CAREERS IN PAEDIATRICS

REPORT OF THE EDUCATION STANDING COMMITTEE, BRITISH PAEDIATRIC ASSOCIATION

Paediatrics literally means 'child healing', but the speciality is also concerned with what could better be described as 'child health'. The interests of the paediatrician cover the following subjects: the study of physical and psychological growth and development; the anatomy and physiology of the foetus, the infant, and the child; genetics, and its application to the prevention and treatment of metabolic disorders; the promotion of health and prevention of illness; the diagnosis and treatment of the diseases of infancy and childhood; the special problems of the handicapped child, mental and physical; the prevention, diagnosis, and management of congenital abnormalities; research, employing a wide variety of techniques which include pathological, biochemical, electronic, clinical, psychiatric, and epidemiological methods.

The Advance in Paediatrics

In no branch of medicine have the rapid advances of the past 25 years been more apparent than in paediatrics. Although the rapid fall in the infant mortality rate in this country during that period can be attributed in part to improved standards of nutrition and housing the major part has been brought about by the medical advances that have enabled us to defeat the 'killing' diseases of the recent past. On the other hand, the rout of infections such as tuberculosis, pneumonia, meningitis, infantile gastro-enteritis, and acute osteitis has not lessened the paediatrician's load of responsibility. In many directions this has been increased, and his influence and interests have been broadened. For example, the ability of the surgeon to correct many congenital abnormalities of the cardiovascular, gastro-intestinal, nervous, and urinary systems has demanded from the paediatrician more accurate diagnostic techniques. Hospital cots, once occupied by children dying of the severe infections, are now required so that the intricate techniques of modern paediatrics may bring the opportunity of normal health to children who in the recent past would have had no hope of survival beyond infancy, and to whom the hospital had nothing to offer. Advances in biochemistry have allowed us to define new diseases, the inborn errors of metabolism, some of which can now be prevented from causing severe disability such as mental deficiency, blindness, dwarfism, or aberrations of sexual development by early diagnosis and treatment. These advances have not only demanded a considerable practical knowledge of physiology and biochemistry on the part of the paediatricians but that they should also become deeply concerned in human genetics where exciting new discoveries have been made in recent years. The fact that in Britain today 70% of all infant deaths take place during the first month of life has brought together paediatricians and physiologists in combined research into this fascinating period of human life during which the most complex adjustments are necessary for the successful transition from intrauterine to extrauterine existence. That tragic episode, the newborn baby who fails to take his first breath and to whom all his life is denied, is being looked at from new angles and attacked with new methods. The respiratory distress which attacks some infants after only a few hours of independent life is being studied with the help of new techniques. This enthusiastic co-operation between paediatrics and the basic sciences is already beginning to yield fruitful results, and a whole uncharted territory of human behaviour remains to be explored.

The Widening Field

If these activities are largely the domain of the hospital paediatrician, other activities take him outside the hospital and into contact with workers in other disciplines. Increased interest in the psychological disturbances of childhood gave birth to child psychiatry with its specialized techniques and highly skilled paramedical workers, the psychologist, psychiatric social worker, and psychotherapist. The paediatrician, the family doctor, and the local authority doctor must now all have a considerable working knowledge of child psychiatry. Paediatricians have come to see that until recently they have largely neglected their responsibilities in the enormous field of mental subnormality. Retarded children no longer die in early life from intercurrent infections. The problem has come into the open, and parents
and the general public rightly demand that each mentally handicapped child should be given the optimum opportunity to develop and use his capabilities. The paediatrician is inevitably involved. The child who presents with slow development may be suffering from a sensory or motor defect, from chronic illness, or he may be mentally handicapped. Some mentally handicapped children are suffering from treatable metabolic disorders that must be looked for at an early age. The paediatrician has been trained in this type of differential diagnosis. The problem as a whole demands that the paediatrician, the family doctor, the school medical officer, the school teacher, the speech therapist, the occupational therapist, and others must have some understanding of each other's problems and language so that in co-operation they can achieve results that are beyond the ability of any one of them. The same type of co-operation and mutual understanding is required between people of different skills in the case of physically handicapped children such as spastics, the deformed, the blind, and the deaf.

Enough has been said to indicate that the medical care of children, whether it be in the hospital service, the local authority service, or in general practice by a practitioner who has acquired extra postgraduate training, can provide an interesting career. This can be mainly in the clinical, socio-medical, epidemiological, or the academic field according to the interests of the individual. It is the purpose of this article to outline to undergraduates and young graduates the pathways through which a training in one or more of the fields of paediatrics can be obtained. It cannot be pretended that the road can be made easy, but like all worth-while human achievements it can be an exciting challenge, especially to the man or woman who is prepared to work, who is interested in service rather than self, and who enjoys the exercise of intellect.

The Paediatric House Physician

The first step is the post of House Physician in a children's hospital or the paediatric unit of a general hospital. This is probably most rewarding after the graduate has completed his pre-registration year in general medicine and surgery (or obstetrics). In the best paediatric 'house jobs' the young doctor not only acquires clinical experience in general paediatrics but he is given further education in the whole field of child health including visits to child welfare clinics, special schools, child guidance clinics, and other special units. This qualifies him to sit the examination for the Diploma in Child Health (D.C.H.). Many, however, prefer to broaden their experience by seeking the responsibilities of a Senior House Officer or Registrar before sitting the D.C.H. examination (in London or Glasgow). The D.C.H. is regarded as a specialist diploma which indicates such special knowledge as might reasonably be expected of a doctor in the child welfare service, or of a general practitioner who wishes to make the care of children his special contribution in a group practice. It is not to be regarded as a sufficient qualification for the young graduate who aspires to a post as a consultant paediatrician.

The decision to make a career in hospital paediatrics, with consultant status as the goal, is reached by some during the paediatric house officer stage, or even earlier. Others only reach such a decision at the subsequent paediatric registrar stage. The man or woman who has arrived at this decision early on is well advised to seek further experience in general medicine as a Senior House Officer or Registrar. A sound training in general medicine is not only essential for success in the examination for the M.R.C.P., it is an essential background for the paediatrician because his patients will grow into adults whose health may well be determined by the medical events of their childhood.

The Paediatric Registrar

The post of Registrar in a busy paediatric unit can be regarded as one of the most satisfying in hospital medicine, carrying as it does considerable responsibility for the early diagnosis and treatment of new patients, and providing opportunities for further study. The registrar gains a wide clinical experience both in the wards and the out-patient department. He is also exposed to the traffic in ideas that goes on between more senior members of the staff, and between paediatricians and their colleagues in the special departments. In a good hospital his outlook and knowledge are further matured by such activities as presenting cases or short papers to clinical conferences, participating in journal clubs organized by the registrars in a hospital group, attending teaching ward rounds, and engaging in postgraduate courses of various types, which are arranged by the local postgraduate medical board or similar body. While the post of Registrar is a necessary step in the training of a consultant paediatrician it is also a very useful post for the intending general practitioner to have held. Many men and women today are the better family doctors because of the experience gained as paediatric registrars.

The M.R.C.P.

Those who are seriously bent on a career as a consultant paediatrician must obtain an appointment...
as a paediatric Senior Registrar. To achieve this, possession of the M.R.C.P. of one of the Royal Colleges (London, Edinburgh, or Glasgow) is essential. This requires a sound basic training in general medicine, only to be obtained through a senior house officer or registrar post in a general medical unit, preferably in a teaching hospital. The young graduate who develops paediatric ambitions early should endeavour to obtain the M.R.C.P. as soon after the house appointments (including paediatrics) as possible. A registrar appointment can then be obtained in paediatrics with the hurdle of the M.R.C.P. examination out of the way, and the road to their chosen career is wide open to any young man or woman of ability. On the other hand, the man or woman whose serious interest in a paediatric career only develops during a registrarship in paediatrics, perhaps the more common experience, can still quite well obtain the M.R.C.P. by returning for a period to a post in general medicine, unless such experience at an adequate level of responsibility had previously been obtained. It is, however, vitally important that an early decision is made to obtain the M.R.C.P. and that the necessary preparations should start as soon after qualification as possible. The M.R.C.P. has frequently been criticized on various grounds, but there is no doubt that at present its possession is a *sine qua non* for the consultant paediatrician.

The content of the M.R.C.P. examination differs in the various Colleges. In London and Glasgow the examinations consist essentially of written, clinical, and oral tests in the principles and practice of medicine, including medical anatomy, pathology, physiology, and some knowledge of psychiatry. The London examination is at present being reorganized. It is intended that the candidate who has experience of a speciality, such as paediatrics, will be able to benefit from this fact in the course of the examination. In Edinburgh, on the other hand, the candidate is also examined in a speciality of his choice. In the case of paediatrics this involves at least two years of practical paediatric experience after the time spent in general medicine. It should be stressed that the M.R.C.P. examination of any of the Royal Colleges is a straightforward and fairly conducted test of knowledge at an advanced level, and that it should not be beyond the capacity of any young graduate who has the ability for a career in hospital medicine and who is willing to prepare for the examination by hard work.

**The Paediatric Senior Registrar**

The Senior Registrar is a person who is regarded by his seniors as possessing the potential and powers of sustained effort that are required of a consultant in the hospital service. The period of training normally occupies four years. This is usually a National Health Service appointment but some of the more academically inclined are appointed to University lectureships. The details of the training will vary in different hospitals and departments but certain basic requirements must be satisfied to ensure that at the end of his period of training, the senior registrar is fully qualified to accept the responsibilities of a consultant paediatrician. These basic requirements are as follows.

1. **Clinical experience.** It is obviously essential that the senior registrar should be offered continuing and increasing clinical responsibilities and experience in the wards, in the neonatal nurseries, and in the out-patient department. At the same time, it has been recognized that he must not be so burdened with routine clinical duties that he has no time to think, or to engage in the other activities that a sound training requires.

2. **Research.** Some have a special aptitude for research and they are likely to find themselves in University departments of Child Health. It is, however, essential that every senior registrar should have some experience in planning and executing original investigations.

An outline of research problems for paediatricians could be listed thus: (a) to reduce perinatal mortality and damage in surviving children; (b) to prevent and treat congenital malformations; (c) to study genetic and familial disorders, both the gross chromosomal abnormalities and the single gene defects; (d) to forecast and prevent the changing environmental hazards for children; and (e) to study the origins in childhood of adult disease—degenerative, neoplastic, and psychiatric.

The precise manner in which time is made available for personal research will vary, but the important thing is that time and expert advice should always be available. In some centres the senior registrar is detached from all other duties for one year during which he may devote his energies to mastering the techniques required for his research project. He may, for example, work in one of the basic sciences such as physiology, biochemistry, pathology, or genetics. He may, indeed, do this work overseas in the U.S.A. or in a European centre. The academic man might, thereafter, use the experience so gained as the entry into a research career of long duration. In other centres the senior registrar may spend a half of every day throughout his training period on research activities. This method gives him the opportunity for continuous work over a period of years in which important observations can be made...
and published, and during which a good M.D. Thesis can be written. It may be stated at this point that possession of a good M.D. is regarded as important for promotion to a Senior Lectureship (honorary consultant status) in University clinical units.

The best of all paediatric units is that in which the chief or director derives more pleasure from the achievements of his senior registrars or lecturers than from his own personal work. The man who finds himself in such an environment is singularly lacking in the best kind of ambition if he fails to make his mark in hospital medicine. The senior registrar is well advised also to develop a special interest and skill in some aspect of paediatrics while maintaining a sound general knowledge. In teaching hospitals it is particularly important that paediatricians each have a special interest, e.g. in cardiology, endocrinology, metabolic diseases, neurology, neonatal problems, growth and development, epidemiology or social problems.

3. Experience in other aspects of child health. These include emotional disorders, mental retardation, cerebral palsy, and other types of physical handicap. The ways in which a senior registrar gains this type of experience will depend upon local circumstances and, to some extent, upon his own preferences. He may, for example, conduct a child welfare clinic once a week, or take some active part in the department of psychiatry, or become a member of the staff of a school for spastic children. Some paediatric units have a close association with beds for physically handicapped children who require long-term care.

4. Teaching experience. This is a most important duty for the future consultant. It should, if possible, include the instruction of undergraduates, postgraduates, pupil nurses, and pupil midwives. Indeed, in some areas it is accepted policy that senior registrars should receive the whole or major part of their training in teaching hospitals.

By the end of his four years the senior registrar should be fully qualified for consultant responsibilities. By now he will have formed his views on the type of career that he will find most satisfying, e.g. academic research, consulting duties in a teaching hospital (possibly with private practice), or the more varied and less formal life of a consultant in a peripheral hospital where there is more opportunity for community interests of a paramedical kind.

The Consultant Paediatrician

The consultant paediatrician in this country is always based upon a hospital and he sees his young patients only at the request of the family doctor or by referral from one of the Local Authority clinics. He does not, like his American counterpart, act as a family paediatrician who sees children at the direct request of their parents. Indeed in our country this task is much better done by a good general practitioner who has been adequately trained in this type of specialized family care.

In very general terms consultant paediatricians may be regarded as falling into one of three groups. First, there are those based on teaching hospitals whose principal duties lie in the care and treatment of sick children, and upon whose shoulders falls the task of teaching both undergraduates and postgraduates throughout the year. Many of them have special interests in research or a special branch of their subject. Most undertake domiciliary consultations with general practitioners in the patients' own homes, a two-way traffic in ideas and experience which has great educative value.

Second, there are the paediatricians who work in peripheral hospitals serving a county or large town. They also engage in consulting practice, and they frequently enjoy a more personal relation with the general practitioners, Local Authority doctors, educationists, and others concerned with the care of children than is possible for the consultant based in a large city. Though these paediatricians may have no formal teaching duties, the more discerning undergraduates in our medical schools have discovered how rewarding can be an attachment to such peripheral paediatric units during University vacations. Many paediatricians in peripheral hospitals also engage in active postgraduate teaching—of house officers in other hospital departments, of general practitioners, and of overseas graduates.

Finally there is a numerically small group of paediatricians who have a special interest in basic research. They are usually, though not invariably, situated in University clinical units, and in addition to research carry a considerable load of routine patient-care and teaching duties. They tend to develop a specialized knowledge in one or two areas of paediatrics in which their research activities are centred, and they have a considerable mastery of certain specialized techniques which are necessary for their investigations. They also spend a lot of time and thought in guiding the research projects of young men and women in their departments. There has been a shortage of such people in British paediatrics; and of the necessary laboratory and other special facilities that are required for modern research. This position is now improving, and any man or woman who is interested in paediatrics, who has an aptitude for research, and who is ready to
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undergo training in research methods can be assured of a fruitful career.

Future Prospects

A paediatric career in Britain holds excellent prospects for suitably qualified young graduates of ability. In recent years the creation of new consultant posts has resulted in an exceptional drain on the paediatric senior registrar establishment. There is good reason to suppose that a further increase in the paediatric consultant establishment will take place in the years ahead. Furthermore, a considerable number of vacancies will arise each year for the next 20 years from the retirement of consultants. It is, therefore, obvious that a shortage of trained paediatricians will be a feature of the British medical scene for many years to come. Though this will not be allowed to result in any lowering of the present high standards of recruitment to paediatrics, the young graduate who is interested in the subject and who is ambitious can look forward to a successful and satisfying career.