Improving postgraduate and continuing education

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OBE FRCP(Ed) FRCGP FFCM

King Edward's Hospital Fund for London
for United Kingdom Conference of Postgraduate Deans

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Introduction

Twenty-five years to the day after a memorable conference on postgraduate medical education held at Christ Church College, Oxford, the United Kingdom Conference of Postgraduate deans, in association with the National Association of Clinical Tutors, held a commemorative seminar at Green College, Oxford, to review the present state of postgraduate medical education and training and to put forward proposals for new initiatives. The Christ Church conference had been notable because of the catalytic effect it had on the development of postgraduate medicine within regions and districts of the National Health Service, and in particular the growth of what became described as the postgraduate medical centre movement. The timing was opportune, the participants were influential, and they defined practical and reasonably attainable objectives. They were fourfold:

- to promote an educational atmosphere in each National Health Service region;
- to encourage all consultants to recognise their responsibilities for training their junior staff;
- to provide sufficient teaching facilities in district hospitals;
- and to establish some way of bringing together a tripartite but independent authority in postgraduate education, representing the royal colleges and their faculties, the university medical schools, and the National Health Service.

The need for postgraduate centres was made particularly clear, and so too was the development of an effective regional organisation of postgraduate deans and clinical tutors.

The participants at the Green College seminar all held senior and responsible positions in postgraduate education, and although they expressed some satisfaction that much had been achieved in the past 25 years, there was neither complacency nor contentment about the present state of postgraduate medical education. The key word, they

suggested, was disharmony – between service and educational interests, between medical specialties, between colleges and universities, between regional committees and central bodies – a cacophony of discordant sounds which, however sweet individually, badly needed to be orchestrated. That was the urgent job, but looking further ahead the seminar expressed the hope that current assumptions about educational processes would be looked at more critically. They formed the basis for further studies which led to a further conference held with a wider invited audience in Birmingham Medical School on 21 July 1987, when it was hoped that specific proposals would be made for improvements in postgraduate education in the foreseeable future. This publication is an account of the Green College and Birmingham conferences.

Thanks are due to Sir John Walton for hosting the Green College seminar, Dr T J Bayley for bearing much of the responsibility for organising the programme, Professor P G Bevan for arranging the meeting in Birmingham, and Professor P Rhodes, Dr R C King and Dr M W N Nicholls for undertaking preparatory work. Gratitude should also be expressed to the King's Fund for agreeing to publish the account, which it is hoped will stimulate constructive debate and effective action.

K M Parry

Foreword

There has probably never been a time when our system of postgraduate medical education satisfied more than a small proportion of those involved in it but the past two years have witnessed an unusually active debate and a growing demand for reform, fuelled by reports and discussion documents from a number of sources. The longstanding dissatisfaction with the staffing structure of our hospitals, which obliges trainees to spend over-many years in junior, insecure, appointments and leaves the less fortunate with a frustrating inability to obtain career posts in the specialty for which they have long been in training, came to a head with the discussion between DHSS and the profession which produced the report 'Achieving a Balance'. Although not overtly concerned with training, and perhaps ignoring some important educational aspects of junior appointments, the recommendations of this report, if speedily implemented, could effect a major change in the traditional, out-moded, apprenticeship pattern of training for hospital specialties. The earlier attainment of consultant status would demand a more intensive educational programme. At the same time the surgical royal colleges are engaged in discussions of their examination structure aiming to bring the FRCS into a more appropriate relationship with modern and largely specialist surgical practice. The medical schools have been loudly protesting their financial plight. They are under pressure to build up their research output but find themselves so short of core funding that their contribution to postgraduate education tends to be reduced to short self-financing courses. The General Medical Council acting upon the responsibility given it in the Medical Act of 1978 for the 'co-ordination of all stages of medical education' has been circulating drafts of its recommendations on 'the Training of Specialists' which will shortly be promulgated and will emphasise the broader educational objectives and the aspects of medical care common to all specialties.

The regional postgraduate deans have a central role in ensuring

that newly agreed principles in training are put into practice in NHS hospitals and in the current debate it seems essential that their own views are heard. This then is the justification for yet another book on the subject which reports the outcome of their two recent conferences and clearly indicates where action is required. Postgraduate deans are, relative to colleges, universities and GMC, newcomers in the educational business; their conferences were first organised in 1945 by Sir Francis Fraser, then Director of the British Postgraduate Medical Federation, and have been held since that time, intermittently at first, bi-annually in recent years, but they have lacked any satisfactory vehicle for the publications of their opinions. The occasion of the two recent meetings was provided by a celebration of the 25th anniversary of the Christ Church Conference which brought together all the bodies concerned with postgraduate medicine and launched the concept of district hospital postgraduate centres and clinical tutors. The meeting in Birmingham on 20 July 1987, which provided the basis for this report, again brought into the discussion representatives of all the relevant interests and in many areas of debate achieved consensus. It will, however, be sad if this debate continues much longer, if representatives return to their parent bodies and find their councils resistant to change, if health authorities continue to find in the divergence of educational and professional opinion an excuse for inaction and if the DHSS fails to exert its authority in forcing the NHS to accept educational imperatives alongside service priorities. All too often a report such as this has gathered dust on the shelves. It would be better if it were used to light a fire – of enthusiasm.

Sir David Innes Williams
President, British Medical Association

1 The nature of postgraduate and continuing education

Medical education is a lifelong process. It begins with a generic course which lays the foundation for vocational or postgraduate training in a doctor's chosen field of medical practice, and continues throughout his active lifetime.[1] The undergraduate course aims to provide basic understanding of medical practice and its associated sciences and to develop in the student a critical, investigative approach[2] to his future practice, but is not intended to assure competence in a particular aspect of medicine. The aim of postgraduate education and training is to enable a doctor to acquire sufficient knowledge and skill to assume independent clinical responsibility for patients who require specialist care in his field of practice.[3] During postgraduate training the doctor needs to develop as a professional person: it is not enough for him to replicate the practice of his teachers; he needs to go beyond what he is taught and to acquire the ability and confidence to develop his practice, as medicine and its application to the changing needs of society adapts and advances.

The traditional pattern of postgraduate training is by way of a series of appointments supervised by established specialists, together with – usually optional – attendance at postgraduate courses. Progress is achieved by success in obtaining appropriate appointments and, in most specialties, by passing the professional examination of the relevant royal college or faculty. A higher university degree, usually associated with a research project, is also expected, particularly of doctors seeking a career in a university teaching hospital. The rationale for the system is that its inherent competitiveness is a spur to the promotion of high standards.

The system for supervising postgraduate education and training is complex. Standards of postgraduate training are determined by the royal colleges and their faculties through their examinations, and by the training approval these bodies give to hospital posts, either in their own right or, in specialties where these have seen set up, by

their joint higher training committees. The colleges also arrange some courses, but the majority of courses are provided by universities in medical schools or in postgraduate medical education centres. Training appointments are provided by the National Health Service (NHS), the number being determined largely by the needs of the service for the care of its patients. The coordination of all stages of medical education is the responsibility of the education committee of the General Medical Council (GMC) although it has no responsibility for the manpower policies of the NHS or for the implementation of training programmes. This latter coordinating function falls centrally on the councils for postgraduate medical education, and regionally on the regional committees for postgraduate medical education.

Educational content

Under the Medical Act of 1956, the education committee of the GMC is charged with determining the extent of the knowledge and skill required for the granting of *primary* medical qualifications in the UK. These requirements are expressed in the form of 'Recommendations on Basic Medical Education',[1] from which university medical schools derive a curriculum. There is no formal list, programme or curriculum for *postgraduate* education, although in recent years the tendency has been towards a more prescriptive approach to the type of experience a doctor should have before his appointment as an independent practitioner in a particular field of practice. Some colleges have traditionally required candidates for their higher diploma examinations to undertake minimum periods of employment in approved hospital posts; all colleges and faculties now issue guidelines on the content and duration of higher training, approve higher training posts and programmes or departments which provide training. In the exceptional case of general practice, training for entry to a principalship in the NHS is required by law, although it is supervised by an independent professional body, the Joint Committee on Postgraduate Training for General Practice.

Criteria for the approval of training posts are defined by each college or faculty but training requirements are generally described only in broad terms so as to ensure sufficient flexibility in training programmes to allow for individual initiative and enterprise by the doctors concerned. Least well described are the periods of postgraduate experience obtained immediately after full registration; in theory this allows doctors more choice in their early years but in practice competition is such that most doctors specialise in their

chosen field as soon as possible. The choice of a training post at this stage is largely an individual one, subject to market forces. Linked appointments for a series of appropriate training posts are a well-established feature of training for general practice; they are popular for the security of tenure they offer as much as for the balanced training they provide, and there is significant growth of rotational training arrangements in other specialties. These are a feature of more advanced higher training, enabling a doctor in training as a senior registrar to obtain experience in a variety of units as well as to develop a special interest.

Formal teaching in postgraduate education is the exception rather than the rule, especially in clinical specialties. Community medicine is the only medical specialty in which attendance at a formal course is a common feature of postgraduate education; this is either by way of an academic year in a university department or a modular course over a longer period. Shorter formal courses, usually integrated with clinical work, are a feature of postgraduate education in radiology, and to some extent pathology, but in most clinical specialties courses are optional, although many doctors find them helpful as an aid to passing their professional examinations.

Hence the emphasis in postgraduate education and training is on obtaining appropriate experience – learning by doing – rather than a prescribed content. Goals are expressed in terms of success in examinations and in obtaining appointments of increasing seniority. Completion of training is marked by eligibility for a permanent appointment in the NHS as a consultant (or its equivalent) or a principalship in general practice; similar arrangements obtain outside the NHS except in the private sector where there is no formal mechanism for approving postgraduate experience.

Continuing education is the exclusive personal responsibility of established doctors. It takes the form of a wide variety of formal and informal exchanges of information through lectures, courses, seminars, conferences and study groups, as well as by reading books and journals, listening to and viewing audio and video tapes, and undertaking distance-learning courses. The cost is largely borne by the NHS for its medical employees on the principle that it is in the interest of patient care that doctors should continue their education, but neither the degree of participation nor its content is prescribed by any educational or professional body.

The organisation of postgraduate and continuing education

Because of its experiential nature, postgraduate education and training takes place at a doctor's place of work, and the NHS

provides an organisational framework for it. The doctor in training is accountable to more senior doctors who, in their turn, are responsible for providing instruction. Each district hospital has an education centre, including a library, under the supervision of a 'clinical tutor' appointed by the region's university medical school. The centre provides the venue for a variety of educational activities which may include vocational training courses as part of a planned postgraduate training scheme or to assist doctors preparing for postgraduate examinations. These are generally organised by specialty tutors appointed by the appropriate royal college or faculty; the most comprehensive are those arranged for general practice training by course organisers. Unlike other specialty tutors, the course organisers and the regional and associate advisers in general practice are accountable to regional committees for postgraduate medical education. These are committees representative of the regional university medical school, each royal college and faculty, and the regional and district health authorities, and they are administered by the postgraduate dean or director. The task of the regional committee is to coordinate postgraduate and continuing education within the region. It is executively responsible for the selection of trainers in general practice and the provision of courses, including the coordination of those arranged by clinical tutors and general practice course organisers in each district. Its advisory functions include planned schemes of training (notably for general practice and higher specialty training) and career guidance. The postgraduate dean also normally assumes responsibility on behalf of the university for supervising pre-registration training and ensuring continuity between undergraduate and postgraduate education. The administrative costs, including the salary of the postgraduate dean, expenditure on the regional general practice organisation, and honoraria to the clinical tutors, are borne mainly by the National Health Service.

Medical staffing in the NHS

In the hospital service every patient is nominally under the care of a consultant; much of the day to day medical work is however undertaken by more junior doctors. The most junior of these are pre-registered medical graduates, and the number of such posts available nationally is directly related to the number of students graduating from UK medical schools. At the most senior level, the number of senior registrars is historically determined by the anticipated number of consultant (or equivalent) vacancies which it is

estimated will arise within the NHS or the medical schools. The number of middle-rank junior staff – senior house officers (SHO) and registrars – are, on the other hand, determined by the service needs of each health authority for junior medical staff. Particularly in the acute specialties of medicine, surgery and obstetrics there is a larger demand for junior doctors than there are future vacancies for senior registrar training. A significant number of these junior posts have been filled in the past by doctors from overseas, but the number of these is declining, and an attempt is now being made to shift the balance of work from junior to established doctors so as to relate the training opportunities of the middle grades more closely to future career opportunities.[4]

The position in general practice is quite different. There are no 'junior' staff, principals in general practice taking a direct and personal responsibility for the care of their patients. Trainees are given entirely supernumerary appointments, and are attached to approximately ten per cent of NHS general practitioners who are specifically selected and remunerated as trainers.

In community medicine, although the same staffing structure has been developed as in hospital practice, all junior grades are appointed for training purposes, and although they undertake work for the NHS there is no dependence on them for the maintenance of service commitments. In community health there are no training posts; many doctors in the clinical medical officer grade work on a part-time basis and do not progress to the senior grade.

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2 Problems

There are four major distinct but interrelated problems in post-graduate and continuing education in the United Kingdom at the present time. These are the over-dependence of the NHS on junior doctors in training to undertake hospital work, inadequate definition of the responsibilities of the many bodies and individuals concerned in postgraduate education, insufficient recognition of the resources required and lack of critical appraisal of traditional educational processes.

The hospital staffing structure

The hospital staffing structure has undergone a number of changes since the inception of the NHS. Initially, training grades were separate from permanent grades, although the latter included two sub-consultant grades, the junior and senior hospital medical officer (JHMO and SHMO). Neither were regarded as satisfactory; there was too little to differentiate a SHMO from a consultant, and the tasks of the JHMO were regarded as menial and ill-rewarded for a professional person. Relentlessly the work of these grades was subsumed into that of SHOs and registrars, both of which grades lost their training status in the early 1950s. This was consolidated in the 1961 review of the hospital medical staffing structure,[1] when the senior registrar grade was acknowledged as the only designated training grade. The review attempted to reintroduce a permanent sub-consultant grade – the medical assistant – but this grade, like that of the JHMO and SHMO, fell into disrepute and is now offered only on exceptional grounds on a personal basis. A further review in 1969[2] considered that the consultant grade should be the only permanent hospital grade, that the service contributions of junior doctors should be confined to what was appropriate to their training needs, and that consultants should be given further support by increasing the number of general practitioners and others working part-time in the hospital service. The consequent reduction in the

number of junior doctors would, it was proposed, be balanced by increasing the total number of consultants who 'would be enabled to carry out more items of care ... for any individual patient than is at present possible'. It was suggested that implementation of the proposed changes could be achieved by an annual growth rate of four per cent in the consultant grade and 2.5 per cent in the training grades.

The proposed differential expansion has not taken place and now, nearly twenty years later, the imbalance between permanent and junior grades remains, aggravated by an expansion of UK medical school output. An increasing number of British graduates are taking the place of doctors from overseas who formerly occupied many of the junior posts. Their vociferous complaints about their poor career prospects have led to a further attempt to readjust the balance between the number of doctors in training and the availability of permanent posts in the NHS.[3] Less attention has been given to another of their complaints – that of overwork. The days are long past when it was regarded as a privilege to be appointed as a junior hospital doctor, the rewards being professional rather than monetary. Advances in medical techniques, increasing public expectation, and changes in social attitudes to professional work have inevitably led junior doctors to negotiate more work-sensitive contracts, but financial compensation for long and demanding work schedules has concealed the effect of tiredness and stress on their postgraduate education. Pressure of work on junior doctors in some acute specialties is having an adverse affect not only on the quality of their practice but on their ability to learn. The most recent report of the Review Body on Doctors' and Dentists' Remuneration[4] included a survey of SHOs which showed that they were on average contracted for a weekly 86 hours of employment, actually worked for 54 hours, but received only 1.68 hours of instruction.

Long-term anxiety about career prospects is intensified by short-term insecurity; over a third of SHO appointments are for six months only and currently the average number of applicants for each SHO post is 34, varying from 33 for obstetrics and gynaecology to 89 for general medical posts. The pressure on health authorities to employ SHOs rather than locums is financially strong, the cost being £17,048 per annum as compared with an average of £50,642 for a locum. Study leave, although included in junior doctors' contracts, is subject to a variety of pressures – service demands, shortage of finance and uncoordinated planning – and uptake falls far short of

recommended standards. In some specialties, half the SHOs experienced a break in their night's sleep after less than five hours, a factor known to have an adverse affect on their ability to think and to cope with their work, let alone undertake postgraduate studies.

General practice training has overcome many of the problems of the early training of hospital doctors by instituting well-planned, integrated training schemes offering security of tenure over three years together with reasonably good career prospects. The weekly half-day-release programme gives trainees time to reflect on their training and to share their experiences with colleagues, but during the hospital component of these training schemes trainees often have difficulty getting release from their service commitments to attend the programme. Some consultants are reluctant to commit their junior posts to general practice training, preferring to recruit doctors whose preference is for the hospital specialty concerned despite the fact that in many specialties real opportunities fall far short of the number required to fulfil the expectations of the SHOs presently employed; this affects a significant number of posts which are particularly relevant for future general practitioners. Career prospects were at one time excellent but recently the growing popularity of general practice has attracted more trainees than there are future vacancies in NHS general practice, and although a foundation of general practice is regarded as a useful basis for further training in some hospital specialties, there is growing concern at the imbalance between the number in training for general practice and future career opportunities in the specialty.

In the hospital registrar grade the imbalance between the number of posts and career opportunities varies from specialty to specialty. In medicine, surgery, and obstetrics and gynaecology, service needs are such that many registrars are unable to advance to higher training and many others extend their tenure in the registrar grade well beyond the prescribed training period. This is due to competition for senior registrar posts, and it is common practice for registrars to undertake periods of research leading to higher university degrees before applying for a senior registrarship. Although this is given general permissive support by educational bodies the assumption that it improves the quality of postgraduate training is tacit and has not been evaluated. In other specialties, notably those which are less dependent on junior doctors for day to day clinical work, career progression is more rapid and assurance of a place in a higher training programme almost guaranteed provided the appropriate higher diploma examination is passed. Research and higher

university degrees are normally expected mainly of those who are seeking a teaching or research appointment.

There is an elaborate arrangement for controlling the balance between junior and permanent NHS hospital grades. In England and wales, the Central Manpower Committee collects regional manpower profiles which are related to the national distribution of medical staff. General planning assumptions are discussed with regional manpower committees, which in turn relate these to the ten-year plans of district authorities. Regional recommendations are then collated nationally and specific manpower targets proposed. The mechanism is time-consuming and has encountered innumerable problems in implementation. In Scotland a central advisory committee on medical establishments has the advantage of smaller scale and, because of the absence of regions, more direct relationships with the 'district' (area) authorities. The overriding difficulty is the hospital staffing structure itself. Whatever the pressure for a reduction in the number of junior hospital posts, district authorities have to find the means of meeting the day to day needs of patients, and whenever there is more work to be done of a kind which consultants are unwilling to undertake and for which there are too few junior doctors and no other hospital grade to replace them, then the number of junior posts needed for training will continue to be exceeded.

Educational responsibilities

The royal colleges have set standards of professional practice in the United Kingdom for centuries. Advances in medicine have led to increasing specialisation; the old-established colleges of physicians and surgeons have founded semi-autonomous faculties of community physicians and anaesthetists, and new colleges have been formed of obstetricians and gynaecologists, pathologists, psychiatrists, general practitioners, radiologists and ophthalmologists. Various specialist associations are also now recognised in their own right and are represented on joint higher training committees, and there is likelihood that other colleges or faculties will be formed. Medicine is essentially a practical profession and each specialty understandably believes that it is best placed to teach and advance its own techniques. Fundamental new discoveries applicable to a particular specialty are generally developed within university medical schools, where medical and allied scientists work together with clinicians and where new knowledge can be introduced into the undergraduate curriculum. University departments also contribute to postgraduate

training by way of higher training, which is invariably university-based, and the associations of university professors are represented on joint higher training committees.

There is however little coordination between postgraduate training in one specialty and another. There are various mechanisms for dialogue centrally – for example, the Conference of Royal Colleges and Faculties, the Joint Consultants' Committee, the Councils for Postgraduate Medical Education – but in practice each specialty regards itself as *primus inter pares* in postgraduate matters. This creates a practical problem for the doctor uncommitted to a particular career, for he has no mentor. There is also an underlying, more fundamental problem: modern medicine has become so advanced in both investigation and treatment that technical proficiency becomes daily more necessary[5] and there is an inherent danger that the doctor's generalised functions will become submerged. It should be a characteristic of a learned profession that it constantly responds and adapts to changing circumstances which go well beyond the confines of a narrow technique. The essentially human, non-scientific belief that *nihil humanum ab illis alienum putant* should be shared among all doctors and reflected in their postgraduate and continuing education. The education committee of the GMC attempts to express this belief but there is at present no effective mechanism for its acceptance within the collective decision-making processes of the colleges.

The regional committees for postgraduate medical education originated in a proposal by the Goodenough committee[6] that universities with medical schools should set up special committees or boards of postgraduate studies under the direction of a postgraduate dean, with particular responsibility for the continuing education of general practitioners. The university connection was to ensure that teaching was of a high standard, although most of the courses would be conducted elsewhere than in the undergraduate teaching centre. The physical extension of the universities' influence became more tangible following the development of the postgraduate centre movement, with the appointment of clinical tutors in each district general hospital and the provision of postgraduate education centres. This movement was catalysed by the Christ Church Conference[7] in 1962, and the regional organisation became further developed following the recommendation of the Royal Commission on Medical Education[8] that every doctor, including the general practitioner, should undertake a period of supervised postgraduate training. The NHS accepted formal responsibility for the establishment of a

comprehensive network of regional and associate advisers in general practice and, later, of course organisers, which enabled three-year schemes of vocational training for general practice to become initially optional and subsequently obligatory for new entrants to NHS general practice. These administrative arrangements for general practice fell within the regional committee framework but have increasingly moved towards a greater independence. The Joint Committee on Postgraduate Training for General Practice is now an authoritative body which determines centrally the content and standards of vocational training, and the Royal College of General Practitioners, supported by the General Medical Services Committee, is assuming responsibility for determining standards of continuing education independent of university control, with regional advisers rather than postgraduate deans administering the NHS budget for general practice postgraduate education.

Other specialties make variable use of regional committees for the organisation of their postgraduate training. Senior registrar training was formerly the responsibility of joint committees of the university medical school and a regional health authority; in most regions these committees now fall within the framework of the regional postgraduate committees. The authority of the joint senior registrar committees has however become eroded by the activities of the central joint higher training committees (JHTCs) of the royal colleges and faculties. Their specialist advisory committees (SACs) visit and formally approve regional training programmes and most colleges accredit doctors who complete their recommended programmes. The function of the regional senior registrar committee has shifted from educational approval to the management of individual programmes, although even this task is being progressively eroded by some SACs on the premise that as the bodies responsible for establishing and maintaining national standards of training they should take a direct hand in the supervision of the training of individuals.

The extent to which regional committees are involved at more junior levels of training varies from region to region, but in most the organisation of rotations and the provision of courses and tutorial support is undertaken by specialist divisions rather than subcommittees of the regional postgraduate committee, influenced by the necessity of relating training programmes to the arrangements for service rotas and the distribution of medical manpower. Several colleges approve the training provided in these junior posts as preparation for their diploma examinations, and they are being

increasingly involved in the development of rotational training programmes by way of regional and district advisers, appointed by the college or faculty concerned and usually without consultation with regional committees. The trend therefore is towards educational authority being exercised centrally by the colleges and faculties and local arrangements being made by the NHS medical advisory machinery, the regional postgraduate committee having little more than an advisory watchdog and counselling role with little power over either service or educational matters. Similarly the postgraduate councils centrally are being bypassed on both service and educational issues. There is no central or regional coordinating mechanism with sufficient authority to resolve the conflicts which inevitably occur between service and educational interests, to enable the experience of one specialty to be shared with others, or to pursue common educational objectives. At the local level clinical tutors are confused by the proliferation of specialty advisers and the organisational complexity that their appointment creates.

Resources

Following the publication of the report of the Royal Commission on Medical Education, agreement was reached between the University Grants Committee (UGC) and the health departments about the respective financial responsibilities of the NHS and university authorities for postgraduate medical and dental education.[9] Provision was made for the universities to continue to accept financial responsibility for courses leading to university degrees or diplomas and their whole and part time fee-charging courses, and for the cost of general practice refresher courses to be met out of the grant to universities by the NHS under Section 63 of the Health Services and Public Health Act, 1968 – the 'Section 63' fund. NHS authorities would reimburse the cost of attendance at approved courses by doctors in their employ, whether the courses were organised by universities or other educational bodies, and the administrative costs of the regional postgraduate committees, including an agreed proportion of the salary of the postgraduate dean, the reimbursement for regional and associate advisers in general practice, the committees' administrative and clerical staff, and honoraria to clinical tutors. No financial provision was made for the cost of a notional part of the salaries of university or NHS staff engaged in postgraduate teaching, nor for such items as rent, rates, overheads or capital depreciation of either university or NHS accommodation used for postgraduate purposes, each body meeting these costs out

of their general revenue allocations. The capital and revenue costs of postgraduate centres, including their libraries, would be borne by the hospital authorities concerned. The only other identified sum for postgraduate education related to general practice, where in addition to the Section 63 fund for continuing education there was a central fund for general practice vocational training covering the reimbursement to general practitioners of the salaries and expenses of trainees and part-time remuneration for training.

Hence, apart from general practice, expenditure on postgraduate education and training depends largely on the willingness of health authorities to spend money on their medical employees. They do so because of the general acceptance that the postgraduate and continuing education of doctors is in the interests of patient care. There are however no earmarked sums for postgraduate education in the hospital service. Teaching responsibilities are covered only in general terms in doctors' contracts and are neither funded nor time specifically allocated for their teaching responsibilities. Many postgraduate activities are supported by the pharmaceutical industry. Although these relate primarily to drug therapy, the industry has given generously to postgraduate teaching in general, as well as to research, in order to promote good working relationships with the medical profession.

The availability of physical facilities and equipment for postgraduate education has to date been generally regarded as satisfactory, particularly since the development of the postgraduate centre movement. Universities have been cooperative in making their teaching facilities available to the NHS, and pressure on health authorities by the royal colleges, using the sanction of withdrawal of their approval of training posts, has ensured that district hospitals now provide reasonable postgraduate centres. But with no financial provision for rewarding teaching – other than a nominal fee for lectures – no means of selecting or deselecting teachers, no financial control over the number or distribution of training posts, and no provision for the appointment of educational staff to develop new types of postgraduate instruction, the regional and central organisation of postgraduate education has little scope for executive management.

The councils for postgraduate medical education are similarly funded for their administrative costs only and have no resources for educational development nor significant control over expenditure on educational services. They advise the health departments on the grant-in-aid paid to the royal colleges and faculties for part of their

cost of the administration of the joint higher training and equivalent committees and of their expenses in respect of approving hospital posts for general training, but the councils have no control over the cost of hospital visits, which is met by the health authorities concerned.

Only the University of London receives direct funding for postgraduate medical education. This relates to the formation of a school of the university, established in the 1920s and entirely devoted to postgraduate medical education, which led to the establishment of a 'British Postgraduate Medical School' in 1931 based on the Hammersmith Hospital. The school subsequently became associated with a number of specialist postgraduate hospitals in London and with the School of Hygiene and Tropical Medicine. Although other medical schools in the United Kingdom have established postgraduate institutes (for example, the Postgraduate Board in Edinburgh, run jointly by the university and the Royal Colleges of Physicians and Surgeons) they receive no direct funding from the UGC. One or two universities have recently established departments of postgraduate medicine, but these are largely dependent on non-university or NHS funds. Notable in this connection is the Centre for Medical Education at the University of Dundee which provides a variety of courses and has undertaken innumerable educational research projects on an entirely self-financing basis.

The critical appraisal of educational processes

The present organisation of postgraduate education and training in the United Kingdom is based on the assumption that methods of learning and teaching are satisfactory. Neither the organisation nor its funding enable significant changes to take place, and this acts as a disincentive to educational experiment and any challenge to time-honoured traditions. Yet medical practice and its relationship with other health professions is changing rapidly.

Postgraduate 'education' and 'training' are terms loosely used to describe the development of a medical graduate into a competent practitioner in a particular field of practice, yet the terms mean different things.

'Training emphasises imitation of an available model or the memorisation of what the book, the teacher, or the professor said. It is oriented towards things as they are ... Education on the other hand emphasises creative interaction ... judgment not memory becomes central. Training asks only "how". Education asks "how" and "why".'[10] 'The traditional format of apprenticeship training

supplemented by lectures, seminars and courses has served well, but the time has come for improved research into the educational process to define activities and methods that are more fully appropriate to needs.[11] 'Merely observing more senior colleagues and then trying to copy what they seem to do well is insufficient for a doctor to improve his consultation technique, work more effectively in a team, or manage change'.[12]

Educational objectives are described only in the broadest terms and the content is unpredictable. The doctor in training may know that the post he occupies is approved for training purposes, but posts vary greatly in terms of the experience they provide, with constant conflict between training needs and service commitments, and supervision is equally variable. Few training schemes provide a proper integration of theory and practice, despite the known inefficiency of such separation. There is dissociation also between assessment and learning processes. The higher diplomas of the colleges and faculties provide the means of establishing national baselines of competence, but the examinations are unrelated to the progress of trainees, there is no feedback from assessors to teachers or learners, and no effective system of progressive assessment; hence no means of determining whether defects are in the training provided or the learning ability of the doctor concerned. The engagement of doctors for training posts is undertaken by health service authorities, and although professional advisers serve on advisory appointment committees, criteria for selection are not primarily on educational grounds.

The lack of an adequate curriculum and means of progressive assessment is even more apparent in continuing education. With some six thousand medical articles published daily and an increasing array of different methods of information dissemination, the practising doctor is overwhelmed with theoretical concepts of practice. How he absorbs and makes use of new ideas, how he adapts his practice and responds to his own experience, is a personal matter, clinical freedom being regarded as an important factor in good practice since it is believed to be sensitive and responsive to the needs of individual patients. Yet all human beings are fallible and there is at present no formal mechanism for assuring the general public that each independently practising registered doctor maintains competence in his field of practice.

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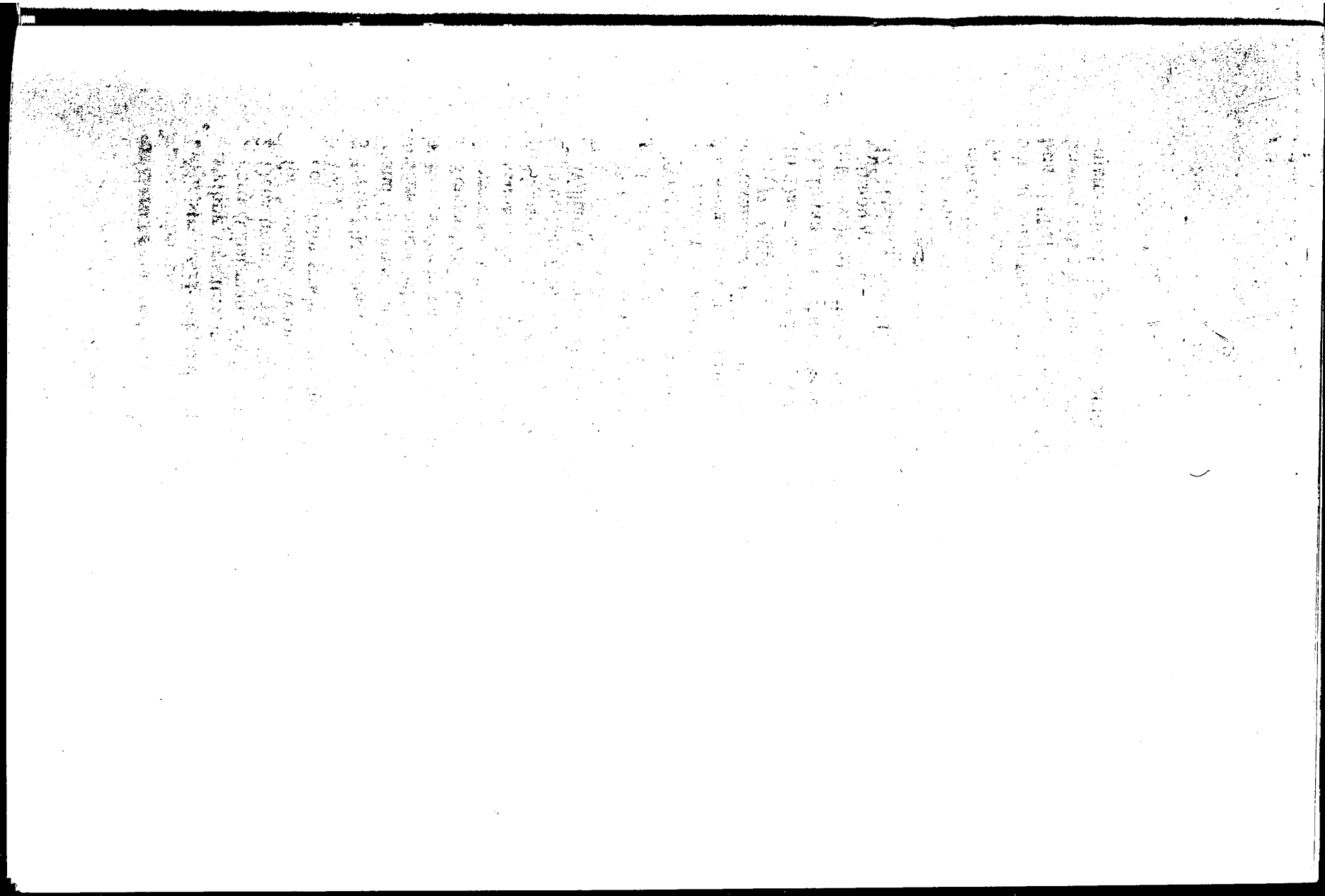

3 Solutions

Attitudes

When the need for change is recognised there is a tendency to believe that this can be brought about by a new organisation or by the investment of more money. The NHS has undergone at least three major organisational changes in the past fifteen years and attracted some substantial additional funding, but significant problems remain. These include the unsatisfactory relationship between the medical staffing of the hospital service and postgraduate training, and despite strenuous efforts by the health departments and by politicians a satisfactory solution has yet to be found. It remains to be seen whether the latest effort to 'achieve a balance' is successful. It should be recognised that it is a characteristic of the NHS that organisational reconstruction, coupled with well-meaning exhortation, whether or not supported by financial inducement, will not bring about change unless accompanied by shifts in attitude among those who bear primary responsibility for the care of patients, which is, after all, the raison d'etre of the NHS.

General practice is a good example of change being conditioned by attitude. A trainee scheme was started at the beginning of the NHS but it was little more than a simple apprenticeship and was frequently abused as a means of obtaining cheap labour. With general practice at a low ebb in the 1960s a major factor in its revival was the recognition that if it was to survive as a medical discipline in its own right three steps were needed: the development of a postgraduate curriculum, the selection and training of a new cadre of teachers, and the establishment of an organisational framework – and in that order of priority. The proposals received the whole-hearted support of general practitioners and, through the leadership of the Royal College of General Practitioners, educational objectives were defined and a curriculum outlined.[1] Criteria were drawn up for the selection of trainers, courses for them were initiated by the college, and a nationwide organisation of regional and associate

advisers was established. Within ten years the initially voluntary schemes of training had received such widespread support that they were universally adopted and are now required by legislation for all new entrants to NHS general practice.

General practice training has the advantage that it does not compete with service commitments for resources – of either time or money. It has its own budget, its own teachers and learners, and its own salaried organisers. Its weakness is its dependence on the hospital service for a significant proportion of experiential training, over which it has little control. This difficulty highlights the underlying problem of improving postgraduate training in other disciplines. Few have experienced the doubts about their future that general practice has had to face, and consequently have had no occasion to question the need for change in their postgraduate training arrangements. Indeed, criticism from trainees and others has tended to be dismissed as either inappropriate or a desire for transient gimmickry. The high reputation medical practice has had in the UK, and the large number of doctors from overseas it has attracted for training, give confidence to those who defend traditional approaches to medical education. This may be why educational experiments are so rarely seen, despite good evidence from other countries that certain radically different approaches improve students' ability to learn and are more effective educationally.

A postgraduate curriculum

A curriculum was introduced in the undergraduate course in medicine as a means of ensuring comprehensive coverage of what it was believed every doctor should know about medical practice; but education is more than instruction, and medical practice is far too complex for any student to learn in a strictly limited period of time. The curriculum has therefore been transmuted in many schools from a description of the knowledge to be acquired into a list of learning objectives – 'learning for mastery', as Benjamin Bloom called it over twenty years ago. This necessitated clear definition of objectives, organising teaching in small sequential units, continuous feedback on progress to students, and persistence in study until a defined mastery had been achieved.[2]

Except for general practice, few attempts have been made to describe a postgraduate curriculum, most joint higher training committees limiting their description of postgraduate training requirements to the duration of postgraduate experience in approved training posts. The Royal College of Psychiatrists attempted to set

out postgraduate training objectives in psychiatry in 1970,[3] but their proposals did not go beyond course description and a further effort has been made to define broad goals.[4] The Education Committee of the GMC is currently revising its draft recommendations on the training of specialists, in which it describes the attributes of the independent specialists. The committee however makes it clear that the detailed arrangements for training in individual specialties is the responsibility of the relevant royal college, faculty or joint higher training committee.

At the Birmingham symposium, Professor Anderson said: 'The definition of educational objectives, even in broad terms ... implies the need for proper educational process, for an appropriate and structured content, and for some form of assessment to ensure the objectives are being achieved ... In hospital medicine the process is poorly defined and the content unpredictable.' One solution was put forward by Professor Harden: 'task-based learning' could provide the means of associating the theory of practice with on-the-job experience. It could be developed by defining educational content, by identifying the tasks which should be undertaken by a doctor to illustrate basic concepts, and by the provision of a programme of tasks which focused on what he needed to learn. Its advantages would be to encourage the development of a 'reflective' rather than an 'imitative' practitioner, to integrate theory with practical work, and to rationalise the role of the trainer.

But whatever form a postgraduate curriculum may take, it will require change not only in the ways in which the colleges express their training objectives but in the management of individual training programmes. These managerial elements already exist in the training arrangements for senior registrars and trainees in general practice. The next stage should be the development of planned training for registrars which goes beyond the arrangement of rotations. Learning experiences need to be more closely defined and related to the goals of training; regular feedback to individuals in training on their educational achievements needs to be formalised; and a more rational approach needs to be adopted towards relating formal training to day-to-day clinical experience.

The extension of planned training to the SHO grade poses more complex problems. In many acute specialties only a proportion of the SHOs will be able to go on to a career in that specialty. Despite general expressions of interest in pluripotential training at this level no serious attempt has been made to define the objectives of such training by the colleges, despite exhortation by the Royal Commission

on Medical Education,[6] the Merrison committee[7] and, most recently, the education committee of the GMC.[8] What is needed is an educational authority that transcends specialty boundaries yet has the respect and support of each royal college and faculty. Only universities could exercise such responsibility, and a means should be found to enable university medical schools to extend their responsibility for the pre-registration year to the early years of postgraduate education, as the education committee of the GMC has proposed.

Teaching responsibilities

Unlike general practice, there is a hierarchy of medical responsibility in the hospital service, each doctor having a degree of responsibility for those in a more junior rank, culminating in the consultant's final responsibility for the care of each patient. There is a tacit assumption that supervision also implies a degree of responsibility for teaching, but while some doctors have an inherent ability to teach – often inspired by commitment to their work and its intellectual stimulation – others are not natural teachers. Important as communication skills are to a clinician, some do not recognise their deficiencies in this respect. Even in teaching hospital appointments low priority is often given to the recognition of teaching skills and the provision of staff training programmes.[9]

The education committee of the GMC has stressed the importance of identifying teaching responsibilities in postgraduate education.[5] Speaking as a doctor in training, Mr Stephen Brearley has advocated specific recognition of a consultant's teaching responsibility in his contract, guidance on teaching practice, and the provision of training in teaching methods as an integral part of his education.[9] More than instructional technique is needed: consultants should be closely involved in the whole educational process of their junior colleagues, including the development of curricula, participation in theoretical teaching as well as practical supervision, progressive assessment and feedback to those in training. The degree of participation by individual consultants will vary according to their interests and clinical commitments, but their individual involvement in the educational process should be overseen by an 'educational supervisor', as described by the GMC's education committee.

Organisational responsibilities

At present, coordinating responsibilities for individual postgraduate training programmes is shared by the royal colleges and faculties

centrally and the regional postgraduate committees locally, but the trend is towards greater centralisation. It is right that the colleges and faculties should have overriding responsibility for determining standards of practice in their respective specialties, and exercise control over teaching standards, but they are too remote to assume responsibility for the management of individual training programmes. They have attempted to overcome this difficulty by appointing regional and district tutors, but they need the support of a local postgraduate organisation if they are to exercise sufficient authority over educational matters, particularly when these overlap with service considerations. The regional postgraduate committee, led by the postgraduate dean, can provide an appropriate framework, but it is itself too remote from the training of individuals, particularly at SHO and registrar level, to assume adequate control over individual programmes. What is needed is a more effective way of bringing specialties together at district level, coordinated by the clinical tutor.

The role of clinical tutors has expanded considerably since their first appointment as consultants in charge of postgraduate education centres. Most of the administrative responsibility for the centres is now undertaken by wholetime centre administrators and the clinical tutor is assuming a more definitive role as the district manager of postgraduate and continuing education – the counterpart of the postgraduate dean at regional level. A number of courses are available for newly appointed and established tutors and in future they will be expected to show a degree of professional expertise in educational matters to complement their interest and commitment to an expanding task. They remain unremunerated (apart from a nominal honorarium) and no provision is made for their release from clinical commitments to undertake their educational responsibilities. Likewise specialty tutors have no more than the imprimatur of their college of faculty to exercise their educational authority, and the time they give to their postgraduate activities is at the expense of their limited leisure.

The time clinicians devote to specific managerial tasks is now being recognised contractually by the NHS. Educational responsibility ought to be similarly acknowledged; its recognition would in turn enable duties and obligations not only to be rewarded but accounted for. Hence both clinical and specialty tutors should be answerable to the regional postgraduate dean as overall coordinator, just as heads of university departments are responsible to an undergraduate dean in medical schools. This should in no way diminish the authority of the royal colleges and faculties over

standards of postgraduate education in their respective specialties but ensure that training programmes are fully integrated into the clinical services of each district, appropriately linked with the wider experience which rotation to other hospital districts would provide, and make the best use of local educational resources.

The development of multidisciplinary district postgraduate education committees would ensure not only more satisfactory development of specialty training programmes but would allow a useful start to be made on planning training for SHOs who were uncommitted to a particular specialty. Here the influence of a university rather than a particular college or faculty would guarantee that satisfactory educational standards were established. Consideration should be given to extending the authority of the university's pre-registration committee, led by the postgraduate dean, to overseas schemes of general clinical training which, although initially optional, should be so constructed as to earn credit from colleges and faculties as suitable general preparation for a variety of careers.

Medical manpower

An inevitable consequence of the development of planned postgraduate education and training, with progressive educational assessment and feedback to doctors in training, will be the need to rationalise the number of training schemes available in the NHS. This will create a shortfall in some specialties in the number of junior doctors undertaking service responsibilities as part of their postgraduate training, and thus increase the number of established doctors needed to undertake patient services. The proposal that some of this work can be undertaken by consultants is only a partial solution. Doctors from overseas not seeking a permanent career in the NHS, provided they are given equal opportunities with UK graduates to undertake well-planned postgraduate training, can give some additional support. But it should not be assumed that the contribution to the service needs of the NHS by doctors in training can meet all its needs for non-consultant medical duties. The proposed hospital staff officer grade may seem to challenge fundamental principles of clinical autonomy, but unless a solution is found for the problem of staffing the hospital service the development of a modern system of postgraduate education and training in the UK will be thwarted. To a clinician patients inevitably come first; similarly, health authorities must give patients overriding priority. Neither the education committee of the GMC nor the royal colleges and faculties have reponsibility for medical manpower matters in the

NHS. The interest of ministers in 'achieving a balance' between training needs and service requirements is to be greatly welcomed, but their initiative must be assured continuity. The councils for postgraduate medical education have to date been excluded from exercising influence over medical manpower matters, yet this constraint severely handicaps them in implementing postgraduate training plans. An authoritative body is urgently needed with formal responsibility for ensuring that a proper balance is maintained, and this would be a practicable and wholly appropriate task for the reconstituted postgraduate councils.

Part-time training

Postgraduate education and training is based on the assumption that it will be a wholetime commitment; yet many doctors, notably those who are mothers with young children, cannot be so committed. All colleges and faculties now accept that postgraduate training can be undertaken on a 'not less than halftime' basis, but insist that there should be no reduction in overall training time – that is, that halftime training should take twice as long as wholetime training. This is in part due to the way postgraduate training is prescribed in terms of specific periods of experience. Such a restrictive approach would be avoided if educational objectives were described in the ways proposed earlier and training was organised on a task-related basis. There are now as many female as male medical students and unless they are to be disadvantaged compared with other women in their child-bearing function, a more imaginative and flexible approach to their postgraduate training will be needed. Practical experience in some acute specialties will inevitably conflict with family responsibilities and priorities, but there should be no need to impose arbitrary time constraints on the training arrangements of the majority, many of whom should be able to integrate their family and training commitments given a more flexible approach by educational and service authorities.

Continuing education

It is a hallmark of the profession that its members adapt to changing circumstances. If a doctor practises his craft only as he was instructed to do as an undergraduate or postgraduate student he would, in private practice, soon lose his patients. In a tenured NHS post he is expected to adapt his practice as medical knowledge advances and social needs change. He is responsible both to his patients and to his profession to continue his medical education

throughout his lifetime of practice, although there is no formal mechanism for ensuring that he maintains his competence other than the general requirements of civil law. Doctors continue their education in a variety of ways – by reading medical textbooks and articles, attending lectures, seminars and conferences, participating in a variety of discussion groups and tutorials, and exchanging information and experiences informally with colleagues. In the UK, there is no requirement for an established doctor to undertake any form of educational assessment and it is his exclusive responsibility to decide whether or not his participation in continuing education is adequate or whether it successfully maintains his competence. The case for successive external tests of competence is rejected on the grounds that such tests could only be set at a minimum level which might then become accepted as a standard, whereas the goal of professional education is to aim for the best.

The objective assessment of clinical practice inevitably reveals scope for improvement through education. Errors are most often in the application of knowledge rather than its lack. The confidential enquiry into maternal mortality has, for instance, undoubtedly led to clearer definitions of clinical policies and subsequent improvement in clinical care.[10] Similar benefits have arisen from studies of perinatal mortality. Morbidity studies are less easy to initiate than those of mortality because of the obvious difficulty of collating statistics and of deciding which cases should be included and at what stages the enquiries should be undertaken. That such studies are practicable and lead to improved care was shown by Gruer et al in their study of the diagnosis and management of acute abdominal pain,[11] which involved both surgeons and general practitioners. They admit, and found daunting, the need for an objective and systematic approach, with 'carefully defined essential criteria that are explicit and stated in terms of both process and outcome', but they minimised the difficulties by identifying and tackling each problem as it arose. In this way they avoided the temptation to concentrate on outcome – the pattern in many mortality studies – and carried out 'process' evaluation, which includes therapy. This is an important feature of the work of many audit groups in general practice, where the rationale for medical decisions and actions receives as much attention as their eventual consequences for the patient. Ryan et al studied two common conditions in general practice, and were surprised at the extent to which their subjective views differed from the results of objective analysis. They concluded that it was only by documenting each doctor's individual patterns of behaviour and

identifying differences between patterns that a consensus of views could be reached. They noted that each doctor behaved differently in comparable situations, that the standards of treatment thus compared were not always to their own satisfaction, and – significantly – that these findings acted as an incentive to change.[12]

Audit is based on the discussion of individual problems by clinicians. An initiative has to be taken to get a group together, decide what aspect of care to study, collect and analyse information, and follow through the group's recommendations or assess whether some desirable change has taken place. Such change may show itself principally in the altered attitudes of the participants, which should be seen to be primarily an educational activity. The essential feature of audit is that it has a practical outcome, leading to improved patient care, but it can be threatening to the individual clinician. Confidentiality is therefore important, and there must be trust in those responsible for its organisation. Special skills needed both in the conduct of discussions and the preparation of material are as yet not widely available to the educational bodies responsible for continuing education. A new approach to the development of audit as an integral part of continuing education is needed. This should be more clearly related to current educational programmes, which may need significant reappraisal in the light of deficiencies revealed in audit activities.

Educational research and development

A number of the changes recommended above can begin with a shift in attitude towards postgraduate education among opinion leaders and within the profession as a whole, but goodwill and enthusiasm will not be enough. Some significant educational problems will need to be tackled. These will involve a more critical appraisal of current educational and training processes, the experimental development of alternative learning systems (for example, task-based learning and open learning programmes for relatively isolated doctors and those working part time), the construction of effective methods of continuous assessment, and the use of medical audit educationally. Courses will also be needed on one-to-one and small-group teaching methods for all established doctors and on educational management for clinical and specialist tutors. No financial provision has been made for the universities or any other educational bodies to undertake such developments, and private and public medical research bodies do not admit educational projects within their terms of reference. The lack of faith among teachers in the functional value

of educational research is not unique to medical education. The 'language' of many research reports is not understood, their applicability to the everyday world of teaching is often obscure; hence authority and tradition retain a strong influence as the most reliable sources of information.

Research methods in education often do not appear to follow scientific design; they are however as relevant and as rigorous in the area of enquiry to which they are directed as any other form of research.[13] It needs more than an act of faith to accept that the product of medical education research will be better patient care and the more efficient and effective use of resources. There are today very few commercial organisations so confident in their established methods that they do not invest in research, yet neither the NHS nor the universities, with their substantial interests in medical education, have invested in its research. Pressure on scarce resources is a major barrier to the commitment of staff time to any new activity and a bold step is needed now to earmark funds for medical education research and development if the changes so patently needed are to come about. The amount of money involved need not be large if recognition and higher priority is given to the value of existing university staff devoting time to these areas of research. What is needed is specific funding for research assistance and clinical support. This would require a relatively small contribution from the health departments bearing in mind the significance of the benefits that would accrue from a proper investigation into the efficiency and effectiveness of postgraduate as well as continuing education. Authoritative guidance is needed on the potential value of this investment, and there is at present no identifiable body that could give this.

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4 Recommendations

1 Attitudes need to change among the profession as a whole so that postgraduate education and training becomes recognised as a conscious and managed educational process.

2 A curriculum for postgraduate education and training is needed, with clearly defined goals and managed programmes which include the integration of theoretical teaching with practical work, progressive assessment and feedback to teachers and those in training.

3 The teaching responsibilities of NHS consultants should be recognised in their contracts and provision made for all doctors to receive instruction in educational methods.

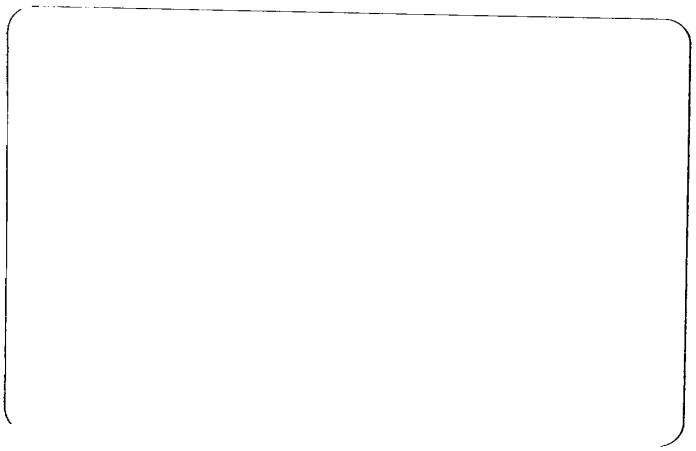
4 The educational responsibilities of the royal colleges and faculties, universities, regional postgraduate medical education committees and councils for postgraduate medical education should be more clearly defined. Local organisations for postgraduate education and training should be established at district level, bringing together specialty advisers under the leadership of clinical tutors. The responsibilities of specialty advisers, clinical tutors and educational supervisors should be acknowledged and provision made for them to attend courses in educational management. Each region should establish a university-led committee to manage early pluripotential training programmes.

5 The proposals for 'achieving a balance' between the hospital medical staffing needs of the NHS and the requirements of doctors in training should be implemented without delay and greater authority be given to the councils for postgraduate medical education to ensure that a proper balance is maintained.

6 Arrangements for part time training need to be reviewed in order to introduce more flexible training programmes for doctors unable to train on a wholetime basis.

7 The correlation between doctors' participation in continuing education activities and the quality of their professional work needs to be pursued, with particular reference to medical audit. Responsibility for this should be vested in postgraduate rather than service authorities, and provision made for the development of the necessary skills and for the resources needed to develop audit as an integral part of continuing education.

8 Medical education research and development should be recognised as an esential feature of maintaining high quality medical practice in the NHS. Universities should give greater credit to those who wish to undertake medical education research and the health departments should make available resources for the support of such research and the development of experimental schemes of postgraduate and continuing education. Consideration should be given to the establishment of centres for postgraduate education to undertake research and provide appropriate courses for teachers and educational managers.



Twenty-five years to the day after a memorable conference on postgraduate medical education held at Christ Church College, Oxford, the United Kingdom Conference of Postgraduate Deans and the National Association of Clinical Tutors held a commemorative seminar at Green College, Oxford, to review the present state of postgraduate medical education and training and to put forward proposals for new initiatives. While acknowledging the achievements of the past 25 years, participants were neither complacent nor content about the present state of postgraduate medical education and expressed the urgent need for a more critical examination of our current assumptions about educational processes. A second conference with a wider audience representing all relevant interests was held at Birmingham Medical School.

Improving postgraduate and continuing education draws on the work of both meetings. It explains the present system, considers its problems and offers solutions and recommendations. It is hoped that it will stimulate constructive debate and produce effective action.

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