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AN OVERVIEW OF THE WAY AHEAD IN POST-GRADUATE EDUCATION

RELEVANCE OF POST-GRADUATE TRAINING AND CONTINUING EDUCATION OF PHYSICIANS TO THE NEEDS OF THE SOCIETIES THEY SERVE

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When the medical student completes his undergraduate education he is qualified as a physician, but an undifferentiated one, described once by a colleague as "a free-swimming larval physician." Whatever kind of work he is later to undertake requires that he undergoes some further training. This may not be entirely a formal training, since much can be learnt informally in the course of work. But in this sense every physician is a specialist.

It is assumed that nobody would dispute that the postgraduate training of physicians should be designed to meet the needs for health care of the community which they serve. It must be admitted, however, that in practice this ideal is only partially fulfilled, and for some countries hardly at all. It is necessary, therefore, to examine more closely the ways in which postgraduate training should be arranged so as to ensure the closest approach to the desired relevance.

Postgraduate education should be seen as one part of the preparation of personnel required to provide health care to the community. As such it must start from a definition of the health problems to be handled, stated in terms which are quantitatively as accurate as possible. When applied to the training of specialists, there must be some attempt to foresee the ways in which the size of these health problems are likely to change in the future. The working life of a physician is thirty or more years, and for most countries it can be anticipated that health problems and priorities will change during such a period. It is essential that the education of physicians is such that they appreciate the need to review their knowledge at intervals, and to seek further education in order that they can meet changing needs more efficiently. The mental attitude that causes the physician continually to seek after new knowledge must be developed

during undergraduate days, and thereafter the physician should be provided with encouragement, opportunity and facilities for continuing education.

Having defined the nature of the health problems of the country, plans for dealing with them will largely determine the kind and number of physicians required. This will also be closely related to the numbers of other categories of personnel in the health team, and the role and training of each category. It may at first, appear that this is an unnecessarily complex approach to defining the needs of postgraduate education, and that it demands information that is not usually available. However, if postgraduate education is to be made relevant to needs it is essential that it be planned. This means that the kind of postgraduate training given to the physician should fit him to perform functions which have been specified by the kind of analysis suggested above. It is appreciated that much of the data may be lacking, but if the best use is made of what is available, and local knowledge and experience also utilised it should be possible to reach helpful descriptions of functions, even if these need to be modified in the light of later knowledge.

This definition of function makes it possible to specify the course of training required to prepare the physician for the job. The course of training can then if necessary be tailored to the individual's needs and if the training institutions concerned, and the physician himself are fully aware of the situation the training can be completed in the shortest possible time. This approach has been too little used in the past, but it is more likely to produce well trained physicians than the present arrangements, which simply provide for training in a named speciality or academic discipline.

The difference in approach may be illustrated by considering paediatrics. Many countries seeking to improve their health care services have a population structure with a very high proportion of children. There may be a very high infant mortality, and the major diseases are due to infection, parasitic infestation and under-nutrition, in widely spaced rural communities with poor communications. What kind of postgraduate training is needed for physicians who will be able to handle such problems? The conventional answer is to train specialist paediatricians, and in the past many have been trained in Europe or North America. Here the speciality is practised in hospitals, usually in cities. Infant mortality is low, infective illnesses are not prominent, parasitic disease almost non-existent and the problems of nutrition centre around over-feeding of babies. Sub-specialisation within paediatrics has developed and research concentrates upon such topics as inborn errors of metabolism, congenital abnormalities and other rare disorders. How effective will the physician trained in this setting be when he returns to his own country? He will nominally be a paediatrician, but he will not have been trained for the task he has to undertake when he returns home, with its need to emphasise preventive paediatrics and child health. The term "paediatrics" has a different meaning in the two situations, and although Europe and North America were specified it must regretfully be admitted that the training offered in some countries within the Region is no more appropriate to the needs of the country itself.

A similar situation exists in other specialities. In the countries to which many physicians go for a training in internal medicine, the subject has become divided into a range of sub-specialities - cardiology, rheumatology, endocrinology,

oncology and so on. The sub-specialist is not prepared to treat patients outside his field of interest, and expects to be able to pass them to a colleague. This kind of training does not fit the overseas physician well to undertake the work for which he is likely to be required when he returns to his country. Here he will need to be a general specialist in internal medicine, not relying excessively on extensive laboratory investigations, but with a deep knowledge of diseases of particular local importance, and able to handle some patients with relatively simple illnesses that he might have thought beneath his notice during his training. The doctor trained in the sub-speciality is likely to be ineffective, and to feel frustrated and dissatisfied when placed in this situation.

The primary physician is the one with whom the patient first comes into contact. He may not give the first medical attention if the system employs paramedical personnel to do this. He is, however, a most important person in the health care system and should be regarded as a specialist in his own right. It seems that in many countries he does not receive this recognition, his status is a lowly one, and there is no appropriate programme of postgraduate education. The career of primary physician needs to be made an attractive and satisfying one, with the job accorded the high status it deserves and a career structure which does not require the physician to become an administrator in order to gain promotion. The first steps in this development are the definition of the functions of the primary physician and the subsequent specification of an appropriate course of postgraduate education.

Teachers in basic medical sciences are critically important in medical education, and in turn their training must be related to the general plan of education for physicians.

The teacher of a basic science must first be a subject-matter expert in his discipline, but at least equal importance attaches to his ability to teach, to help his students to learn, and to motivate them in their learning. He must therefore study educational methods so that he can select and apply those most appropriate to his own situation. Motivation in students depends to a great extent in their being able to see the relevance of the basic science to future clinical practice. This can be demonstrated more clearly if teaching, and especially practical class instruction, is concentrated upon human rather than animal examples, and drawing upon clinical problems wherever possible. These requirements point to the need for a particular pattern of training for the future teacher in basic science. It differs in several respects from the conventional training which emphasises personal research to the exclusion of almost everything else and seems hardly a suitable preparation for the task to be undertaken.

Preventive medicine should be a prominent part of the general training of all physicians, and its ideas should pervade all specialities. Postgraduate training in preventive medicine, as with the clinical specialities, should emphasise principles but should concentrate upon problems that are of local importance. The emphasis in some courses in Europe and North America has shifted away from those aspects that are most important to countries with less developed health services. Furthermore, these courses give little chance for active field work, and learning preventive medicine without field experience is akin to learning to be a specialist in internal medicine without access to patients. There is a clear need for a review of educational programmes in preventive medicine to ensure their relevance to the tasks to be met by the trained specialist.

These examples from particular specialities point to the need for planning in postgraduate education. This must start from the general plan for the health services of the country, from which it will be possible to state the roles that different specialist physicians will be required to play. Working from these defined roles it will be possible to specify for each speciality the general course of study required, and later to fill in the details as necessary. This information should then be published so that physicians proposing to follow a particular career know what is expected of them.

The planning operation must also attempt to indicate the numbers required in each speciality, and since this is concerned with prolonged courses of training and with the careers of individuals, there must be predictions of numbers required at least ten years ahead, the estimate being reviewed and updated regularly. It is appreciated that to begin with these estimates of requirements may be inaccurate and subject to the effects of many unpredictable factors. They can, even so, give valuable guidelines, indicating specialities which do not require staff and others where an almost unlimited need exists. There would, for instance, be no point in training neurosurgeons, cardiac surgeons or oncologists if the country's health plan did not provide for hospitals catering for these specialities, but rather placed first priority upon community health centres staffed by primary physicians.

Having prepared a statement of the numbers expected to be needed in various specialities, these figures should again be published. Newly graduated physicians could then determine what their prospects were in any speciality. Steps could be taken by governments to induce physicians to train for those

specialities most needed, and to deter them from other specialities. This could be done by inducements of various kinds, including the selective award of training fellowships which would be restricted to those proposing to follow specialities for which there was a particular need.

An essential part of the planning operation is to ensure that working conditions and the career structure in the speciality are satisfying to the specialist when he is trained. This matter is worthy of careful study, for there is no point in training specialists, however carefully, if they subsequently find working conditions so unattractive that they change to another speciality, or leave the health service or the country altogether. Satisfaction in work has to do with many factors and not only the rate of pay. The availability of supporting staff, diagnostic facilities and other resources are important. Professional isolation must be avoided. The career structure should be such that the specialist can, if he chooses, gain promotion while continuing in clinical practice, rather than being required to become an administrator. Finally, the well trained specialist will know that he needs to continue his education throughout his professional career, and will be dissatisfied if he is denied such opportunities. Facilities of various kinds for continuing education are most important both for the maintenance of the efficiency of the health services and as a contribution to the satisfaction of the specialist with his working conditions.

Continuing education is a necessity for all physicians in whatever branch of medicine they are working. The body of knowledge required of a physician is continually changing and growing and it is not to be expected that any doctor will practice effectively unless he continues to learn. Learning may result from many kinds of activity, some formal and others quite informal.

It is relatively easy for physicians working in a large hospital to arrange their work in such a way that they learn from each other, in the daily routine of caring for patients.

Doctors who practice in relative isolation, as for instance in a health centre or clinic, are denied these opportunities, and need a more formal approach. This may take the form of attending short courses, or lectures and seminars given by visiting teams of experts from a teaching centre. Such activities can be organised by a locally appointed individual or committee, and based upon a local hospital. Publications, programmed texts, audio-tapes and other materials designed to update knowledge may be produced and circulated, perhaps with financial support from the pharmaceutical industry or from government funds.

There is no one method more suitable than all others, since the preferences of individuals differ as do personal circumstances. With a variety of options available there is a greater chance of reaching a large number of doctors. Continuing education has the potential to play a major part in improving the quality of health care, and it therefore needs to be encouraged. Furthermore, it is not enough simply to provide opportunities, but encouragement and inducement must be also given to physicians to take advantage of them. Much can be achieved by building up correct attitudes during undergraduate education. Later inducements to attend may take the form of financial payments, credit in relation to promotion for those attending regularly and competitions with prizes for those with best results. Above all the programmes for continuing education should be made so obviously relevant to the health problems of the country that physicians will feel a positive need to take advantage of them.

In conclusion it will be evident that great emphasis has been placed upon the role of planning in postgraduate education, and that this includes a careful definition of roles and functions leading to the design of relevant training programmes. It follows that most postgraduate education should most appropriately take place in the physician's own country, or if this is not possible, in a country with similar health problems and health services. Advanced training for a few specialities, often directed towards a research requirement, may appropriately be followed in other countries but at a later stage in the specialist's career. Examinations and certification in the specialty must be specified, but too much attention should not be paid to maintaining international compatibility. Postgraduate education and certification, and continuing education must remain relevant above all to the local requirements for health care.