is obvious that not all the issues covered by the Enquiry can be addressed by the conference: therefore the discussion document identifies only the main issues and recommendations which might be considered in the first instance. However, it still may not be possible for the discussion groups to consider all the recommendations within the time available, and each group will need to agree on priorities for discussion at the conference from the list provided in this document.

In preparation for the conference, it is suggested that participants should familiarise themselves with Section I and with the lists of recommendations for the two discussion groups to which they have been assigned. As there will inevitably be some overlap between the recommendations to be considered by the different groups, it may be helpful to read through all the recommendations if possible.

ENQUIRY INTO UNDERGRADUATE CLINICAL TEACHING IN THE 1990s

The Background

Most medical schools have introduced some undergraduate clinical teaching in the district away from the central teaching hospital. However, practical difficulties in implementing conventional clinical teaching are currently being experienced as a result of changes in medical practice and in the health service. Further changes will result from technological advances, social/economic factors and the influence of government policy on hospital care. It is, therefore, an appropriate time to take a fresh look at clinical teaching for undergraduates in order to provide a realistic prospect of effective and efficient teaching into the next century. It is against this background that the King's Fund, in collaboration with St Bartholomew's Hospital Medical College and City and Hackney Health Authority, decided to undertake a wide-ranging enquiry into clinical teaching within the undergraduate curriculum, through a three-part consultation.

The Consultation

The aim of the consultation was to establish creative yet critical guidelines for the design of future undergraduate curricula in which clinical teaching is adapted to the changing needs and circumstances of health care. A wide range of leaders in the profession were invited to give their comments and suggestions by participating in the three rounds of the consultation, in order to develop a consensus view of the future development of undergraduate clinical teaching.

In Round I of the consultation we asked participants to read through a preliminary set of issues and to suggest additional aspects that should be considered in planning, conducting and evaluating clinical teaching. As a result of the responses we received, we amended the consultation document and added new propositions and questions. In Round II we asked for comments on the enlarged set of issues and their implications. The responses received in Round II were collated to form Round III, so that participants could see the range of views which had been expressed, and the degree of consensus, and have an opportunity to make any additional comments or new suggestions that they wished.

As a result of the consultation and the interest which it generated, it was decided to hold a conference to review the main findings of the enquiry and to enable participants to decide what action needs to be taken on the recommendations which it generated.

CONFERENCE PROGRAMME

CHAIRMAN:	**Sir William Doughty**, Chairman, Northwest Thames Regional Health Authority
9.30	Registration
10.00	Welcome and Introduction **Sir William Doughty**
10.05	Background to the Enquiry **Professor Lesley Rees**, Dean, St Bartholmew's Hospital Medical College
10.15	The Enquiry and its Findings **Dr Angela Towle**, King's Fund Centre/St Bartholmew's Hospital Medical College
10.30	Plenary Discussion of Section I of the document
11.00	Coffee
11.15	Discussion Groups (Recommendations A-E)
12.15	Plenary Discussion
1.00	Lunch
2.00	Discussion Groups (Recommendations F-K)
3.00	Tea
3.15	Plenary Discussion
4.00	Summary/Closing remarks **Sir William Doughty**

SECTION 1: AN UNDERGRADUATE CURRICULUM FOR THE 1990s

PART A: AIMS OF THE CURRICULUM

General education

1 The curriculum should aim to teach general principles and their application, as well as basic skills upon which postgraduate specialisation can build. The undergraduate curriculum should aim to create a motivated, critical and enquiring doctor, willing and able to continue learning throughout his/her professional career. While aiming to provide a general education, the undergraduate curriculum should provide opportunities for individual students to pursue specialist interests (eg. through in-depth study).

2 The undergraduate curriculum should be planned as the first phase in the continuum of medical education, preparing the graduate for his responsibilities in the pre-registration period and providing the foundation for postgraduate and continuing education.

3 The curriculum should foster the ability of students to think rather than to memorise facts. It should encourage intellectual enquiry, the integration of theory and practice, problem solving and critical reasoning. The acquisition of such skills is more important than attempting to cover all the specialties in some depth. While the undergraduate course should aim to inform career choice, this should not be used as a justification for teaching a particular subject.

General competences

4 Undergraduate education should provide appropriate settings and opportunities for the acquisition of a number of key general competences which will be required throughout a professional lifetime, irrespective of which specialty is practised. The competences will enable future doctors to cope with change and developments in clinical practice (by adapting to and participating in change) and with their wider responsibilities (eg. as team leader, manager of resources).

5 The general competences should be developed progressively and cumulatively during the undergraduate course by experiences and practice in real-life situations backed up by discussion between student and tutor, peer group discussion and reading.

Clinical teaching

6 The curriculum should emphasise the understanding and application of concepts, concentrating on the principles of medicine and the application of the scientific approach to clinical problems. The principles of problem solving, constructing a differential diagnosis, planning investigations and management of the patient should be covered, including an analysis of how decisions are made, the process of problem solving and the difficulties and uncertainties of medicine.

7 Basic science teaching should concentrate on broad principles, identifying areas of controversy and current developments, and on teaching the scientific method and critical thinking. Sufficient time and opportunities should be provided to allow undergraduates to relate basic biological sciences to clinical problems.

8 The curriculum should teach clinical care rather than medicine, gynaecology, surgery, etc. The main skills that need to be taught to undergraduates are skills of diagnosis (eliciting a history through the interview, physical examination, a few basic diagnostic tests), basic principles of patient management (especially the principles of first aid, resuscitation and acute care), communication skills, interpersonal skills and managing one's own time and learning. Learning should be by instruction, example and practical experience (supervised practice).

9 The level of the specific professional skills should be closely related to the responsibilities that the new graduate is expected to assume during early postgraduate training or supervised clinical practice. Theoretical aspects may range more widely.

10 The curriculum should emphasise the importance of the doctor-patient relationship and ensure students can establish good relationships with patients, their families and the professionals involved in health care through the development of appropriate attitudes and good communication. Time should be allowed to ensure that these essential qualities are developed.

11 The curriculum should emphasise the holistic approach to the individual patient, so that the psychological and sociological aspects are given as much consideration as the physical when making decisions, for example about diagnosis, prognosis and management of a patient's problems, rehabilitation and care of the disabled or terminally ill.

12 Students should constantly be presented with the goal of health rather than absence of disease. The maintenance of health and prevention of illness should be central concepts in the undergraduate curriculum, fully integrated into clinical teaching. Students should be encouraged to develop a critical approach to what is known in this field.

13 The curriculum should give students an awareness of the need to think in terms of populations as well as individuals and the potential conflicts between the claims of both. The distribution of health and disease in society should be considered through the study of populations (public health as well as individual health).

14 The curriculum should give students a wider perspective of the practice of medicine and the role and responsibilities of the doctor in society. Students need to reflect on the ethical, moral, legal, social and economic implications in making clinical decisions and to be made aware of the interface between clinical practice, patients' needs and expectations, economics, politics and health policy. The teaching of such topics as health economics and policy, ethics, medico-legal issues and the role of other professionals involved in health care, should be fully integrated into the curriculum, being based around the clinical problems studied by students.

15 Undergraduates should learn to understand and respect the role, work and problems of other professionals involved in health care in order to practice teamwork (cooperation and collaboration).

PART B: ACHIEVING THE AIMS OF THE CURRICULUM

Structure of the course

16 The undergraduate curriculum should be planned to achieve a balance between scientific education, vocational training and the personal development of an individual student. These three strands should run throughout the course, closely intertwined and not sequential.

17 There should be a minimum core curriculum, concentrating on basic principles and methods underpinning the scientific basis of medical practice and illustrated by example. There should be some choice within the curriculum providing opportunities to pursue individual areas of interest, and opportunities and time for extracurricular activities within the broader university environment to allow for personal development and maturation.

18 There should be better integration between preclinical and clinical teaching throughout the course so that the scientific basis of medicine is presented in a context which is relevant to the practice of medicine and there is early patient contact. There should also be integration between the different disciplines to ensure a balanced curriculum in which no single approach or attitude is unduly dominant.

19 Opportunities should be provided for students to carry out study in-depth and/or project work in order to develop key general competences (eg. in problem solving, critical thinking), foster intellectual curiosity and generate interest.

How should students learn?

20 Students should not be overwhelmed by huge volumes of coursework but should have time for discussion and reflection; should be allowed to develop their own individual interests (eg. through project work); should be encouraged to seek out information by themselves (eg. by problem solving); should be inspired to continue learning after the undergraduate years.

21 Teaching methods need to reflect the aims and objectives of the curriculum and principles of adult learning. Learning should be based on the needs of the learner (student-centred not teacher-centred), ie. independent learning supported by a tutorial system.

22 Tutors should facilitate the exchange of experiences between students and guide students in further study, and help them to integrate basic sciences with clinical, social and population sciences.

Student assessment

23 Informal (formative) assessment must provide direction and a positive approach to encourage learning through helpful and frequent feedback to students. It should be an educational review of progress with appropriate remedial action by student or tutor.

24 Little progress will be made with the undergraduate curriculum until it is less examination-driven than it is at present. The examination system should facilitate rather than control learning and encourage self-learning. Formal (summative) assessment must therefore reflect the educational objectives of the curriculum and clearly be relevant and supportive of these. All skills, knowledge and attitudes deemed to be important should be assessed by appropriate methods.

Student selection

25 It is important to select the right people for entry into medical school, taking into account the personal characteristics appropriate to a good practising doctor, and to ensure that selection criteria and methods are appropriate.

26 An increase in the number of mature age students could bring considerable benefit to those drawn straight from school. It should be possible for the school leaver and mature student to go through the same curriculum (if sufficiently flexible) and the undergraduate curriculum could benefit considerably from incorporation of the principles of adult learning.

The Pre-registration period

27 Many aspects of the undergraduate curriculum will need to be developed further in the postgraduate years, building on the foundations laid in the undergraduate course. In particular, the pre-registration period needs to be planned as an appropriate second step in the continuum of medical education in relation to the aims of the undergraduate course.

Where should students learn?

28 Students require wide clinical exposure in order to get individual experience of a wide variety of patients, common conditions and circumstances of illness. A broader view of medical practice beyond the confines of a large teaching hospital is required: increased use of outpatients and general practice for teaching is essential to reflect the true spectrum of health and disease in the community. Teaching needs to be integrated across the hospital/general practice/community interface.

Quality of teaching

29 Teaching is currently conducted by individuals with commitments to clinical practice, research and administration/management, as well as teaching. Until teaching is perceived and recognised to be of equal importance to research and clinical work, academic staff will have little incentive to devote time and effort to the planning and implementation of new curricula or new ways of clinical teaching, or to acquiring professional expertise in medical education.

Curriculum planning and organisational requirements

30 To achieve the overall aims, the curriculum needs to be planned as a whole, not as isolated years or subjects. Specific opportunities for the development of the key competences need to be planned, and not just hoped for or expected. The different clinical disciplines should work together to ensure that general and specific competences are acquired progressively and cumulatively, avoiding unnecessary and unplanned repetition. This will require careful curriculum planning, coordination of teaching within and between departments and commitment to the curriculum.

31 Planning needs to be heavily led by the medical school corporately and departmental plans fitted within the overall framework. Individual departments and departmental heads should no longer have the final decision on which elements of their discipline should be taught to all students.

32 Changes are difficult even in a school which prides itself on an interest in education. Key people need to be identified and to develop a consensus about a new system which can then be negotiated with the others involved.

SECTION II: RECOMMENDATIONS FOR FUTURE ACTION

A. AIMS OF THE CURRICULUM (CONTENT)

A.1 The amount of factual information in the undergraduate course needs to be reduced in order to ensure time for personal development, critical thinking and reflection.

A.2 The core knowledge, skills (general competences and clinical skills) and attitudes which constitute a general medical education and which graduates need to acquire in order to be able to deal with common clinical problems, to undertake their responsibilities as pre-registration house officers and to continue their own education, must be defined and translated into operational objectives. (How and by whom?)

A.3 The level of attainment of the general and specific professional competences expected by the time of graduation should be defined, and methods of teaching/learning and assessment which foster these competences must be developed. Provision should be made for the further development of these competences in postgraduate training through specified curriculum and assessment. (How and by whom?)

A.4 Ways in which the wider issues of health care can be integrated into the curriculum so that they are learnt in a clinical context, and are taught and assessed appropriately need to be addressed. (How and by whom?)

A.5 More prominence should be given in the undergraduate course to preventive medicine and health maintenance. These issues should be integrated into all clinical teaching and not regarded as a separate specialty. Clinical teachers need to be convinced of the importance of health promotion and disease prevention. (How can the quality of teaching of preventive medicine be improved?)

A.6 The curriculum should place greater emphasis on health problems in the community and in particular the local community in which the medical school is based. (How can the teaching of medicine in the community be more integrated with clinical specialty teaching? To what extent should undergraduate students get involved with groups in addition to individual patients? If this is believed to be more appropriate for postgraduates, can this in fact be catered for in current postgraduate training?)

A.7 Undergraduates should be given opportunities to understand and respect the contribution of other caring professions, practise holistic principles and experience teamwork. (To what extent can/should these issues be addressed explicitly in the undergraduate curriculum? Are they better learnt during postgraduate training? Can they be taught?)

B. STRUCTURE OF THE COURSE

B.1 Medical schools need an effective policy board: to determine the balance between scientific education and vocational training; to define the philosophy of its medical education; to ensure faculty commitment to the policy and philosophy.

B.2 Ways to achieve a greater degree of integration between the sciences (biological, clinical, population and social sciences) should be sought (how much integration is desirable and practical?) and practical problems which act as obstacles to integration must be addressed.

B.3 Ways in which the different disciplines can contribute to a general education and holistic thinking need to be established and appropriate ways found to include minor specialties in the curriculum.

B.4 Although the undergraduate course should provide a general education for all students, opportunities for the most able students to achieve academic excellence should be provided.

B.5 Time should be set aside in the curriculum to allow students to exercise choice and develop or pursue a specialist interest through study in depth, project work, research, electives, etc. These opportunities should support the aims of the curriculum (eg. through broad objectives related to the acquisition of the general competences such as critical thinking and problem solving) and be assessed appropriately.

B.6 The possibility that not all medical schools should offer the same type of course should be considered and innovation in curriculum design encouraged.

C. HOW SHOULD STUDENTS LEARN?

C.1 The design of the undergraduate curriculum and methods of clinical teaching should take account of known principles of effective and efficient learning, and the educational and personal needs of students. All medical teachers should understand and apply the principles of learning and recognise the needs of students.

C.2 Teaching should be student-centred rather than teacher centred, with more emphasis on guided self-directed learning, small group tutorials, problem-based learning and project work, and fewer lectures/formal teaching sessions. (How can these principles be incorporated into clinical teaching?)

C.3 Students should be involved in planning and directing their own learning. They should be given clearly stated written objectives so that they know what is expected of them, and assisted to direct their own studies towards achieving these objectives.

C.4 A system of appropriately trained tutors to provide academic and personal support should be developed. Personal support should help students to come to terms with illness, the uncertainties of medicine, etc. so that they do not develop inappropriate attitudes/defensive behaviour. Career counselling should also be provided.

C.5 The need to create a more flexible timetable (to accomodate self-directed learning and the dispersal of students among a wide variety of clinical settings) should be addressed and teaching methods appropriate to individual and small group learning should be developed.

C.6 Ways in which students may be given increasing clinical responsibility and opportunities to apply what has been learned in practice, under supervision, should be considered.

C.7 Clinical attachments should have clear objectives which contribute to the attainment of the overall aims of the curriculum. Students should be provided with a wide range of clinical experiences which they should be encouraged (by teachers/peers) to use as a basis for learning. Time-wasting activities of little educational value should be minimised.

C.8 The desirablility/necessity for students to learn only about ill people in hospital/general practice should be critically analysed (eg. in view of the distorted view this may present of sickness and health; fewer opportunities for students to clerk and examine patients at length). Appropriate alternative methods should be identified (eg. simulated patients, video recorded material, practice on peers and healthy volunteers).

C.9 The implications for a shift towards more appropriate teaching methods (self-directed learning, small group teaching, tutorial system) on staffing levels, facilities and resources must be addressed.

D. STUDENT ASSESSMENT

D.1 Assessments should be relevant and fair, and test whether objectives/goals (knowledge, skills and attitudes) have been met. Assessors must examine objectively and uniformly, according to standardised criteria.

D.2 Formative assessment should assist learning (by providing encouragement and feedback on progress) without being stressful (by being too frequent, too formal, pejorative) or overly time consuming (for staff and students). (How can this be done effectively and efficiently, eg. through self-assessment, peer group assessment, feedback from personal tutors?)

D.3 The advantages and disadvantages of introducing a formal system of progressive continuous assessment should be considered further.

D.4 The role of the final examination should be re-evaluated. (Is it necessary? Is its importance over-rated? What is the role of external examiners? Should course work assessment form a part of the final assessment?)

D.5 New methods of assessment are required which test more appropriately all the aims and objectives of the curriculum (eg. assessment of general skills such as problem-solving, communication, critical thinking; integrated examinations to reflect more integrated teaching). (How can research into assessment be encouraged and the results implemented and evaluated?)

D.6 Clinical teachers and curriculum planners need to become better informed about assessment and convinced of its educational importance.

D.7 Reform of the assessment system at undergraduate level will require a re-evaluation of the postgraduate examination system and the system of accreditation of professional competence.

E. STUDENT SELECTION

E.1 The criteria and methods of selection for entry into medical schools should be re-examined to take account of personal qualities and motivation rather than just 'A' level grades.

E.2 The current 'A' level entry requirements should be reviewed. (Do they need to be as high as at present? What 'A' levels are appropriate – should there be greater flexibility, and if so, how can the undergraduate course accomodate such differences in the knowledge base of entrants?)

E.3 The current policy of normally selecting entrants to medical school from among school leavers should be reconsidered. (Do we admit medical students at too young an age? Should school leavers be encouraged to take a year off before entry into medicine?) Information on the comparative perfomance (in general terms) and career progress of mature students should be obtained.

E.4 The possibility that medicine should become a postgraduate subject should be considered.

E.5 The effect of admitting medical students at a later age on the current system of postgraduate training/career structure should be investigated. (Does it need to take so long to produce a specialist?)

E.6 In view of the influence of the peer group on learning and attitudes, diversity (social, ethnic, age) in the student group should be encouraged. (How may this be achieved?)

E.7 The effect that the new fee structure may have on the numbers of school leavers and mature students wishing to study medicine should be studied.

F. THE PRE-REGISTRATION PERIOD

F.1 The relationship between the undergraduate course and the pre-registration period needs to be defined and the pre-registration period planned as an extension to the undergraduate curriculum.

F.2 The pre-registration period needs a specified curriculum, clearly defined educational objectives, proper time for learning, good supervision, appropriate teaching methods and suitable assessment.

F.3 The duties and hours of work should be clearly defined so that study and leisure time are protected. Clinical responsibilities need to be reviewed to ensure they are appropriate and standardised across all hospitals.

F.4 The educational component of training posts should be carefully monitored. Teachers must have protected time for teaching and receive recognition and training.

F.5 The pre-registration period needs to be reviewed with respect to overall length (one or two years?) and length and nature of individual attachments (eg. is a 6-month surgical attachment appropriate, should general practice be included, would 3 x 4-month attachments be better?)

G. WHERE SHOULD STUDENTS LEARN?

G.1 Clinical teaching should take place in settings appropriate to the aims and objectives of the course (the acquisition of general and specific competences), taking into account the most effective and efficient place to learn each skill.

G.2 Each stage of medical education should be characterised by a range of experiences at different levels involving both sick and well people. Professional skills should be developed from the beginning of the undergraduate course.

G.3 The three main settings for the acquisition of general and specific professional competences are wards, outpatient clinics and general practice, including the patient's home.

G.4 Teaching should be decentralised: clinical teaching should occur increasingly away from the base teaching hospital with more exposure to community and district general hospital, moving towards the concept of a teaching district rather than teaching hospital. (What organisational framework would be required to integrate the base teaching hospital, other district general hospitals, community clinics, etc. taking into account the new structure of the NHS, and to ensure adequate standards of teaching and supervision?)

G.5 In view of the increasing specialisation of teaching hospitals, the role of the teaching hospital in providing a general education for undergraduates needs to be defined. (Is it more appropriate for most hospital-based teaching to occur at the district general hospital? What would be required to facilitate this?)

G.6 In view of the fact that the majority of the patients are seen and treated in general practice or outpatient clinics, the role of inpatient teaching (bedside teaching) should be re-evaluated.

G.7 As outpatient teaching is going to increase at the expense of inpatient teaching, the requirements for implementation of effective and efficient outpatient teaching need to be identified. (For example, resources for special teaching clinics, facilities, staff development, outpatient teaching methods).

G.8 A shift of teaching into the community would place greater emphasis on teaching in general practice. The requirements needed to facilitate this, to create an appropriate environment for learning, and to ensure that high standards of clinical teaching are maintained, need to be identified. (For example, strengthening of university departments of general practice, training in teaching methods, links between hospital clinical departments and general practice, resources and facilities for teaching and organisation).

G.9 The requirements needed to ensure that students experience the full spectrum of medical care need to be identified. (For example, visits to different institutions arranged through general practice attachments, problem-solving exercises, opportunities for students to follow patients through the process of care).

H. QUALITY OF TEACHING

H.1 Government (UFC) and the Health Service must define and agree on patterns of service delivery and budgets for teaching in medical schools, allied hospitals and the community to ensure that the needs and demands of clinical teaching are met. Faculties need to give more explicit recognition to the specific nature of medical education and to develop within the faculty structure a group of academic staff who can build up the necessary professional expertise in curriculum development, teaching methods and assessment.

H.2 Evidence of ability and commitment to teach should be required for selection to an academic appointment.

H.3 All clinical teachers should have a clear job description. Duties should include a defined proportion of time for teaching (including planning, preparation, contact time, assessment) to be timetabled. Academic staff with major teaching responsibilities should have reduced clinical, research and/or managerial commitments.

H.4 A system of recognition for the amount and quality of clinical teaching is required in order to preserve teaching against the demands of research and clinical work (which unlike teaching bring reward and career advancement).

H.5 All academic staff should undergo recognised training on a regular basis in curriculum development and effective teaching and assessment.

H.6 Audit of clinical teaching should be undertaken.

J. CURRICULUM PLANNING

J.1 An independent group should be set up to plan a curriculum for the 21st century, as it takes a decade to pilot and introduce innovations.

J.2 All those with a responsibility for undergraduate medical education (eg. government, GMC, universities) should commit resources (time, money, skills) to a total redevelopment of the curriculum, definition of aims, methods and activities with regard to scientific content and vocational training, and a new examination system.

J.3 The resource implications of professional curriculum planning and management in terms of staff time and skills, departmental funding, etc. need to be addressed.

J.4 The curriculum should be planned to ensure cumulative progression towards the acquisition of defined professional competences (general and specific), starting with the general and basic, and working towards the more advanced and specific.

J.5 There should be more overt acknowledgement of the adult status and maturation of students in programme planning, eg. with respect to responsibility, coping strategies, interpersonal skills.

J.6 All the different disciplines involved in teaching undergraduates should agree on the overall objectives (for the entire curriculum) and at the end of each period of the course (calendar period not attachment), and on methods of achieving and assessing them.

J.7 Individual disciplines should gear their teaching to a student's level of development, which should be progressively assessed. All teachers should be provided with the stated (published) objectives so that they will know what the students have already achieved and what needs to be learnt during the next stage of the course for which they are responsible (irrespective of the particular attachment) and can help the student to learn appropriately.

K. ORGANISATIONAL REQUIREMENTS

K.1 Each medical school should establish an education/curriculum committee or planning group. The membership of such a committee should be such that it does not just maintain the status quo (especially with regard to resource allocation). For example, it should include those with a real interest in medical education and a broad vision, and be multidisciplinary (including representatives from students, junior doctors, GPs and other health professionals).

K.2 The function of the curriculum committee/planning group should be to develop an educational policy and strategy for the entire curriculum, draw up integrated horizontal and vertical programmes with explicit aims and objectives in relation to this strategy, and develop teaching and assessment methods to support the aims and strategy.

K.3 A small executive body is required to act in parallel to assess the feasibility of the policies and to put them into practice. It should enable teachers in both non-clinical and clinical disciplines to cooperate with each other.

K.4 All involved in teaching must feel that they have contributed to overall discussion/debate and be prepared to work towards the fulfilment of agreed objectives. Staff may require regular joint seminars, discussion groups, planning sessions and teaching courses if they are to subscribe to and promote the general objectives of the medical school rather than the more immediate ones of their own discipline.

K.5 Control should be vested in groups or course units, not in departments. Programme or course directors should be appointed for topics which cut across departmental boundaries, and with sufficient powers and resources to be effective.

K.6 The planning mechanism may need a fulltime 'school principal' on a career basis rather than being led by a part-time, mainly administrative, Dean.

K.7 A separate monitoring group should be established to be responsible for evaluating outcome, including student feedback.

K.8 Standing committees should be established to keep the curriculum under constant review and revision.