MEDICAL PRACTICE

*Southampton: the first years***I—About Southampton Medical School**

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The medical school at Southampton, which celebrates the graduation of its first class of students on 9 July, is one of three new schools established in the United Kingdom in this century (fig 1). It was authorised by the Government in 1967 and took its first class of 40 students in 1971. Its foundation formed part of an immediate response to the recognition by the Royal Commission¹ that there was a serious shortage of doctors. The atmosphere of the medical manpower crisis, as seen in those days, was reflected from the beginning in the policy of the school. It was determined to go to the limit to reach as soon as possible the target set for it of a class of 130 students, even if this meant improvisation on a grand scale and taking on staff before providing permanent facilities. In 1974 115 students were admitted, and next October it is hoped to take 130.

As this is the first of a series of articles about the school which will deal with some of the innovations of the undergraduate curriculum, I will give only a brief outline of the objectives and policy of the school and a view of the curriculum as a whole. A unique feature of the Southampton school is that it was conceived jointly by the university and the local regional authority in the National Health Service (at that time the Wessex Regional Hospital Board). The success of the joint initiative created an unparalleled opportunity to set up a regional organisation in which service, educational, and research development could support each other rather than remain in competition. Because of its joint origin, coupled with the lack of sufficient facilities in the centre to support all the clinical teaching, and the pre-existing highly developed regional organisation of post-graduate medical education the medical school looks outward into the region. It sees itself as an organisation centred on a

university but not confined to it, bringing in many disciplines and professions, intimately concerned with the prevention and treatment of illness, and acting as a centre of academic resources for the health services throughout the region.

Objectives and educational policy

Much has been written about the proper objectives of a medical school. Putting them at their simplest level they are to produce doctors with a registrable qualification and to advance medical science, but this statement begs more fundamental questions concerning the role of the doctor and the nature and limits of medical science. A different point of view that has many attractions is that the role of a medical school should be similar to that of the health services—namely, to improve by educational means the standard of preventive and therapeutic medical care.

Although it may be criticised on the grounds that it is too general and cannot be put to the test, this expression of objective has the advantage that it invites an examination of an educational policy against the medical needs of the society which supports the school. For example, is the school's policy likely to produce doctors who will wish to enter hospital work and general practice in about equal proportions? Furthermore, as medical care is almost always the work of a team of professional people, this approach ought to encourage the study of the relative roles of the doctor, nurse, scientist, administrator, social worker, and their colleagues, and stimulate shared training when appropriate. Finally, it places on the school the duty to undertake studies of the operation of the health services as well as to advance knowledge in medical science. The principal means that a school has at its disposal to reach its objectives are its students, the skills and attitudes of its teachers, and its curriculum.

Students

At the time of writing the national boom in applications for medical school, of which Southampton is receiving its share, is

flattening out. Selection is based mainly on academic qualifications and a referee's report. As a deliberate policy, we do not use an interview at present as a part of the selection procedure, except in special circumstances—for instance, for mature or graduate students. It was felt, in common with some other medical schools, that there is no evidence that qualities favourable to the good practice of medicine, such as dedication, sympathy, and carefulness, can be detected in advance by a brief interview at the age of 17. This policy is currently under review. About 15% of places are set aside for graduates and for mature students, and a few places are reserved for students from overseas. Perhaps because we have no alumni at present, we receive comparatively few applications from doctors' children, and our applicants come from a wide range of backgrounds. Some of our students have undoubtedly been attracted by Southampton's innovations, others may have thought mistakenly that there would be less competition at a new school than at the established centres, and a third group no doubt have selected us by the well-tried method of the pin.

Selection for medical school has never been the subject of greater controversy nor indeed a greater responsibility to selectors than it is today. I believe that the selection of the nation's top percentiles of ability in mathematics and the physiological and biological sciences as the almost exclusive resource for the enormous range of activities in medicine is not necessarily correct, and a different policy may be required if we are to produce the diversity of output required by society. I agree with the view that "the more complex our technological and managerial society becomes the less it can be left in the hands of those who are technicians only (even if they are technicians of power) and the more need there is for men who combine the necessary technical knowledge with those other qualities which a university education seeks to develop."³

Curriculum

It is fashionable to take much trouble in designing medical curricula. Southampton is no exception to this, and since 1965 we have devoted much time and effort to planning the five-year course. The General Medical Council has been consulted throughout, and the content follows closely the Council's most recent "Recommendations as to Basic Medical Education."² The plan has also been influenced by the Todd Report.

The curriculum, like Gaul, may be divided into three parts: the first three years has been planned as a single entity; in the fourth year the student may select a subject for advanced study from a wide range of options; and in the fifth year most of the time is spent in a series of residential or semi-residential clinical clerkships in Southampton and in the Wessex region.

The ground covered in the first three years includes not only the basic course work in the biological and social sciences, including pathology, but also a substantial amount of contact with patients and instruction in clinical techniques. Three features are sufficiently novel to be noteworthy and will be the subject of the other articles. The first is that almost all of the physiological teaching and some of the anatomy, pathology, pharmacology, and epidemiology is presented in the form of a series of systems courses, nine in all, starting with the reproductive system and followed by the cardiovascular system, respiratory system, etc. Despite the obvious practical difficulty of achieving integration and avoiding unnecessary overlap and

repetition in a multidisciplinary approach, the systems courses are proving popular and there is a demand from the students for further material to be incorporated in them—for instance, from biochemistry. Once it had been decided that some special pathology should be incorporated in the systems course we had to introduce general pathology and microbiology very early—namely, in the first year. This has worked well.

A second noteworthy feature of the first three years is the gradual introduction of the student to the patient from the beginning of the course. In the first year each student meets patients in their homes with the family doctor and, in parallel with the human reproduction course, follows a patient through the antenatal clinic and attends her delivery and postnatal examination. By the sixth term the student is beginning to learn the basic techniques of history-taking and examination, and in

FIG 1—Medical and biological sciences building.

the third year he spends more than half his time in clinical work in medicine, surgery, obstetrics and gynaecology, geriatric medicine, psychiatry, and child health. The assumption on which this approach is based is that there is an almost universal desire on the part of medical students to have contact with patients, and that by encouraging this from the beginning one sustains and develops their drive to study. A second expected benefit of the gradual introduction of clinical work is that the students will earlier acquire skill in communicating with a wide range of people and will come to the bedside for their formal instruction in the third year with a good deal more confidence than their predecessors. On the debit side there is a risk that his contact with patients will distract the student from a proper study of the essential basic sciences.

Another feature of this part of the curriculum which deserves emphasis is the teaching in primary medical care in the third year. We believe that the simplest way to learn about the practice of medicine outside the hospital is to see and participate in it, and that this is an essential part of the experience of all intending doctors. Accordingly, one session a week throughout the year is devoted to the community aspects of that discipline (such as medicine, psychiatry, or child health) to which the students are attached at that time on the wards.

Fourth year

The fourth year, which is the boldest innovation in the Southampton course, provides the student with an opportunity to study a subject in depth and to follow his bent. Our early experience will be the subject of the last paper in the series. The

FIG 2—Display of some fourth-year students' projects.

student may choose from a wide range of options including biochemistry, human growth and development, immunology, pathology, psychology, population studies in medicine, or surgery. Apart from a mandatory day of clinical work a week and a six-week clinical elective which may be spent abroad, the student spends the whole of an academic year in the subject of his choice, principally on project work under the direction of a tutor (fig 2).

We hope that this year will: "... draw out [the students'] powers of thought in the study of whatever subject arouses their interest, encourage them to penetrate beneath the surface of conventional wisdom, to wrestle with questions to which there is no answer in the textbooks, to recognise the limitations of their knowledge, and so acquire a confidence in themselves which will not collapse when confronted with the real problems they will meet when they leave university."³

Fifth year

The principle underlying the plan for the fifth year is that once the elementary techniques of history-taking and examination have been introduced, further development of clinical skills is best fostered by giving the student the maximum responsibility under supervision. Hence much of the work in this exclusively clinical year is undertaken in the Wessex Region outside Southampton, where little third-year teaching will take place and where we hope that the working ratio will usually be one or two students to each clinical firm.

Detailed objectives, including the completion of several practical procedures, have been worked out for this year. In addition to clinical attachments in medicine, surgery, obstetrics

and gynaecology, child health, psychiatry, and geriatric medicine there is a two-week attachment to a general practice, an elective period, and a period of revision. The university maintains control of the standard of work in the dispersed final year by delegating responsibility for the details of organisation to local co-ordinators and by arranging student assessments carried out jointly by one of the local consultants and a member of the academic staff from Southampton at the end of each attachment.

Appraisal

Next academic session will see the opening of a new phase in the history of the school. The curriculum will have been completed once and the first graduates of the school will emerge into practice in August to begin their postgraduate training. For the first time Southampton-trained doctors will begin teaching Southampton students. The process of appraisal, which began when the opinion of the first students was canvassed about the introductory courses in the early days of 1971, and which continued subsequently with an avalanche of questionnaires and visits by various official bodies including the General Medical Council and the University Grants Committee, will in future be focussed by a committee of five academic staff who were not concerned in the original decisions.

In addition to seeking out the opinions of students and staff, including colleagues in the NHS, about the curriculum, the committee will have to decide whether it is possible by means of a formal comparative study to identify the strengths and weaknesses of the Southampton-trained doctor. They will also be expected to formulate views on various imponderables. Is the curriculum too complicated or too crowded? If so, how may it be simplified? Is the balance between subjects correct? Are the advantages of teaching about structure and function according to the systems of the body worth the attendant complexity and generation of additional courses and tests? Are the merits of the fourth-year study in depth such that they justify the consequent crowding of the other years? Should the curriculum be problem-orientated or objective-orientated, or both, or neither? The debate will continue and in so doing will, I hope, maintain a freshness of approach, attract people to the school who enjoy innovation, and, most important of all, generate enthusiasm.

References

- ¹ Royal Commission on Medical Education, 1965-8, *Report*, Cmnd 3569. London, HMSO, 1968.
- ² *Recommendations as to Basic Medical Education*. London, General Medical Council, 1967.
- ³ Sir Alan Bullock, *Vice-Chancellor's Oration*, Oxford, 1973.

Some specialists recommend that patients with subacute combined degeneration of the spinal cord associated with pernicious anaemia need higher maintenance doses of vitamin B₁₂ than patients with uncomplicated pernicious anaemia. Is a weekly dose of hydroxocobalamin 1 mg justified rather than a monthly administration of the same dose, which is a recognised routine for pernicious anaemia?

During the early stages of treatment 1 mg hydroxocobalamin daily and then weekly is advocated for subacute combined degeneration of the cord. A weekly dose may be continued for six months or so, but after this 1 mg every month or six weeks is perfectly adequate.

Do injuries sustained in certain areas of Britain carry a higher than average risk of tetanus?

The simple answer is no, because the number of deaths per year is now so low (< 20) that regional variation would be difficult to validate statistically. The incidence of tetanus is modified by active immunisation within the community. The risk of tetanus infection is theoretically

higher in occupations connected with the land and with horses, but the awareness of the risk is also greater and this is probably reflected in attendance for routine immunisation. A group particularly at risk would seem to be women gardeners in the older age group, because of the lack of immunisation which men would have received during the war or during treatment for minor trauma at work.¹ Widespread routine immunisation of children dates from 1956. Tetanus bacilli have been found in the soil of waste and cultivated ground, street dust, river water, horse and other animal manure, and even in the air of hospital ventilating systems and the dust of operating theatres.² It is also important to note that there is no possibility of recovering the organism from about 40% of patients because they have no detectable wound.³

¹ *British Medical Journal*, 1973, 1, 57.

² Sevvitt, S. *Lancet*, 1949, 2, 1075.

³ *British Medical Journal*, 1971, 3, 372.

Further reading

Smith, J. et al, *British Medical Journal*, 1975, 3, 453.
Adams, E. B. Laurence, D. R., and Smith, J. W. G., *Tetanus*. London, Blackwell Scientific, 1969.