The control of medical education[1]

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I intend to look discursively at some of the factors influencing the control of medical education, particularly in Britain.

Control of the postgraduate trainee

The medical graduate must initially be accepted for training in a specialty, and this may happen in a very uncontrolled way. There are, in fact, extreme examples of control, and its absence, in this respect. Clearly defined admission of predetermined numbers of doctors to formalized training schemes, at a very early stage in relation to graduation, is exemplified by the residency training programmes of North America and the French *internat*. The other extreme is the type of system in which doctors undertake a large volume of clinical work, and move to varying degrees into the mainstream of a specialty's training activity in consequence of a large number of different influences. Many countries lie between the extremes.

There are both advantages and disadvantages in the British system, in which it is often very difficult to define the point at which a doctor actually becomes a 'trainee'. The problems are well shown by the confusion that has surrounded interpretation of the Todd concept of 'General Professional Training' (Todd Report 1968).

My view about this is that good training should be available to everyone who qualifies in medicine, but without the imposition of rigid control. There should be more control, in fact, over the quality of what is offered in the way of training than over what the medical graduate chooses to do. There is no place for second-rate training, and certainly there is no future, long-term or short-term, in second-rate training for those who come to be covertly recognized in various ways as second-rate doctors. The danger here, of course, is the reflexive nature of the relationship between doctors and positions, with the almost inevitable thought that, 'If he was any good, he wouldn't be doing a job like that'. This is the major weakness of combining the liberal use of a wide range of hospitals for postgraduate training with a *laissez faire* attitude to the way such posts are obtained and linked. There is natural reluctance to take jobs that may be 'looked down on' even though they offer excellent teaching and experience. There is still also far too much anxiety about stepping 'out of line' to do an interesting and useful job abroad, in research or in a highly specialized unit. Yet our data show that of those who become senior registrars in Britain only 10% take a direct path, occupying only senior house officer and registrar posts and not changing their specialty choice. The time taken to achieve senior registrar status ranges up to 26 years, and who is to say that this, in itself, is good or bad.

Well-organized formal training programmes, based on the best academic and clinical centres, should be available at an early stage for those graduates who have made up their minds about their specialty and wish to proceed with it, and who are judged to have the necessary ability to cope with an intensive course. There must, of course, be an element of competition, and if this is elitism, then so be it. But it must not mean separation from reality; it should be an integral part of all specialist training, at some stage, for the trainee to work outside the confines of the teaching hospital and learn about specialist practice in an 'ordinary' environment. Also, I feel that there should be very few doctors who complete a specialist training without spending some time outside their chosen specialty.

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Regardless of the increasing output of the British medical schools, and the stringency of their entry requirements, there will always be graduates who do not fare well against strong competition, or who have not made up their minds firmly enough about a career to begin intensive specialist training at an early stage. The practical problem is how to cater for these doctors without merely offering a second-class training or allowing competition, in the popular specialties, to discriminate against them. The Todd proposals have not as yet seemed to offer a solution to this dilemma; perhaps with more than half of our trainees being from overseas, and a variable number having career intentions in this country, they never had much of a chance. But we need once and for all to realize that although for some graduates training may take longer, may begin later, and may be completed without the accolades and distinctions that lead to a senior position in a teaching hospital, the basic requirements of good graduate training are the same for all.

We know very little about how to predict, or select for, practical ability or special aptitude for the work of a specialty at the outset of training. Some senior clinicians, especially in the 'craft' specialties, maintain that it takes several years to know whether a man will prove competent. Here is a further dilemma, for it is a tragic waste to reject trainees at a late stage, but it may be an even more tragic waste of human life and health to let them continue and practise incompetently. How much the call for a prolonged apprenticeship is based on factual evidence for its necessity, and how much it stems from the convenience of having an over-large pool of junior staff from whom a few senior registrars can be selected, is something which I think we do not really know. Other means of control over this process of selection during early training may be desirable, if indeed they do not become a necessity in the future, and certainly the early recognition of weaknesses and special capabilities during training, and the feasibility of applying effective career guidance, are matters that deserve the most careful study.

Much can be said of examinations, and if they are suitably planned and conducted I would strongly defend them as a means of distinguishing the serious student, and the teacher of the future, from the man or woman who is probably best suited in the long run to carrying out specified tasks, which he may do well, under supervision. Such generalizations always have their exceptions, and most of us will know excellent people who have repeatedly failed specialist examinations. But on the whole they are few, and the fault may lie as much with the examination as with the candidate. For promotion in a popular specialty, with high-quality trainees, clinical skill and the favourable assessment of senior clinicians are all-important and the examination is, rightly, taken for granted. If, however, trainees are in short supply, there is a risk that obtaining a specialist diploma will become an automatic passport to promotion, when other considerations should be given far more weight. This is especially true, of course, in the 'craft' specialties. British specialist examinations are almost all taken half-way through graduate training. There is debate about this and some of those who have followed the British pattern, for instance in Australia, now tend to place some examinations later in the course of training. To use examinations as the final mark of achievement, in a clinical subject, would in my view be inappropriate, although the conferment of a Fellowship is another matter. To introduce examinations as an international hallmark of specialist registration would be disastrous, unless almost inconceivably effective means of validation could be assured. Placing them at the half-way stage gives them due weight, and no more, in the process of control.

West Germany has recently acquired considerable experience with standardized, national examinations at undergraduate level and the advantages have been discussed (Kraemer 1978). They have also worked on the problem of a *Gegenstandskataloge*: a comprehensive catalogue of topics to be included in the examination. There has been thought on these lines about postgraduate examinations, but it is doubtful if the precise definition of subject matter in such rapidly progressing areas can be useful, or even possible. It has truly been said about the best specialist examinations that the questions never change, it is only the answers that change!

Multiple choice questions can be standardized, and there are some interesting possibilities here for the international comparison of graduate training programmes and for the harmonization of standards. But, useful as this may be within its limitations, I share the profound concern of Sir George Pickering (1978), and many others, that one of the most

serious deficiencies in present-day medical education is in literacy. Surely one of the most valuable functions of examinations should be to provide training in the use of language and the art of self-expression. My former colleague, Dr Bob Salamonsen, likes to remind his students that most people, in preparing for an examination, devote 95% of their effort to getting information into themselves and about 5% to the techniques of getting it out again. How vital it is for the candidate, and even more for the future teacher, to realize the folly of this attitude!

The British postgraduate training system has a curious feature, to which I have already referred. There are very few comprehensive graduate training programmes; mostly, graduates apply for different training posts at each stage of their progress. This untidy system has been criticized, by myself among many others, and there is some tendency towards change. But the system provides an interesting form of control that is quite independent of legislation or formal criteria. The disadvantages are fairly obvious; the great advantage is that some responsibility is placed on the trainee himself to think about his future and make an effort on his own behalf. This is not the negative form of control whereby the trainee continues in a programme, once accepted, unless there is a serious reason for rejection; but a positive form in which the trainee's performance has to be good enough to obtain a more senior position. The difficulty for the future, as I have said, will be to find ways of combining the good features of this essentially competitive arrangement with the need to help nearly all postgraduate trainees, across the full range of specialties including general practice and community medicine, towards a satisfying long-term career in this country. To what extent our passive 'control' system, based on a sequential process of selection or rejection, will have to give way to a more active form of 'control' of trainees and their movements, remains to be seen. Much open discussion is needed about this, as the output of the British medical schools increases. There will be inevitable demands for a 'proper' career structure, with career prospects for all who embark on a specialist training, and these will have to be reconciled with the rights of doctors in a free society to try, and try again, in the knowledge that they have no guarantee of success.

Control of training programmes

Control may be exercised not only over the individual trainee but over the training programme and the way it is carried out. It would probably be fair to say that most countries have become increasingly aware of the importance of this. Where trainees are free to move from one post to another, some means of coordination is needed through the Royal Colleges and the Postgraduate Deans. We have achieved some success with this since the Platt Report (1961), at senior registrar level; by comparison, we still have a long way to go at the senior house officer and registrar stages. The most important point is that the maintenance of standards in regard to training posts, and the judgment of what constitutes an appropriate sequence of training for the individual, must be in the hands of academic medical bodies. We need, as indeed we have, joint committees on which those responsible for running the health services are represented, but it is fundamental that the control of standards must in the end be the responsibility of medical experts and teachers.

It is not a simple matter to judge the quality of a training programme or an individual hospital post. Volume of work, facilities, local teaching activities, library access and the provision of adequate time for study are all important. But more important than any of these is the willingness of the consultants to teach and their own enthusiasm for keeping up-to-date.

Related to control over the place where training is carried out, is the matter of control over the content of training. There is no doubt that this tends everywhere to be specified more strictly and in more detail. Basic requirements do need to be laid down, and there is much to be said for the approach of those countries which indicate the minimum length of time that should be spent in the specialty itself and the minimum time required in other relevant disciplines. But there is always a temptation to demand more and more time, so that the programme is completely specified, and this creates a serious danger of imposing too much rigidity. There must be room for initiative, and time to do other kinds of work, to undertake research, or to travel abroad if the trainee so desires.

There is also the problem of knowing how much ground should be covered and in what

depth. In anaesthetics, for example, it can be argued that every specialist must be trained in neurosurgical, cardiothoracic, neonatal, plastic, dental and faciomaxillary anaesthesia, obstetrical analgesia, intensive therapy and pain therapy, yet to do this in any detail is enormously demanding and many trainees, in their chosen specialist appointments, will not meet some of these kinds of work. The same problem, in different forms, confronts many other specialties. This is where I think it is important to stress that the basic essentials of training should be guaranteed, at the highest possible standard, for everyone. This means the teaching of principles rather than detail, so that no specialist need be confounded by an exceptional case that is outside his normal range of practice. Beyond this, there must be more specialized training programmes directed towards highly specialized work. These will not be for all trainees and might often, in fact, be more useful for established consultants who wish to become involved in a specialist type of practice. This is surely the logical way to ensure that those who practise are up-to-date in their knowledge, and to provide training in new ultra-specialisms as they emerge.

Undergraduate education

The most important issues in relation to selection of undergraduates are probably the very high academic standards required, the supposedly rising proportions of women, the problems of how to accommodate mature students and the question of 'relevance' in regard to the health needs of the community. Practically all of us, except the most highly talented and the most flagrantly hypocritical, would have to agree that obtaining very high A-level grades is not a prerequisite for becoming a good doctor, or even a successful professor. The use of A-level grades as a 'filter' is a convenient expedient which ensures that the medical schools obtain a high proportion of entrants who will be capable of coping with the undergraduate course, and its examinations, in the present form. These ends do not justify the means, except in the most pragmatic way. In the absence of any constructive alternative suggestions perhaps the best we can say is that our method of selection is in this respect depressingly negative, but not negative enough. In other words, it concentrates our attention on screening out a number of people who might have difficulty with the undergraduate course, but it leads us to pay too little attention to screening out people who might make bad doctors. There may be a good deal to learn from the experience of those countries which select a high proportion of their medical students, but not all, from among applicants who have experience of work in the health services and whose motivation towards a career in clinical medicine is not in doubt. There are undoubtedly problems about this approach, particularly in view of the length of medical training once it is embarked upon, but my feeling is that it may well offer better prospects for the future than the development of more elaborate and sophisticated selection procedures of an essentially artificial type.

The main point about women applicants is the need for careful monitoring of the proportions admitted and the amount of time they are able to devote to medical practice, because of the manpower implications and the need to develop programmes of part-time training. Many women doctors do not pursue the career of their first choice, and probably many more do not even embark on what they would most like to do, for various reasons. Competition from men, which may be judged fair or otherwise, is one reason and this goes hand-in-hand with awareness of the problems of combining a highly demanding specialty such as surgery with some kind of satisfying domestic life. There has to be an element of biological realism about these matters, as many women would, naturally, be among the first to point out, and this will often override the best-intentioned legislation.

There has been much talk, and also much scepticism, about the provision of medical education for larger numbers of mature students. There is no shortage of persuasive arguments in favour of this course, and neither is it difficult to think of the problems and difficulties that may arise. There is a subtle form of control here, much resented in some sectors of the community, in that the traditional medical schools, with their equally traditional methods of selection, hold a virtual monopoly of medical education. In practice, it is often true at present that the intense competition from highly-qualified school leavers makes it difficult for mature

students to obtain places. Social pressures in some other countries have had more noticeable effects than has been the case, as yet, in Britain. In Sweden, for example, the average age of entry to the medical schools has risen, and substantial numbers of medical school entrants are now mature students. This, again, must have important consequential effects on manpower planning, in view of the shorter working life of these qualified doctors, and no doubt it will also stimulate changes in teaching methods and curriculum design. It may well be that in this respect the need is not so much for 'control' as for carefully controlled trial. I believe that it would be both socially and professionally rewarding to make the deliberate experiment of training a substantial number of mature students and comparing their progress with various groups of school leavers who become doctors. I do not imagine for one moment that such studies would be easy to arrange or interpret.

There is at the moment in many quarters, and particularly in the World Health Organization, great concern over the relevance of medical education to the health needs of the community. It is easy to see how pressure may build up to a point at which the design and content of the undergraduate curriculum and the selection of medical students might in some situations be largely determined by considerations of 'relevance'. It is necessary here to take a well-balanced view of the situation; that is, to give due acknowledgment to the undoubted importance of this concept of 'relevance' without losing sight of the fundamental aims of the medical school. There are many things for which medical graduates are required which have little to do, in a direct sense, with the health needs of the community and, likewise, there are many aspects of health care which have, in a direct sense, very little to do with doctors. Medical education is partly university education and partly vocational training. It would, of course, be feasible to produce professional people, such as doctors, independently of the universities, and there has been much experience of this in the teaching profession. Even so, a great deal of the course has to be concerned with method and basic philosophy, and to an increasing extent with preparing the student to fend for himself in later years, when it becomes necessary for him to keep up-to-date and to respond to the continuing challenge of progress. It is only to a limited extent that the needs of the community today, and the role envisaged for the medical practitioner in meeting those needs, can ever be said to be truly relevant to the selection of students who will begin to practise as specialists in 10 or 12 years time.

The growth in size of the medical schools presents undergraduate education with one or other of two alternatives: either the staff/student ratio must fall, and correspondingly in the clinical years the student/patient ratio must rise, or else more teachers and more patients must be found. There is no doubt that the most constructive and successful approach to this problem has been to introduce undergraduates to the regional hospitals, and thus to increase the pool of teachers and patients. There is then an important question of quality control, and we have begun to learn valuable lessons from the experience: about how to monitor the progress of students working outside the teaching centre and how to use the students' own evaluations as an indication of the quality of teaching and experience. These lessons might well come to be applied to postgraduate training.

The diffusion of clinical teaching across a wider spectrum of hospitals raises also the question of content of training. It would be fatal to the spirit of medical education if we were to expect all undergraduates to receive exactly the same coverage, and with the same proportionate emphasis, in every aspect of the medical course. We have surely, at last, arrived at a stage where we can honestly acknowledge that in any group of six equally competent medical practitioners, the overlap of working knowledge common to all may be no more than about 25%. It is not that the concept of the 'whole' doctor needs to be abandoned, for this would be a great loss. Neither, I suspect, does it need too much redefinition, for the old-fashioned idea of the medical graduate who knew something about everything was always more of a myth than a reality. What is needed is an appreciation of how little in terms of factual knowledge, and not how much, the student needs to carry away with him from the undergraduate course; for the valuable lessons that he will learn are of a different kind. There should surely be much more opportunity for variation of the undergraduate course, not only from one medical school to another but between students in each school, at both the preclinical and clinical stages. I have

indicated elsewhere (Parkhouse 1978) my feeling that teachers would find more satisfaction in having a smaller group of students who chose to study their subject in depth than in trying to force their attentions, in an overcrowded laboratory or classroom, on a large group who have no hope of encompassing the details of the subject in the time available. I also believe that this choice of which subject to study in depth would be welcomed by students.

Continuing education

If we define the aim of graduate education as being to produce a specialist who will be self-motivated to remain competent and up-to-date throughout his working life, then we need to devise means of knowing whether this aim has been achieved and, ultimately, of ensuring that it is achieved. This is not the place to enter upon a detailed review of the possible rewards or sanctions that might be applied in this situation, but I am particularly impressed by several points. First, that draconian methods of audit, involving compulsory recertification and the threat of sanctions, are likely to be very expensive, and disappointing. No doubt some form of control could be exercised in this way, but a high price might well be paid in terms of reduced standards for the best with not much improvement for the less good, and deterioration in attitude on all sides. Second, I am convinced that the great majority of doctors are more likely to maintain their standards when working as a group than in isolation. Third, I believe that most specialists value very highly the privilege of participating in medical education, by receiving undergraduate students and postgraduate trainees. This is where, as I have already said, willingness to teach and enthusiasm for keeping up-to-date are so closely associated. If any form of threat or sanction were to be contemplated, that of the withdrawal of recognition for training is by far the most likely to be effective. It is a powerful inducement to each member of the specialist team to look to his laurels. It is also an effective influence towards improvement of local facilities and working conditions, and has very significant manpower implications. Withdrawal of recognition for specialist training means a virtual end to recruitment of senior house officers and registrars, and the failure of a nurse training school to meet the required standard would often leave little alternative to closure of the hospital. Use of regional hospitals and general practices for undergraduate teaching has no such hidden sanctions attached to it as yet, although the 'service increment for teaching' policy and the new consultant contract may have some effect of this kind. At present, the prime motivation is prestige and self-fulfilment, and there can be no argument with the importance of this.

The academic side of the profession may impose high standards for undergraduate and postgraduate training, but it is when teachers and students begin to meet in the regional hospitals and general practices throughout the country that the community reaps benefit in return. We have here a nonstatutory form of 'control' which ensures that continuing education and the maintenance of professional competence, which is its prime purpose, is inescapably linked with standards of health care and quality of teaching.

The problem thus tends to be most difficult among those doctors who work away from the major academic centres and who do not expect to have trainees working with them. This is why, in my opinion, neither undergraduate nor postgraduate training activities should ever be confined exclusively to the major university centres. They should undoubtedly be based on these, but the day-to-day distribution of trainees at various stages, and for different periods of time, should be much wider. It thus becomes possible to use students and trainees themselves as the principal instrument of continuing education for the local consultants and general practitioners, by their presence, their influence and their demands. At the same time, there should be greater opportunities for movement during the course of a specialist career. A first step is to bring peripheral consultants into the academic centres, at intervals, for short courses and clinical attachments. The next step would be to use them in the teaching centres, for periods of at least several months and in some cases permanently, as clinicians and teachers in their own right, thus bringing to the centre the benefits of their practical experience in the field. Perhaps an undertaking to do this at intervals should one day become a condition of employment in a more peripheral hospital. It need hardly be said that the movement could well be in both directions, for a period of time spent by a teaching hospital consultant, or a senior

registrar, in a peripheral hospital or practice would often be both refreshing and valuable. Indeed, I believe that senior 'trainees', in the guise of junior consultants rather than senior registrars, should actually form the backbone of the 'junior staff' in peripheral hospitals.

It is important to recognize that the control of standards can be jeopardized, not only by having too many students but sometimes by having too few potential consultants or other specialists. We can probably expect to provide reasonably adequate numbers of specialists at a relatively low level, but to do this at a very high level, in every specialty and at all times, is asking a great deal. With only one level of specialization in the hospital service, the consultant grade, the standard required to achieve the defined level must 'float', deliberately or otherwise, according to supply and demand, while in fact it is the numbers in each grade that should 'float' rather than the standards accepted for those grades. I regard this as a strong argument in favour of introducing more than one level of specialization, and it is immediately obvious that the possibility of elevation to a senior specialist grade would be a further incentive to continuing education and the overt maintenance of professional competence. Two comments are needed, however: it would be a great mistake to base continuing education policy on the expectation of preferment, since all doctors require some form of continuing education, in which I naturally include their own spontaneous efforts, merely to remain where they are. And we will continue to serve our community poorly if we always equate preferment with movement to a currently prestigious specialty or a major teaching centre. With the development of continuing education, and revision of the career structure, we should have powerful tools in our hands that would need using appropriately.

Medical education has to be controlled, but we need to think very carefully about what we mean by control and what we wish it to achieve. The processes are subtle and complex, and the effects of legislation are nearly always indirect and wide-ranging rather than immediate and specific. A perceived need for legislation is, in any event, merely an indication of the temporary failure of natural evolution in some respect, and not necessarily a solution to the problem. Our natural evolution of medical education has proceeded over a very long time, and there have been more significant and more exciting changes during the last ten years than perhaps during the previous hundred. We are left now with some of what was bad and, fortunately, a great deal of what was good. The quality of what we have added or substituted has yet to be fully evaluated, but history suggests that we should not be too afraid of making mistakes. The system is robust – too much so in some respects – and it is our job to ensure that our intellectually sturdy young students grow into robust and resilient practitioners who are able to mould the system with enlightenment. Unless this is so, and unless the medical profession continues to evolve its own control of education and continuing competence, to the clear satisfaction of the public and in ways that are manifestly better than any that could be imposed from outside, then we are in serious difficulty.

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