MEDICAL PRACTICE

Medical Education

An important opportunity

An open letter to the General Medical Council

This letter is in response to the call by the education committee of the General Medical Council for comment on its proposals for "basic specialist training." It comes from a group of individuals who have been meeting regularly over the past two years to discuss medical education as a whole and the criticisms currently levelled at it by thoughtful observers both outside and inside the profession.*

The medical profession in this country continues to experience a high degree of approval and respect from the public. But this is not unqualified. Expectations are rising. Criticism comes more frequently from younger people and therefore seems more likely to increase than to decrease. It is chiefly directed at the balance between technology and humane care. After 50 years of dramatic increase in the power of medicine to intervene effectively there is a growing fear of the side effects of investigation and treatment, increasing awareness of the difficulties of communication between doctor and patient, and dissatisfaction with the relative amounts of time given to combating disease, comforting individuals, and promoting health. The demand for orthodox medicine does not appear to be declining, but there may be an increase in the number of people searching for alternatives which are safer, more concerned with the personality and comfort of the individual, and directed more to helping people to live healthy lives.

Systematic studies, whether of doctors working in general practice or in hospital, show that people want them to listen more carefully, to understand better their own beliefs and ways of thinking, to discuss and explain in language which they use themselves, to make decisions jointly, and to be less hurried. Whether justified or not, such criticisms of medical care are too frequent to be ignored and the possibility that medical education in Britain today is to some extent to blame for them must be considered, even though many of our doctors were selected or trained elsewhere.

Within the profession there has for many years been doubt whether doctors are adequately prepared to cope with the continually changing future which they face. Criticism of the extent to which the undergraduate course develops independent critical thinking comes particularly from teachers, and not least from the General Medical Council, whose decennial recommendations on basic medical education have since 1957 contrasted sharply with much of the education actually provided. Despite many changes for the better, the criticisms persist and much further change will be necessary in many schools if the recommendations of 1980 are to be put fully into effect.

We share the criticisms that are made from within the profession and those that come from outside. We believe that British medical education is failing in two respects: firstly, in the extent to which it equips doctors with the capacity to think critically for themselves; and, secondly, in the degree to which it inculcates a broad, holistic, and sensitive outlook towards the health of both individuals and communities.

We believe that these failures arise for different reasons, but that the remedy for both lies in the better coordination of the different stages of the whole continuum of medical education. The Medical Act of 1978 has at last provided the opportunity to achieve this. We welcome the readiness of the GMC to fulfil its new mandate to coordinate the three stages and concentrate at this time on the middle stage. We support the crucial statement in the education committee's report: "It is necessary to continue a broad education beyond the stage of graduation and into the period when the qualified doctor is assuming responsibility for patient care." Nevertheless, we do not believe that the proposals put forward by the committee can result in that end being realised. Indeed, we fear that the abandonment of general professional training and its replacement

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with the "basic specialist training" that is suggested will do little to overcome the first of the failures described above and much to increase and perpetuate the second.

Independent critical thinking

The need for doctors to think critically for themselves has long been recognised. When diagnosis was mainly made by pattern recognition of acute organic disease in younger people and treatment consisted primarily of counteracting physical disorders by physical means, the preparation of doctors necessarily concentrated on "training" (instruction followed by practice under supervision until competence is achieved). In British medical schools, with their unusual emphasis on apprenticeship, students learned to recognise all the common conditions of the day and to apply the remedies of the time. It is now, however, over half a century since it was recognised that doctors would increasingly be confronted with situations they had never seen as students: they would see patients who would present problems with psychological and social, as well as physical, variables, and which could not be diagnosed by pattern recognition; much that they had learnt would be out of date by 10 or even five years later. Doctors would therefore need to be equipped to face the unfamiliar, to adapt to change, to evaluate new data critically, and, above all, to resolve diagnostic problems by reason rather than recognition. Such strategies, variously described as independent critical thinking, or, more commonly, a scientific method of thought, could not be achieved by "training." The medical school course would therefore need to be augmented by the use of other educational methods designed to encourage curiosity, critical thinking, and the ability to learn for oneself. The development of those faculties would be hindered by the coercive teaching inseparable from "training," since this blunts intellectual curiosity, reduces initiative and diminishes self reliance. The curriculum would have to be reshaped to minimise this conflict.

Attempts to do this have been continuing since 1944, when the Goodenough Report recommended that the medical school course should provide the student "with a university education on broad and liberal lines" and that it should be followed by further training. In 1957 the General Medical Council abandoned its system of controlling standards by prescribing a minimum timetabled curriculum and issued new recommendations urging medical schools "to instruct less and educate more," giving them freedom (to be regarded equally as a duty) to experiment with the course. In 1967 it defined the stages of medical education as basic medical education (the medical school course with preregistration training), vocational training, and continuing education. In 1968 the Todd Report recommended obligatory postgraduate training for all doctors, including general practitioners. This was to be divided into general professional training and further professional training in a specific branch (and continuing education); the General Medical Council would be responsible for the standard of all stages and for their coordination. In 1975 the Merrison Report recommended a period of two years' general professional training (to include the preregistration year) before registration. In 1978 the Medical Act made three years' vocational training after registration mandatory for principals in general practice and the General Medical Council was given responsibility for the standards and coordination of the whole continuum of medical education.

Over three decades, therefore, medical education has been aiming at moving from a medical school course designed to train general practitioners to a three stage preparation which emphasises "education" more than "training" in medical school, aims in the middle period at wide clinical experience, and concentrates in the later years on acquiring the knowledge and skills relevant to the current practice of a specific branch. During this time most medical schools have been rebuilt to provide the accommodation and equipment needed for university education. The number of academic staff has been very greatly increased. Despite this large national investment in pursuit of a long established goal, most students do not receive a university education in medicine on broad and liberal lines.

In many schools courses are still departmentally, rather than student, orientated. They still aim at coverage rather than the development of individuals. Only three schools set aside one year of the five for study in depth of a subject chosen by each student, after advice, in order to foster the critical consideration of principles and the development of independent thought, as recommended by the General Medical Council since 1957. Elsewhere a small proportion of those students judged to be the best are enabled to take an extra year for the same purposes. The remainder spend the greater part of their five university years in the indiscriminate collecting of factual knowledge; in consequence the colossal burden on memory largely excludes other mental processes. Students are motivated too much by the pass or fail examinations which punctuate their course, and by the final one, which hangs as a threat over their final year and passing which is perceived as the real object of the whole curriculum.

In summary, the undergraduate course still fails to equip doctors sufficiently to think for themselves, despite decades of concern and advice about this problem. The reasons for the failure—and the remedies—lie partly in the medical school course itself and partly in the years that follow; these have not been effectively used to ease the pressures on the undergraduate years.

A broad view

Our second concern is the extent to which medical education fails to inculcate a broad, holistic, and sensitive outlook toward the health of both individuals and communities. Here again the 1980 recommendations of the General Medical Council propose broad aims which cover the several elements which we have in mind. But again they contrast with present realities, reflecting more perhaps the illusions of teachers about what is actually being learnt.

The failure is, in our view, of two kinds. Firstly, many doctors fail to achieve an adequate awareness and understanding of the reactions of patients to illness and medical care, or of their own reactions to people, particularly those who are outside their own life experience. Loss of sensitivity is the price paid for neglecting this aspect of education and training. Secondly, many doctors fail fully to appreciate the tasks of medicine in relation to health and disease. We have in mind not only allowing due importance to psychosocial and economic factors in the generation of illness and in its care, but also a greater concern with health, the characteristics of healthy people, and the promotion of self care—and lastly some understanding of forces in the environment or society which contribute to health or illness, and of the capacity of medicine to influence them. The price of this neglect is limited vision and loss of contact with the aspirations of thoughtful people outside the profession.

This unsatisfactory situation remains despite a considerable increase in teaching both the psychological and social aspects of medicine throughout the medical school course. It is imperative to analyse the reasons for this before recommending changes in the period of general professional training. We argue later that the present situation is the result of the changes that have taken place in the nature and range of the clinical experience obtained by students and young doctors.

Reasons for failure

Many factors combine to explain the failure to provide the kind of education which has been aimed at for so long. It has necessarily taken a long time to provide medical schools with accommodation, educational facilities, and the range of academic

staff needed for a university course in medicine. Complicated by the need to expand and the consequent doubling of the size of the schools, the task is only now nearing completion and is impeded by recent financial cuts.

The educational techniques required to foster independent critical thought differ from those essential to training. The most potent of them, such as study in depth and problem solving in its fullest sense, have hitherto been offered only to that small number of the best students who receive an extra year in basic medical science. There is no long experience of their use in clinical studies and there has been little encouragement or opportunity for clinical teachers to get any skill in them. Knowledge and experience of education count for little in comparison with service experience or research attainment in appointments, even to academic posts.

More important still are the attitudes of teachers to the undergraduate course as a whole. Only a minority have seen the necessity to instruct less and to educate more. Many are concerned only to teach their own subject and feel little obligation to contribute to the development of the student as an individual, perhaps because, as the GMC stated in 1967, "university" teachers will continue to be in difficulty about treating the undergraduate programme as a truly basic experience of preparatory education until effective steps are taken to ensure a planned experience of vocational training for all doctors after the preregistration period.

Even granted the necessary attitudes and educational techniques on the part of teachers, there are considerable technical difficulties in combining education and training in a single course in any faculty; these are magnified in medicine, not only by the problems consequent on specialisation, but by the fact in Britain that medical students may enter as early as the age of 17 and pass through a delayed adolescence during their five years. They have been selected largely on the basis of their ability to pass A levels. Some respond to the stresses of the clinical course by asking for dogmatic teaching and by avoiding uncertainty, reflection, discussion, and criticism.

Such difficulties can be overcome best in courses which contain flexibility (options and electives) and are both sequential and integrated—that is, a series of stages of growth and development. In each stage there should be as much integration as possible to maximise relevance and acceptability, to overcome the problems of specialisation, and to save time for special educational opportunities such as study in depth. Flexible, student orientated, courses cannot be achieved where the curriculum is dominated by departments, each seeking to determine its own objectives and minicurriculum and all competing for teaching time and resources. This state of affairs appertains in many medical schools, is reinforced by the examination system, and is made worse by two additional factors.

Firstly, the multiplication of departments, preclinical, paraclinical, and clinical—an inevitable consequence of the expansion of knowledge—leads inexorably to a reduction of personal contact between teacher and taught, unless forceful methods are taken to prevent fragmentation. Clinical studies particularly may become no more than a rapid progress from one short appointment to another. Secondly, the lack of any separate educational objectives for either preregistration or general professional training, has impelled teachers to try to teach in the undergraduate course—and students to try to learn—all that all doctors ought to know. Not only has this led to overcrowding of the curriculum and insufficient real education, but also to some parts of some subjects being taught out of context and before the student has had sufficient experience of medical care to make them fully meaningful and interesting.

The continuing attempt to adapt the medical course to modern medicine by deliberate efforts to include more education has thus been slowed and frustrated. Meanwhile the continuing development of medicine itself, coupled with social changes, has wrought repeated, almost surreptitious, and always irresistible changes in training. These have resulted in greatly diminished opportunities for students to participate in the care of patients, in a change in the relationship of preregistration house officers to patients, and in a change in the range of experience of many in the subsequent years.

Students have largely ceased to be apprentices and have become mere observers of medical care, much of it specialised. They are able to practise clinical methods, but their chance to share responsibility for care is very much less than it was. Participation by preregistration house officers in the care of patients is also of a different kind from even 10 years ago: much of their time is necessarily occupied with administrative duties, while the range of illness which they see is more restricted than in the past. In consequence the newly registered doctor of today has a very much smaller, and often much narrower, experience of sick people and of responsibility than his or her predecessor at the same stage.

Probably only by participating (as opposed to clerking or observing) in the care of people suffering from a wide range of illness can young doctors build up a knowledge of people, gain insight into their reactions to illness and health care, acquire a greater understanding of themselves and their own reactions to patients, and gradually achieve a broader appreciation of health and disease, along with medicine's relation to both. It is most unlikely that a lack of wide experience can be made good by deeper experience in one or two special disciplines. Nor is it to be expected that lectures, seminars, or reading can effectively replace experience as a means of learning about people and their reactions—particularly if much of the teaching is given to students before they have any opportunity to experience more than a student-patient relationship.

Those young doctors who follow registration with a period of general professional training in several different disciplines can thereby fill the gap in their knowledge of people and broaden their understanding of medicine. Others, faced with a long and highly competitive special vocational training yet to come, and in the absence of any educational control over this stage of general experience, avoid it altogether and hasten to start specialised training. Early deciders follow a line which has long been a dominant interest; others choose a specialty before they have had a chance accurately to assess its suitability for them. There are already clinical teachers whose experience of participating in medical care has been limited virtually to a single discipline, and whose approach to individuals and to medicine as a whole is blinkered; their tunnel vision prevents them from seeing that their own limitations are being imposed on later generations.

This weakness has not come about by failure to implement new recommendations as to basic medical education, or by failing to devote time and effort to new educational methods. Nor is it due to lack of time or effort devoted to clinical experience. Many students now meet patients earlier in the course than was customary in the past and we would hope that soon all will do so, not only in order to make their studies more relevant to their long term goal, but so that appropriate attitudes can be inculcated from the start. In all schools close attention is paid to instruction in clinical method and opportunities are provided, which we would hope would be continued and extended, for the practice of it. But social changes and changes in medical practice, including specialisation, have limited what students can do to and for patients and have altered the nature of their relationship. No matter what efforts are made to involve students in the care of patients, some degree of restriction will remain and the newly registered doctor's experience of doctor-patient relationships will be limited. This weakness can be counteracted only by ensuring an adequate period of general professional training, with clearly defined aims and under effective educational control.

What needs to be done

In our view the failures outlined above can be remedied only in two ways. Firstly, ensuring the university education in

medicine which has been aimed at for so long. Secondly, restoring, through a period of general professional training, that opportunity to participate in the care of a wide range of people which was previously the hallmark of British medical education.

The first might, slowly and with difficulty, be achieved without the second; but at the best it would produce doctors with a limited understanding of people and a blinkered view of medicine, at the worst, medically qualified scientists instead of doctors capable of thinking scientifically. The restoration of adequate training, without achieving the necessary education, would create doctors better informed about people, but ill equipped to face the unfamiliar and unable to profit from continuing education, and therefore in need of recurrent retraining.

The key to progress lies, in our view, in the provision of a mandatory period of general professional training with three broad aims.

The first aim is to provide the necessary experience of participating under supervision in the clinical management of a wide range of illnesses and people.

The second is to provide formally organised teaching on those aspects of various subjects which become fully meaningful only when the trainee has begun to participate, with some responsibility, in the care of patients. The subjects include: pharmacology and therapeutics, the psychological aspects of medicine, the relationship between doctor and patient, communication in medicine, team management, measurement of the health needs of communities, and the management of health care.

The third is to provide time and incentives for the individual doctor to review the knowledge and skills he or she has acquired, in the light of his growing clinical experience. This is a process which many now undergo as part of their preparation for the broadly based examinations for some postgraduate diplomas.

This period should last not less than one year, in addition to the preregistration year, which should serve some of the same purposes. The two years should be merged in a common educational purpose under common educational organisation. The period should be spent in a series of appointments (at senior house officer level) designed to provide as wide a range of experience as possible. They should be both in and outside hospital, but centred on a given area. The group of trainees in each area should be based on a particular postgraduate medical centre, in which they can find what they need for independent study and receive formally organised teaching on a regular basis, as in current vocational training schemes for general practice. This should include guided group discussion focusing particularly on psychological and social issues.

There should be little need to provide educational facilities beyond those already available in postgraduate medical centres, but an appropriate educational organisation will be required, combining nationally, regionally, and locally the three elements on which postgraduate training depends—professional organisations, universities, and health services.

The National Councils for Postgraduate Medical Education are well constituted to fulfil those functions which are necessary nationally, such as translating aims into educational objectives, communicating objectives to trainers and trainees, outlining appropriate programmes, and the general oversight of this stage, so as to maintain the standards laid down by the General Medical Council.

Regionally some strengthening of the existing organisation for postgraduate medical education would be needed. Locally clinical tutors in many district hospitals already attempt to meet the educational needs of junior doctors and, granted adequate funding and properly organised support, should be able to run the teaching programme for those receiving general professional training in their districts.

It should not be difficult to establish a system of progressive assessment for this stage of training, but some kind of formal testing at the end of it should at least be considered; it might well be provided by the collaborative efforts of the royal colleges. The introduction of a period of general professional training on the above lines, with clearly stated objectives and an appropriate educational organisation, would restore that which is now missing from the experience of too many doctors, enabling them to acquire those aspects of knowledge, skills, and attitudes which can be learnt better from patients than from any other source. It would build on, and allow full value to be obtained from, the long and costly undergraduate course, by freeing it from the constraints under which it now labours.

Knowing that "a planned experience of vocational training for all doctors after the preregistration period is assured," university teachers should be able to treat the undergraduate programme as a truly basic preparatory education. Teaching some aspects of some subjects during the later stage of training, when they are more relevant, will make time and teachers available in the early years for those educational techniques which are offered now in most schools only to a few students in extra time. Pass or fail, criterion based finals in separate subjects will be less necessary. They might be replaced by integrated examinations aiming at testing not only knowledge and skills but also powers of critical thought and problem solving. The introduction of the honours system common to most other university faculties might be considered.

Such reforms would remove the barriers to progress in adapting the medical school course to contemporary needs. But consideration should be given, we believe, to measures which could implement more swiftly the General Medical Council's recommendation that schools should educate more and instruct less. Once general professional training for all is assured, the education committee could require—not merely recommend—that schools include in their curricula those forms of special study which, in the GMC's own words, increase "the student's appetite for knowledge, his capacity to learn and his power to think clearly and to some purpose." For example, schools could be required to introduce a minimum period of study in depth, judiciously planned and employed "in one of the medical sciences or topics in clinical or laboratory medicine."

If this were to be done it would, in our view, be necessary to encourage schools to arrange for established teachers, who have not in the past been engaged in such methods of study, to become better acquainted with their principles and practice. It would also be necessary to ensure that schools are in a position judiciously to plan and employ opportunities for special study in a flexible student orientated course, by requiring that effective methods of monitoring the progress of individual students are maintained and an academic tutorial system provided.

At the same time, to prevent this attention to education from encroaching upon the still vital aspects of basic clinical training, we would hope that the education committee would define with more precision the clinical competencies which should be achieved by students by the time of graduation. In this way it could ensure attention to the balance between education and training in a student, as opposed to a subject, orientated course; and prevent the present concentration on the acquisition of knowledge, which is to the detriment of both education and training.

The GMC education committee's proposals

It might appear that the basic specialist training proposed by the General Medical Council would differ only in name from the general professional training outlined above, since it would consist of one year after registration spent in clinical appointments (in and out of hospital) in subjects other than the specialty of the individual's choice. But in reality its purpose and outcome would be different, as the name indeed suggests.

The committee defines "the principal objective of basic specialist training" as enabling the young doctor "to practise . . . the wide range of general and basic specialist skills which constitute the consultation." After listing these it adds that the doctor should have further experience, with increasing specialist emphasis, of a range of practical skills and investigations. The

trainee should develop skills in applying the relevant epidemiological methods and learn to work constructively with others in both the hospital and the community.

These objectives, with their emphasis on skills needed by specialists, contrast with the objectives of general professional training defined above.

A year spent participating in the care of a wide range of people suffering from a wide variety of problems could, of course, contribute to the achievement of both kinds of objectives, but just how much it actually contributed to either would depend upon which of the two kinds was set as the primary goal. The goal of basic specialist training points in precisely the opposite direction to that of the general professional training which we believe to be needed. Instead of ensuring a period in which there is not yet any commitment to a special branch and a general foundation can be completed, it requires the newly registered doctor to choose a specialty, which would then be responsible for designing and controlling the programme to be followed (albeit dependent on postgraduate councils, regional committees, and local clinical tutors for implementing its decisions). Moreover, the continuation of formally organised education is not included either in the objectives or in the content of what is proposed.

The purpose of this middle period of medical education, which can be defined only by the General Medical Council's education committee, must be made clear beyond doubt both to trainees and to the bodies made responsible for organising it. The period has been undefined and unorganised for so long that great confusion has developed in regard to junior posts and their use for training. Those attempting to mount training programmes find that administrative and logistical problems obscure and take precedence over educational needs. All too often young doctors, under considerable pressure to move fast and with no chart to guide them other than the requirements for accreditation in the various specialties, find that their course is determined by expediency.

This is the first opportunity which the GMC has had to define and develop this middle stage of medical education. If it adopts a wrong design now, it will be extremely difficult to redesign it in the future. We believe that this stage is essential in order to enable full value to be obtained from the university course and to provide a wide and firm base on which to build specialist training. We believe that the kind of general professional training which we describe would achieve this and that it could be effectively organised by the postgraduate councils, regional postgraduate committees, and postgraduate medical centres. We also believe that general professional training of this kind would result in the achievement in most cases of most of the objectives of basic specialist training and that the bodies responsible for planning training for various specialties would be well aware of any remaining needs for practising specialist skills.

We do not believe that a year of basic specialist training as proposed by the education committee could enable full value to be obtained from the university course or complete the foundation provided by it. It will do nothing to ensure or even help the fulfilment of the committee's 1980 recommendations for the university course, on which depends the extent to which doctors are equipped to think critically for themselves. Because of its specialist orientation it will do too little to restore the wide experience of participating in medical care on which depends an understanding of people and a broad view of medicine.

The committee may not consider that narrowing the range of a doctor's clinical participatory experience has any unfortunate consequences. In that case we hope that before taking steps to perpetuate such narrowing for all future doctors the committee will first attempt to compare the knowledge and attitudes of those who have embarked on specialist training immediately after registration with those others who have gained wider experience before doing so.

We urge the committee not to replace general professional training with basic specialist training, but to take this opportunity, which may not recur, of ensuring that the second stage of medical education enables full value to be obtained from the university course, completes the foundation begun by it, and provides a wide and firm base on which to mount the third stage, specialist training.

We thank the MSD Foundation for secretarial help and a meeting place.

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An active middle aged man has a persistent verucca on his foot which is preventing him playing tennis. All standard treatments have failed. What advice can you give?

There are two distinct types of plantar warts (verrucas). Deep plantar warts caused by HPV1 are well circumscribed and painful. They contain much virus and either resolve spontaneously or respond to treatment readily. Mosaic plantar warts caused by HPV2 are multicentric and can cover large areas of the sole or heel They are notoriously persistent and resistant to treatment but are characteristically painless. Confronted with a painful plantar lesion of long standing it is important to establish that the patient really does have a plantar wart rather than a plantar corn or callus, especially if it is situated beneath the metatarsal heads. The diagnosis becomes clear when the surface is pared away, revealing the smooth ground glass keratinous centre. Pain from plantar corns can usually be relieved by moulded insoles to relieve the localised pressure. If this is unsuccessful an orthopaedic opinion should be sought. Another cause for persistent pain related to plantar warts is the scarring that follows injudicious surgical intervention or diathermy. There is still no definitive treatment that guarantees success. Recently the media has given the impression that laser therapy was the ultimate method. It was not made clear that anaesthesia of the area is required and that recurrences occur. A CO_2 laser is required and extreme skill in its use is necessary. It remains to be proved that the results are any better than those following curettage or cautery or both. In the case of a plantar wart that does not respond to properly applied topical applications or cryotherapy, or both, it is worth attempting removal by curettage under local anaesthesia.[1]—M H BUNNEY, consultant dermatologist, Edinburgh.

[1] Bunney MH. Curettage of warts. Viral warts their biology and treatment. Oxford: Oxford University Press, 1982:58-60.

What is meant by the term "explosive temperament" and is it treatable?

"Explosive temperament" is merely a descriptive term for someone who has a bad temper, who does not control it, and whose outbursts are out of proportion to the circumstances. Treatments have a poor record in altering temperament or personality, so we should be honest and say that there is no medical treatment. We may still suspect that discipline, along military or monastic lines, might regulate the manifestations of a poorly controlled temper. In practice, most psychiatrists associate brain damage, especially damage affecting the temporal and frontal lobes, with explosive behaviour. We might remember that chlordiazepoxide was introduced supposedly to control aggressive outbursts (it does not), and even amygdaloidotomy has been tried out on many patients without success. Anticonvulsants are for the control of fits and may make behaviour worse. A few of those patients who reside in our special hospitals have poor control of their aggressive impulses and hit out with little provocation. In their case long continued tactful handling, drugs in variety, and a predictable, disciplined routine contain them as they slowly mature to a more mellow middle age.—IAN OSWALD, professor of psychiatry, Edinburgh.