Medical Education

Postgraduate education in Australia and the United Kingdom compared

K M PARRY

There is nothing like a visit to another country to divert one's attention from the customary contemplation of individual trees to a lively interest in the wood. During a round trip to several European countries some years ago,[1] I learnt as much about postgraduate education in the United Kingdom as I did about the educational systems in the various countries I visited; the contrasts provided the stimulus to question assumptions that had nested too long in subconscious recesses of my mind. Curiously enough, however, my first impressions during a recent visit to urban Australia were of familiarity rather than of contrast. The language, the right-handed cars, and much of the architecture created a feeling of familiarity and of being at home, which was strengthened by the spontaneous, open, and ever-generous hospitality of my hosts. Awareness of the stark differences of scale, climate, and flora and fauna did eventually impinge on my consciousness; but the similarity between many of the social institutions in the two countries is striking, and makes the differences—such as they are—the more fascinating.

It is, of course, impossible to obtain a comprehensive understanding of a system of postgraduate medical education during a four-week stay in a country visited for the first time. Views and opinions as well as factual information are inevitably influenced by the people and the places visited; and what is seen, heard, and read reflects the perceptions of the organisers of the visit. My programme was devised by postgraduate organisations in Melbourne, the deans of the medical schools of Sydney and New South Wales, the director of continuing education of the Royal Australasian College of Physicians (RACP), and the faculty of medicine at Newcastle University. I saw the work of the Victoria faculty of the Royal Australian College of General Practitioners (RACGP), the Victorian Medical Postgraduate Foundation, and the Academy for General Practice, at their elegant shared premises in Melbourne, discussed the undergraduate programme in general practice at the universities of Melbourne and Monash, and visited the national family medicine programme at the RACGP. I met the deans and some senior members of the medical faculty of the universities of Sydney and New South Wales, and the organisers of the family medicine programme; and I discussed continuing education with representatives from each of the royal colleges at a symposium at the Royal Australasian College of Physicians. At Newcastle my time was divided between studying the innovatory undergraduate curriculum with students and teachers and developing ideas for the formation of a postgraduate organisation for the Hunter region of New South Wales with practising doctors and members of the university medical faculty.

Scottish Council for Postgraduate Medical Education, Edinburgh EH2 1JE
K M PARRY, FRCPED, FFCM, secretary

Comparisons and contrasts

The patterns of medical education in Australia and the United Kingdom are similar. A university undergraduate course of five or six years with an obligatory "intern" year is followed by in-service specialty training overseen by the appropriate royal college. Specialist training is generally shorter in Australia than in Britain—five to six years; and after two years' basic training in a specialty, success in an examination is a necessary condition for progression to advanced training. During basic training residents participate in discussions, seminars, lectures, and demonstrations conducted both within and outside the hospital; in the case of the Royal Australasian College of Surgeons (RACS) a minimum of five hours a week is specified for such activities. Advanced training lasts three or more years, depending on the subspecialty chosen. Various societies, associations, and colleges exist for each subspecialty as in the United Kingdom; and these co-operate with the colleges —the RACP, RACS, and newer specialty colleges—in developing programmes and conducting evaluations. On completion of an advanced training programme the doctor in training is eligible to apply for admission to the college fellowship if a physician, but surgeons are required to pass a part II examination to gain admission. In-service training programmes are approved by the colleges, and appointments are made by selection committees in the hospitals concerned.

Training for general practice in the two countries has many similarities, including the voluntary nature of the examination of the college of general practitioners. There are no proposals at present for making the four-year family medicine programme obligatory in Australia, although the number of doctors entering general practice without such preparation is decreasing. The RACGP's family medicine programme is funded directly by the federal government and is flexible in that the trainee plays a major role in selecting his own programme according to his particular interests and needs. Fellowship of the RACGP is granted when a candidate has been a graduate for five or more years—two of which must have been spent in general practice—and if he has "satisfied the examiners." He can choose between evaluation by examination, by assessment, or by a combination of these.

Continuing medical education too is similar in the two countries. There is a similar pattern of specialist journals, seminars, and lectures, for which various university departments and royal colleges are responsible. Journals and educational activities are largely self-financing, most contributions being freely given. The RACP and RACGP take a special interest in self-assessment programmes, but there is no clear consensus within the profession on the form continuing medical education should take or on how it should be organised. Because of mounting public pressure the need for a new system for maintaining standards of medical practice is recognised, and this is

seen to be inextricably linked with providing continuing medical education.

The most striking contrast is the absence in Australia of a nationalised health service. Although there are some salaried hospital appointments, most doctors are paid by way of fees for items of service. Reliable evidence is hard to obtain, but there seems little doubt that this system of payment affects considerably the way disease is investigated and treated. The individual freedom of doctors is fiercely defended and there is resistance to government "interference" in health care. This seems to apply especially to proposals made by the federal government, and attitudes to Canberra are reminiscent of British attitudes to the European Parliament and the EEC generally. Each State has its own government and has considerable autonomy; this affects even the freedom of movement of doctors between States.

Some Australian issues

As in the United Kingdom, manpower is a matter of serious concern. The annual number of students entering medical schools has recently risen to over 1500. There are already more doctors per head of the population than in the United Kingdom, and there are 5·6 students per 100 doctors in Australia as compared with 3·3 in the United Kingdom. The planned increase in the number of Australian doctors by one-third in the next decade is thought likely to be exceeded because of a higher net immigration of doctors than expected. Some areas, mainly rural, are under-doctored. The royal colleges restrict the number of approved specialist training programmes; but there is no mechanism for limiting the number of doctors entering general practice, for which vocational training is not mandatory.

Specialty training is well developed in all disciplines, and although hospital authorities are responsible for selecting and employing doctors in training the posts are approved by the royal colleges and the training overseen by college-appointed supervisors. Apart from the family medicine programme the government makes no contribution to the work of the colleges; such assistance has not been sought because dependence on government funds is considered to be restricting to the autonomy of the colleges. Training is mainly by apprenticeship; hospitals with accredited training posts are expected to provide appropriate educational programmes, but the form these should take is not precisely stated, and the extent to which formal tuition is provided is a matter for the hospital concerned. The universities no longer offer diploma courses as preparation for various fields of specialist practice, although individual members of their staff—preclinical, clinical, and paraclinical—take part in teaching by way of lectures, tutorials, and seminars; it is not clear whether these activities are regarded by individuals as part of their university work or as part of their responsibility as practising clinicians or members of colleges. The colleges are opposed to further university participation in vocational training but nevertheless recognise that the universities' resources are of considerable importance.

State medical boards do not admit doctors to the medical register until completion of an obligatory intern year. This consists of a rotation through a series of medical and surgical specialties, including work in the casualty department. The universities furnish names and student graduates' preferences for intern posts to hospital authorities, but play no part in supervising the students' training or in assessing their work. This is the responsibility of hospital authorities, which issue the required "certificates of approval" on completion of the intern year. Training is under the supervision of the medical staff of the hospitals concerned and is intended to provide the intern with the opportunity to develop professional confidence and competence in clinical methods. A reduction of the undergraduate course in Sydney to five years was proposed partly as a step towards extending the intern year to two years and increasing the universities' involvement in such training, but this has not come about because of lack of finance. There is no national or State system for co-ordinating intern training, although the Health Commission has instituted a feasibility study.

In the undergraduate course there is a trend towards the integration of teaching between departments. There are two interesting innovations: at Flinders University the medical school is organised in units rather than departments, and the curriculum centres on organ systems rather than on traditional disciplines; at Newcastle education is based on clinical problems from the beginning of the course, and the school is organised into five functional divisions—clinical practice, clinical investigation, developmental and social medicine, postgraduate education, and medical education and programme evaluation. It is recognised, particularly by the RACP, that the foundation of life-long learning should be established in the undergraduate course, and universities—for example, at Newcastle—are responding to the challenge of developing abilities in self-learning and critical approaches to clinical practice. There is awareness of the need for better co-ordination between undergraduate, postgraduate, and continuing education, but no clear view on how this might be achieved.

Some common problems

In both Australia and the United Kingdom the trend towards planned postgraduate training has inevitably led towards earlier specialisation; the stalwart freelancers who opt for a variety of experience run the risk not only of postponing a career appointment but of finding the way to some popular specialties impeded. With certain exceptions, the colleges are disinclined to acknowledge the contribution which experience in one specialty contributes to training for another. Even in general practice, where two years of the vocational training programme is spent in hospital posts, there is a view that selected posts should provide not only clinical experience but also an orientation of the training towards general practice. The trend towards earlier specialisation is understandable within a system of medical education that places responsibility for standards of postgraduate education and training in the hands of specialist colleges. To become established in practice a new graduate has to satisfy the requirements of a particular specialty, and there is little incentive for him to spend time gaining experience in clinical work that does not contribute to his career goal.

In the United Kingdom, the case for broadly based early postgraduate training has been advanced on two grounds. The first is the practical difficulty both for the doctor in training and for his mentors in deciding the branch of medicine to which he is suited and in which he is likely to be successful; in an apprenticeship type of training some doctors inevitably will take time to find their vocation, and we should certainly not assume that this is confined to less able doctors. Unfortunately, the need for flexibility in training is more easily stated than implemented. The second argument for broadly based early training is more controversial. The Royal Commission on Medical Education[2] urged the importance of emphasising the common features of each specialty of medicine, particularly in the early years of postgraduate training. Its case for "general professional training" was taken up by the Merrison Committee[3] on educational grounds, and this led the committee to propose a period of "graduate clinical training" between graduation and the beginning of specialty training, with responsibility for its control clearly placed on the university at which a graduate had trained. Graduate clinical training was to be by way of a properly financed tutorial system so that individual trainees would be personally guided and advised by members of the medical faculty.

There has been no more enthusiasm in the United Kingdom for graduate clinical training than there was for general professional training. The powers of the General Medical Council have been strengthened as a consequence of the Merrison

Committee's recommendations on the supervision of preregistration training, but the universities have not been given additional resources to appoint tutors. The colleges have not seen the necessity to extend the preregistration year and are content to improve early specialist training through their well-tried methods of selecting and approving training posts. They have made few proposals for developing formal instruction or tutorial arrangements, probably because they believe that "learning by doing" is a satisfactory system of training. There is no firm evidence to the contrary, but then by what means can the success or otherwise of postgraduate education be assessed? The need to relate a doctor's training to what he does in practice was referred to by the Royal Commission on the NHS,[4] but this admitted that measuring the quality of care was not easy. The commission concluded that peer judgment was the best solution, since it avoided the difficulty of appearing to apply some ill-defined national standard.

The link between the assessment of medical education and the evaluation of medical care lies at the root of many of the current issues for postgraduate education. The introduction of the intern year was an acknowledgment that success in a formal examination is no guarantee that a graduate can "safely" be admitted to a medical register—he has to prove himself in practice. Today even general registration is no longer a guarantee of competence—specialty training is now regarded as essential, and such training is becoming obligatory also in general practice. There is acknowledgment that some form of assessment of a doctor in training is a necessary component of postgraduate education, although opinions differ about the form this evaluation should take. A formal written and practical examination must be successfully passed at some stage in the training of hospital specialists, though not in that of general practitioners. Reports from "supervisors" are a feature of many training programmes, but the most consistent final assessment is by the professional members of the committees that advise NHS authorities on the employment of doctors. Confidence in advisory appointment committees in assessing standards of professional competence does not rest solely on the interviewing skills and professional judgments of the committee members or on the opinions of referees. There is a variety of checks and balances in the training arrangements whereby at various stages in a doctor's development he has to satisfy those with whom he works, those who employ him, and those who plan his training that he is making satisfactory progress and practising good medicine. By reliance on a mixture of subjective and objective opinion the risk of imposing a standard imprint on professional training is minimised.

Continuing education

A similar attitude is adopted towards continuing education; it is generally acknowledged that every doctor should keep up to date with current developments in medical knowledge, but how this should be done is not at all clear. Individuals learn in different ways—some prefer lectures, others discussions, and yet others reading—but whichever method is used none can ensure that what is learned will be put into practice or that habits will change. The current view is that if this is to happen some form of assessment is needed, and this means that in continuing education an established doctor must be able to compare his work with that of others in similar fields of practice. This can be done either by self-assessment, in which he assesses his own knowledge and views in clinical matters against the opinions of others, or by a small-group technique in which he can discuss records of his clinical work with colleagues. Preparation for these approaches to continuing education needs at least as much care as for the more traditional lectures and seminars. Some colleges have already put time and effort into the preparation of self-assessment programmes, which are proving particularly helpful to doctors who are professionally and geographically isolated. The Royal College of General Practitioners has made considerable progress in developing the small-group technique, in which participants study the records of their own work, supplemented where appropriate by information or opinion provided by experts in various kinds of clinical or paraclinical practice. The interchanges between the individual members of a group and expert colleagues are proving to be a powerful method of learning, particularly when discussions are based on clinical notes selected randomly from the records of participants.

Despite the importance of educational innovation, resources for its development are scarce. Formal medical educational bodies and health service authorities seldom have adequate means of funding such experimental activities and have hitherto had little success in obtaining additional funding. This seems to be the experience of the faculty of medicine in Newcastle, Australia, which is undertaking major innovations in problem-based learning and developing new learning resources for its students without help from either educational or health service sources.

Some proposals

Changes are needed in all stages of medical education in both Australia and the United Kingdom, and although the means of achieving change will vary according to the circumstances of medical practice and the organisation of education in each country the general aims are likely to have much in common.

If Australia decides to extend obligatory postgraduate training to all disciplines including general practice, then its universities, in common with those in the United Kingdom, will be released from the overriding need to produce a "safe" doctor and will be free to re-examine the curriculum with the clear aim of "educating for lifelong practice." The opinion that "if you teach a person what to learn you are preparing him for the past; if you teach him how to learn you are preparing him for the future"[5] may be acknowledged; but if universities are to develop techniques to assist students to learn for themselves, to acquire a critical approach to clinical decision taking, and to refine professional skills, changes—unfortunately coinciding with a period of increasing restriction on university resources—will be needed. If the means of bringing about change fall short of the will, and the scope for experimentation is limited, opposition to change may be strengthened. To link the assessment of medical competence with methods of education is as difficult as measuring the quality of medical care, but that is not an adequate reason for accepting that current systems of medical education are satisfactory. There is at present inadequate information about alternative approaches to medical education on which to base objective judgments. Ideas abound, but if the means to explore them are to be found there needs to be a greater conviction among the guardians of standards of medical education and practice that experimentation is not only desirable but essential.

Some of the questions that need to be asked are: (1) Do medical schools provide their students with the skills and motivation for lifelong learning? (2) By what means can universities be satisfied that preregistration house officers put into practice what they are taught in medical school? (3) Are postgraduate training programmes adequate preparation for changing medical practice? (4) To what extent, and in what ways, should apprenticeship training be complemented by more formal postgraduate education? (5) When and how are practising doctors to acquire the self-evaluative skills that are essential features of continuing education?

None of these questions is new, but progress towards their resolution is blocked by lack of the means to provide answers. Without the means there is understandably little interest in investigating the problems and developing proposals for their solution. The time is surely overdue for investment in developing alternative modes of medical education to be given as much

priority as investment in other forms of medical research. Health departments are likely to respond, however, only if the universities, the royal colleges, and the medical profession as a whole can demonstrate their shared conviction of the need for such investment.

I am much indebted to the universities and colleges in Australia which supported my visit, to the Commonwealth Department of Education for making it possible, to its officers for the most excellent arrangements they made for me, and to the many individuals who made me so welcome.

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Style Matters

Manuscript requirements: the advance from Vancouver

EDWARD HUTH

Abstract

The agreement on uniform requirements for manuscripts developed in January 1978 in Vancouver, British Columbia, by a small group of clinical editors is now adhered to by more than 130 journals. This development was reported at a meeting of the International Committee of Medical Journal Editors held at Leeds Castle, Kent, England, in October 1980. Suggestions for revision of the requirements document were reviewed, and closer consideration of possible changes was scheduled for October 1981.

Introduction

In January 1978 a group of editors representing major clinical journals published in English met in Vancouver, British Columbia, and decided on technical requirements for manuscripts to be submitted to their journals. They did not agree at that meeting on the format of bibliographic references, and the US National Library of Medicine was asked to stipulate the formats to be used. The Library responded and developed the formats in accord with the American National Standard for Bibliographic References.[1 2] The full agreement was announced early in 1979 by three journals,[3-5] with a list of journals which had agreed to participate in the agreement by considering manuscripts prepared in accordance with the uniform style. Invitations to join the agreement were issued to additional journals. Those journals joining the Vancouver group were asked to ensure that their own instructions to authors did not contradict any of the requirements developed in Vancouver; their own requirements may stipulate additional details not covered in the Vancouver document.

Annals of Internal Medicine, American College of Physicians, Philadelphia 19104
EDWARD HUTH, MD, editor

Leeds Castle meeting

Most of the members of the Vancouver group, later named the International Committee of Medical Journal Editors, met on 2 and 3 October 1980 to look at the extent of participation in the agreement; to discuss suggested revisions of, and amendments to, the original document; and to consider other possible additional agreements on editorial policy and practices. The meeting was held in a historic, beautiful, and tranquil setting—Leeds Castle, Kent—through the generosity of Leeds Castle Foundation. This site was appropriate for the meeting of a group with preponderantly Anglo-American members. The castle was once owned by the 14th Lord Fairfax, holder of millions of acres in prerevolution Virginia; it was purchased in 1926 by Lady Baillie, nee Pauline Whitney, who drew on her portion of the Whitney family wealth for the purchase and subsequent careful and thorough restoration of the castle.[6] The Foundation's dedication to supporting international medical programmes is represented in the United States by the service of Mrs Albert Lasker as a trustee of the foundation that is the American branch of its English parent.

At the meeting Drs Stephen Lock and Edward Huth, correspondents for the committee, reported that as of 1 October 1980 more than 130 journals had joined in the agreement to receive manuscripts prepared in accordance with the requirements established at Vancouver. Most of the journals (see Appendix) are English-language journals in the Commonwealth countries, the United Kingdom, or the United States, but other regions are also represented, and several non-English-language journals have joined. Most of the journals are also using the stipulated manuscript style for their publication style, and some presently not doing so were reported to be about to change. Many suggestions for revising and amending the uniform requirements have been sent to the committee correspondents. These were reviewed at Leeds, but no further steps towards possible revision will be taken until the next meeting of the Committee in October 1981.

SI units and dual publication

The extent to which SI units were used by English-language journals was described by Professor Denis Baron of the Royal Free Hospital School of Medicine, who has been a leader in British metrication in medicine. Clearly the journals of the United States have not gone as far as most of their Anglophone cousins in metrication, which reflects the small number of US clinical chemistry laboratories reporting in SI units. The American members of the committee are planning to raise the issue of use of SI units in journals with other American editors not present at Leeds Castle, with a view