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**STUDY GROUP ON
PAEDIATRIC EDUCATION**

Report

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STUDY GROUP ON PAEDIATRIC EDUCATION

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STUDY GROUP ON PAEDIATRIC EDUCATION

Report

The Study Group on Paediatric Education met in Stockholm from 30 July to 4 August 1956. Professor Robert Debré was elected Chairman and Dr Jean Mackintosh, Rapporteur.

1. INTRODUCTION

The place of paediatrics in medical education varies greatly in different countries. Its youthfulness as a specialty, in contrast to other major subjects, has often led to its superimposition by accretion on an already crowded curriculum rather than to its integration into the curriculum by design. This organizational pattern of paediatric teaching urgently calls for revision and change.

Paediatric curricula and teaching methods that have proved effective in one area are not necessarily applicable or desirable in other areas. The focus of paediatric practice has shifted in some countries from the sick child to child health (puericulture) as the result of reductions in childhood mortality and morbidity; in other countries, "curative paediatrics" retains a high priority because of the continuing high rate of childhood diseases and deaths.

The present study group, consisting of teachers of paediatrics from many parts of the world, was convened to affirm the importance of paediatrics in medical teaching and in community health, to review and exchange information on the current status of this speciality in the different countries, and to chart plans for the future.

2. EDUCATION OF MEDICAL STUDENTS IN PAEDIATRICS UNDERGRADUATE TEACHING

2.1 Objectives and role of paediatrics in medical education

Medical education has as a basic objective the preparation of good general physicians able to serve the community as well as the individual. Prerequisites in the preparation of such physicians are : (1) the awakening of student interest in the human being, the family and the community ; (2) the development of sound habits of study and the continuous desire for self-education ; (3) the stimulation of scientific curiosity ; and (4) the acquisition of a specific body of knowledge and skills. The competent practitioner must recognize and be responsive to the social needs and health demands of the community and country in which he lives.

Paediatrics occupies a unique position in the attainment of these objectives. Some of the reasons for ascribing special status to paediatrics in medical education follow :

(a) The care of children comprises a large part of general medical practice. Information from certain countries indicates that child care accounts for at least one-third of total practice and in some countries the proportion is even greater.

(b) There is high morbidity and mortality during early infancy. In large areas of the world sickness and death among infants and children constitute a major public health problem.

(c) Paediatrics is not a specialty limited to an organ system, to a technique, or to a disease or group of diseases. It is general medicine applied to a specific period of life.

(d) The child, nevertheless, is not a miniature adult. Childhood represents, in the life-time of every human being, the biological period characterized by the process of growth and development which continues from birth through adolescence.

(e) Problems and diseases occur in this age period which do not exist in adult life.

(f) The seeds of many diseases seen in adults, such as rheumatic fever, tuberculosis and the neuroses, are sown in childhood.

Furthermore, paediatrics provides unequalled opportunities to contribute to the basic objectives of medical education since the factors of growth and development set the stage of meaningful study of the natural history of disease in a constantly changing organism. Childhood is a

period in which promotion of health can be carried out effectively by the physician as he supervises the child's progress. The dependent position of the child in the family provides an excellent opportunity for acquainting the student with social and environmental factors which influence human well-being. In dealing with parents and children, the student must be taught to exercise perspicacity, patience and gentleness, qualities which are desirable throughout the practice of medicine.

2.2 Content of teaching in paediatrics

Much of what the student has learned in basic sciences and general medicine is essential for his understanding of paediatrics. A specific knowledge of the subject as well as special skills are, however, necessary to enable the physician to deal effectively with the problems of children.

There is an obvious need for instruction in the diseases peculiar to children, in relation to the prevailing needs of the area, and in the special manifestations in children of diseases common to both adults and children; in addition, certain specialized subjects need to be known by every medical student. The Group considered that a programme of paediatric teaching should include at least:

1. (a) Physical and psychological growth and development; anatomy and physiology of children; genetics.
(b) Infant and child nutrition.
2. (a) Methods of examination and treatment of children.
(b) Art of handling children and their parents.
(c) Nursing care of children.
3. (a) Supervision of the child in good health, promotion of health and prevention of illness.
(b) Special problems of the handicapped child.
(c) Other aspects of social paediatrics.
4. (a) Problems of the foetus and newborn, including the premature infant.
(b) Adolescence.
5. Diagnosis, treatment and prevention of diseases of infancy and childhood.

In view of the major role of child care in general practice, the special characteristics of childhood, and the content of the minimum educational programme listed above, the Group considered it essential that paediatrics

constitute one of the major subjects of the medical curriculum. The Group was interested to learn of an instance in which this view of the importance of paediatrics had resulted in assigning it equal status with internal medicine as the two foundation subjects in the first year of clinical instruction.

2.3 Time allotment

The Group met with considerable difficulty in setting a time allotment for paediatric teaching in view of the great variation in total duration and organization of medical curricula throughout the world. Available data, however, indicate that in many areas of the world the time assigned to paediatrics is insufficient to cover the subject matter and technical knowledge outlined above. The Group agreed that it was impossible to do justice to the paediatric curriculum with fewer than 300 hours as a minimum, although some participants hesitated to set a figure. It was believed that for adequate coverage more hours were necessary and the allocation of one-quarter of the clinical time to paediatrics was envisaged as a reasonable proportion. It is axiomatic that adequate personnel and facilities must be available for the proper use of teaching time.

Precise distribution of time for the different topics in the paediatric course must vary according to prevailing needs and available medical personnel of the different countries. For example, paediatric hours allocated to prevention and treatment of diarrhoea and enteritis or malnutrition should obviously receive greater emphasis in areas where these are prevalent than in countries with modern sanitation and ample food supply. Development of priorities on such a basis could also serve to expand and improve existing medical personnel and facilities in the fields of greatest need. The Group emphasized, however, that normal growth and development, as well as preventive and social aspects, should be stressed in paediatric teaching in all countries of the world.

Instruction in paediatrics should not be limited to any one year but should extend throughout the curriculum, independently and in collaboration with other departments, both pre-clinical and clinical, and there should be a concentrated period of paediatric training towards the end of the medical studies.

2.4 Teaching methods

The Group was aware that the observations to be made on teaching methods are not confined to paediatrics, but apply equally to all clinical branches of medical education. By the same token, collaboration with other departments of the medical school is important in the teaching of many paediatric subjects.

The methods which can be used profitably to teach paediatrics to medical students are described hereafter.

2.4.1 *Lecture*

The lecture may take various forms. In the orthodox, systematic lecture, the teacher presents a specific aspect of a particular subject, sometimes supplemented by charts, films, specimens, and other kinds of demonstration material. Here the teacher occupies the dominant position and the student is the recipient of information. The lecture may be followed by discussion in which students are encouraged to ask questions and make observations, and the teacher in turn responds with supplementary observations and comments. Another type of lecture is one in which several teachers participate, each making a specific contribution to the presentation. The audience may be solely made up of medical students, or it may include other health personnel such as nurses and social workers. A varied audience of this kind can make a substantial contribution to the subsequent discussion but may impose limitations on the level of the teacher's presentation.

Formal presentation of material, when undertaken by an accomplished teacher with experience of the subject, can stimulate students, and present to them new ideas, and is indeed an essential part of a balanced teaching programme. The lecture method is ideal for original presentation of certain aspects of basic paediatric material, for instance, growth and development, psychological problems, relation to public health indices. A well-planned lecture sets the stage for work with individual patients and helps to balance the student's education. On the other hand, the Group noted the danger of over-use of the lecture method as being the easiest way out when there are few teachers and large groups of students and the objective is merely complete coverage of textbook material. Another potential danger of the orthodox lecture is the passive and receptive role of the student. A premium may be placed on ability merely to memorize facts.

Experience with distinguished teachers has impressed on all members of the Group the great value of dynamic presentations to large classes, especially when lecture sessions are enlivened by the demonstration of a sick child, and of interchange between lecturer and students.

From his general experience and research interests when the latter are not overemphasized, the good lecturer can give added interest to general principles and inspire students to creative thinking.

2.4.2 *Group teaching*

Group teaching is a technique that calls for special skills and experience on the part of the leader. It requires as much preparation as a good lecture.

The teacher must be alert to invite the participation of all members of the group, to highlight important points, to summarize or to arrange for someone else to summarize the discussion. The small number of students involved and the active part they play in working out problems are conducive to reading, learning and thinking. Through this medium, the student may gain self-confidence and discover his own capabilities.

By working in a group, the student learns the advantages of bringing many minds to focus on a single subject, and the way medical teams function. Originality may be stimulated and encouraged. Group teaching may be used with patients in the hospital or out-patient department, or in the consideration of general subjects.

On the other hand, there is the danger of assuming that discussions confined to small groups by themselves achieve the desired objectives. If, for example, the exercise is limited to the reading of a report by one man or is dominated by any one member, teacher or student, it may fail in its object. Most of the difficulties cited for the lecture method may apply to group teaching when this has not been carefully prepared and carried out with due consideration for the special techniques needed.

2.4.3 *Clerkship*

The clerkship should provide individual experience with in-patients and out-patients. The student should be given the opportunity to work as a physician. He should be assigned new patients on admission, see and consult with their parents, write case histories, do physical examinations, read and work in laboratories. He should participate in making diagnoses and treating patients, always under guidance. Ward-rounds with experienced teachers and in small groups help to clarify and broaden his experience. Their value, however, may be lessened if the number of students is too large. Contact with nurses, social workers and therapists further enriches the students' experience. Through prolonged and careful follow-up of individual patients, students are taught the method of studying and analysing a sick child in such a way that in later practice they may be able to face new and unexpected situations.

The nursing care of sick children is an important feature of the clerkship. Active participation in feeding and nursing procedures will lead to appreciation of the problems confronting the nurse and what is involved in nursing procedures which, as physicians, they will subsequently have to prescribe. Thus, students are helped to develop the art of paediatrics and they achieve skill in the techniques of handling and treating children.

Experience with in-patients should be followed by experience in the out-patient department. The Group agreed that the drama of the acutely

ill child in the hospital provides fundamental teaching experience, but, on the other hand, the day-to-day problems in the out-patient department are fundamental too, because they are typical of what the practitioner will encounter in his later career. It was noted that heads of departments are often reluctant to spend much time on out-patient teaching, yet an experienced teacher may make out-patient problems as stimulating and exciting as ward visits. In the out-patient department the student again should work as a physician but here also he must be carefully checked by an experienced doctor who can thus demonstrate how to deal with children and their parents. Properly handled, this is guided independence.

An integral part of the teaching of all medical students is experience with infants and children in good health. Following a period of observation, the student should actually participate in their supervision, again under guidance.

2.4.4 *Extra-mural training*

Extra-mural training refers to student activity outside the medical centre. Observation and participation in the activities of health and social services in the community can be particularly rewarding when properly prepared and followed up by critical discussion. Use of observation guides to direct the student's attention to important points to be noted in an unfamiliar situation has proved to be helpful. When the subsequent discussion is based upon these guided observations, students learn about, and are later able to use, such services in their own communities.

Home visits and collaboration with public health nurses and social workers amplify the student's knowledge of disease and its concurrent problems outside the hospital. Such a visit is particularly valuable if the student has already seen the patient in the hospital or clinic. In several medical schools, arrangements have been made to acquaint students directly with the problems of families by following their experiences in health and disease over a three- to four-year period during medical training—the so-called "family health service". Students are designated as junior family medical advisers, but they must be made aware of their limitations and be adequately supervised. This type of programme has been supplemented in some schools by home visits to children suffering from acute illness who, for one reason or another, are not admitted to the hospital. With the collaboration of practising physicians, medical students in these schools have had the experience of seeing and treating acutely ill children in their own homes.

In some parts of the world, students have been assigned to outlying demonstration centres, to rural areas or to rural hospitals under qualified

supervision. In other instances, medical students work with rural health departments during their vacation periods. The Group pointed out that this type of extra-mural experience should be preceded by adequate theoretical instruction as well as individual work in the medical centre. It was indicated that this type of programme did not necessarily call for additional financial outlay or personnel.

Such extra-mural activities as have been described have proved of great value. The Group thought that further use of these and development of similar methods should be encouraged.

2.4.5 *Preceptorship*

Preceptorship training has a long and honoured history in medical education. Current modifications of this system have varied in different schools. Assignment of small groups to a member of the teaching staff, as tutor or faculty adviser, for informal contacts inside and outside regular class hours has helped to solve student problems and to accelerate learning. In some instances, selected students are assigned for a period of time to carefully chosen practising physicians for observation and participation in their daily activities. The operation of these preceptorships requires continuing supervision.

2.4.6 *Other teaching methods*

Other teaching methods include clinico-pathological conferences, which have proved most useful in stimulating critical self-examination in the care of patients as well as in the background of disease.

Audio-visual aids, including lantern slides, films, models, museum specimens, film-strips, charts, recordings and other demonstration material, are of great assistance in supplementing the efforts of the teaching staff. They should be used to supplement but not to replace the active role of the teacher. The Group stressed the need for international collaboration and assistance in exchanging applicable materials in the areas concerned and in providing assistance in the preparation and maintenance of suitable materials locally.

Opportunity for students to undertake research projects helps to keep them informed of advances in medical science, arouses their scientific curiosity and develops their critical faculties.

Emphasis on the different methods cited above may vary from one institution to another or from one country to another, depending upon teacher/student ratios, available patients, and facilities. The Group emphasized that the ability of the teacher to stimulate and inspire was more important than the particular methods used. It should not be assumed

that all doctors are good teachers, and indeed some medical schools have requested the aid of educational psychologists to assist in the improvement of teaching techniques.

2.5 Assessment of the teaching programme

It is essential that the professor of paediatrics and his entire teaching staff examine critically the teaching programme and methods from time to time in the light of their effectiveness and of current and changing community and national needs. Close association with the staff of the health services and social agencies and with practitioners working in the area will aid greatly in such assessment. Further study and conferences with educational organizations and persons experienced with testing methods should lead to the establishment of criteria which will assist in assessing the value of teaching programmes both from local and universal standpoints.

Current aids to assessment include the following :

- (a) Public health indices, e.g., infant and childhood mortality and morbidity data.
- (b) Studies of community health problems by medical students, with or without collaboration of members of the paediatric faculty.
- (c) Observations and comments of members of the local health services.
- (d) Periodic review of the teaching programme by the entire paediatric teaching staff.
- (e) Performance by students and their reactions during their student days and subsequently.
- (f) Surveys by qualified research groups, more useful when carried out with the co-operation of the paediatric faculty.

3. PREPARATION IN PAEDIATRICS AFTER COMPLETION OF MEDICAL STUDIES

3.1 Before general practice (graduate training)

There is need for a block of direct experience with patients, in addition to and following the completion of theoretical education, the clinical clerkship and the examination. The student now assumes responsibility, under general supervision, for the actual care of patients. In some countries, this stage of training occurs before the student has graduated and receives his diploma, while in others it comes after he is legally a physician. In

most instances this is called an "internship".¹ The Group considered that in either case such a period of training of at least one year was essential, and that three months of that year should be spent exclusively in paediatrics. In view of its importance in later practice, this was regarded as the minimum time needed to provide a rounded experience in all aspects of child care with emphasis on out-patient experience and preventive procedures. This period is in essence a practical extension of undergraduate education preparatory to general practice.

3.2 Specialized training (post-graduate training)

The Group emphasized that the balance between general practitioners and qualified paediatricians will differ according to the needs of the community, the socio-economic conditions, and the existing types of health problems, services and available facilities. Even in areas where there is a general paucity of medical manpower, the training of an adequate number of qualified paediatricians to direct children's hospital units, to staff essential child health services on a decentralized basis, to provide teachers, to serve as consultants to rural practitioners, to carry out research in childhood problems, etc., should have high priority. Furthermore, paediatrics is in the forefront in international health programmes, and the Group noted the need for training paediatricians with an appreciation of international health problems.

The Group considered that the basic training for a qualified paediatrician should follow certain general lines, supplemented in his later career according to the particular branch of paediatrics which he desires to follow.

3.2.1 *Training of the clinical paediatrician*

Irrespective of future activities, the Group advised that all paediatricians should have two years of basic training covering all the fundamental branches of child care, including three months of contact with and participation in public health and social services. During these two years, the paediatrician should have a series of rotating appointments in various aspects of disease in childhood, including the newborn, premature and infectious diseases, nutrition, cardiology, psychiatry, paediatric surgery, otorhinolaryngology and similar fields. He should have the opportunity to undertake research projects, their nature depending upon his specific interests. He should be assigned to do some teaching, including the teaching of pupil nurses, but, in view of his inexperience as a teacher, he must have guidance in this as in all other branches of his training. He should have

See *Wld Hlth Org. techn. Rep. Ser.*, 1953, 69, 14.

sufficient time for reading and for keeping abreast of current trends in medical thought. Experience in the out-patient department again is an important aspect related to future practice. As his education progresses, it must become less didactic and more empirical. Emphasis was laid on the desirability, where possible, of a period of study in some other centre, either abroad or in the paediatrician's own country.

All paediatricians should eventually become leaders in communal health work, fostering research and assessing and improving conditions as they exist in the community. For this reason, the Group believed it essential that three months of the training of the clinical paediatrician be devoted to learning the operation of and participating in the work of a health department or a social agency serving children. During this period, he would become familiar with the administrative problems of a community agency and the role of the community in the provision of services for children as well as gain experience in infant health centres, school health services, foster homes and children's institutions.

Emphasis on the special problems of paediatrics will vary according to the local needs of the country. Psychological orientation should be an important and integral part of the preparation of the paediatrician everywhere, and in some countries this phase assumes major importance. This training may be carried out through a variety of techniques. In some hospitals, it is possible to effect an exchange of residents with the personnel of child guidance clinics. This does not mean that the post-graduate student is being trained to be a psychiatric specialist, but it gives him experience in handling and dealing with the minor deviations which are encountered in the ordinary course of his work, and enables him to recognise at an early stage the need for more skilled help. By the same token, paediatricians practising in those great areas of the world where malnutrition and nutritional disorders are rampant, require extensive knowledge of these problems during their training period.

In some teaching hospitals, patients in the wards may come from a particular social stratum or a limited income group. It is often desirable, therefore, to use private patients or affiliated hospitals for teaching. Similarly, arrangements need to be made in maternity hospitals, with the concurrence of the obstetrician, for supervised experience with newborn infants. These remarks apply also to institutions in which essential services, such as those concerned with infectious diseases, are in a hospital other than the paediatric centre. In addition, there are certain general hospitals which may offer useful clinical material and experience and which may in turn benefit greatly by the presence of paediatric residents. Patient care in the affiliated hospitals should be of high quality, and it is essential that close supervision by members of the paediatric teaching department

be maintained while the paediatrician in training attends these various institutions. This may be accomplished by periodic visits of a member of the paediatric teaching department or by appointing a competent staff member of the affiliated hospital to the staff of the teaching department.

It was pointed out that, in addition to the teaching hospital of the medical school and the above-mentioned types of affiliated hospitals, many countries had qualified paediatric centres with competent staffs not connected with medical schools which were used for the training of clinical paediatricians.

Following the two years of basic education, the prospective paediatrician may continue his formal hospital training, enter practice, or branch off into public health work.

3.2.2 *Training of the public health specialist in child health*

Although reference is made in this section to the training of a person who has had the basic two years of training in paediatrics for a career in child health, it is to be noted that the union of maternity care with child health makes it possible for a specialist in maternal and child health to have received his basic training in obstetrics. The person coming from paediatric training in child health must also have some maternity experience.

Following the two years of basic training in paediatrics, there should be a year of academic training in a school of public health, and one or more years of administrative experience in a public health department or social agency. This type of training qualifies the specialist for executive functions in health services.

Public health training and experience are needed to prepare the clinician properly for such functions. In addition to a sound clinical background, the child health specialist requires skills in administration and the ability to plan community health programmes for children in the light of the family, cultural and social setting. Particular skills are required in the conduct of social research involving specialists of more than one discipline and calling for team work.

3.2.3 *Limited training in areas of urgent need*

In many areas of the world, problems of childhood constitute a major portion of the entire health problems of the community, yet the shortage of qualified paediatricians is so great that filling the gap by conventional training methods cannot be envisaged in the immediate future. Plans need to be made on an interim basis for a limited type of training which will improve the qualifications of certain practitioners with a special interest

in children without qualifying them as paediatric specialists. This type of training in some countries occupies at present a period ranging from a few months to one year. Since in most instances physicians receiving this training will not have had the benefit of the type of preparation which this report suggests medical students should receive, emphasis must be laid on those basic factors outlined previously for the curriculum for students of medicine. These would include especially: prevention and cure of those diseases which are most important in the area, maternal and infant nutrition, growth and development, and training to man the health services in the area.

3.2.4 Summary

The table below outlines the essentials of the three types of training discussed:

<i>Clinical paediatrician</i>	<i>Public health specialist in child health</i>	<i>Limited training in areas of urgent need</i>
Two years' basic paediatric training, including three months' experience in community and public health work:		Paediatric training as long as possible up to one year, which should cover the following:
one or, better, two years' further paediatric training; experience in teaching and research; foreign experience desirable.	one year whole-time training in a school of public health; one or more years of experience in administration or research, or both, in a public health department or social agency; some experience in maternity care; foreign experience desirable.	prevention and treatment of childhood diseases, with major emphasis on those most important in the area; maternal and infant nutrition; growth and development; public health services

3.3 Continuing education in paediatrics for the practising physician

All physicians whether they are in general or paediatric practice require opportunities for bringing their knowledge up to date.

The conscientious paediatrician is usually able to maintain close and constant contact with current thinking in his specialty. He can benefit by participation in ward rounds within his own hospital or elsewhere, where he can exchange knowledge and experience with colleagues of similar interests. If he is attached to a teaching service, he has the further stimulation of teaching students to keep him up to date. He generally has access to library facilities and literature which helps to keep him abreast of recent advances. None the less, he profits greatly from attendance at scientific meetings in his own and other countries. Where financial obstacles

prevent such attendances, funds for this purpose should be made available from national or international sources.

The general practitioner is in a less advantageous position. He usually finds it difficult to keep abreast with the rapid advances in medicine, and in some areas of the world practitioners have not had the advantage of well-planned undergraduate training or internship.

For the urban practitioner, arrangements can be made for conferences and meetings on topics of mutual interest where authorities from special fields may participate in the discussions. Opportunities should also be given to practitioners to participate in hospital rounds.

The problem of the practitioner who lives in rural areas is often difficult. Two approaches are possible : use of a teaching centre for refresher courses, and decentralized teaching carried out in the physician's own locality. While the first solution has obvious advantages because of availability of clinical material and facilities for lectures and demonstrations, there is the practical difficulty of providing a suitable replacement while the physician is away and of financing his travel and living expenses.

It is more complicated to take a teacher or a team of teachers to individual local areas but there are some compensations. The visiting team may form a better idea of the problems which the physician is facing and can base the teaching on local and familiar material. One manner of combining formal and informal teaching is assignment of a travelling consultant instead of a team. Where possible, it is highly desirable to provide the visiting teacher or the visiting team with demonstration material and suitable audio-visual aids. An obvious disadvantage is the need for reducing the staff of the centre for the period of time that the team is in the field, but in a well-developed rural teaching programme it should be possible to employ special staff for this purpose.

General practitioners should be encouraged to take refresher courses in paediatrics and other fields at regular intervals and certainly not less frequently than every three or four years. The content and duration of such courses should be related to local needs and should include practical demonstrations of new and recently introduced procedures. The benefits derived from these courses may be further extended by periodic publication, in the form of a news-letter, to all practitioners and paediatricians in the area, including those who were unable to attend. These reports could also contain information on other medical advances, not included in the course and valuable in their day-to-day care of children. A circulating library in the teaching centre, available for distribution to suburban and rural areas, is another good teaching aid. In areas where this is important, financial and material assistance to establish and maintain these libraries should be encouraged.

3.4 Assessment of training programmes

In general, the techniques outlined with regard to assessment of medical education programmes may be applied in judging the efficiency of training programmes after completion of studies. Further experimentation is needed to establish the value of various indices of assessment in relation to local and country needs.

4. ORGANIZATION AND RELATIONSHIPS OF THE DEPARTMENT OF PAEDIATRICS

It is as essential for the department of paediatrics to be an autonomous unit of the medical school, as it is for the course of paediatrics to be a major subject of the medical curriculum, for the following reasons :

- (a) importance of child care in general practice ;
- (b) separate characteristics of childhood and peculiarities of disease as they occur in the growing period ;
- (c) necessity to train specialists ;
- (d) maintenance of flexibility in planning the teaching programme ;
- (e) facilitation of the special approaches to research in childhood problems.

Major functions of a paediatric department include :

- (a) teaching of medical students and physicians in practice ;
- (b) training of specialists ;
- (c) research ;
- (d) participation in community health programmes ;
- (e) supervision of hospital and out-patient services caring for children.

Status of a department is measured by different standards in various areas of the world. Designation of the head of the department as full professor of equal rank with other departments is a universally important consideration. It is also important that assessment by examination or otherwise of the student's knowledge of paediatrics at the end of his academic career carry equal weight with measurement of his performance in other major departments of the medical school.

4.1 Interdepartmental relationships

Complexities of modern medical practice require a close liaison among all departments of the medical school. This close relationship applies equally to paediatric teaching, both in academic and practical aspects.

The special characteristics of children make inter-relationships particularly important with obstetrics, preventive medicine, psychiatry and pathology. Joint teaching programmes, combined appointments of staff, interdepartmental meetings, joint seminars on mutual problems, and combined research projects are all ways in which this type of liaison may be fostered. It was pointed out that pooling of resources is often facilitated by establishment of interdepartmental commissions. These are particularly useful in planning and conducting research programmes. The mechanics of implementation programmes of this nature will vary from country to country, and indeed from school to school.

As paediatrics is, in fact, general medicine applied to children, special designation of the above four areas of interest should not obscure the need for general inter-relationships with other departmental and faculty colleagues in the adult field. For example, general and paediatric surgeons can benefit from exchange of information and experience, as can physicians and paediatricians specializing in cardiology, neurology, radiology and other specialties.

4.2 Extra-mural relationships

Just as interdepartmental relationships within the medical school are important, so is the development of extra-mural relationships with community health and social agencies. These relationships require joint planning with the administrators of community services and cultivation of good working arrangements with their staffs. The facilities in the teaching programme should include infant health centres, school health services, foster-homes and children's institutions, as well as health and welfare departments and their staffs. In choosing the agencies to which students are assigned, care should be taken to select those which provide a suitable teaching situation. Clinics which carry a heavy load of work are seldom suitable for this purpose. This teaching will be facilitated by collaboration with the department of preventive medicine which should exist in every medical school.

In addition to these essential extra-mural relationships, some medical schools are experimenting with programmes in which the student acts as a practitioner in the home under the supervision of a carefully selected general practitioner. Some of these programmes have already been described in section 2.4.4 (page 9). Further experimentation with these types of programmes should be encouraged.

4.3 Personnel and facilities

The Group found it difficult to prescribe faculty/student ratios which would have general application throughout the world. There was agreement

that the number of students admitted to a school should conform strictly to the capacity of the teaching staff, the number of available beds and other teaching facilities. Where shortage of physicians exists, teaching facilities and personnel should be expanded commensurately. The Group noted and endorsed the observations on this subject made by the Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel in its second report.¹ There should always be a nucleus of full-time staff and a sufficient number of part-time staff to maintain continuity of the teaching programme and high standards of patient care. Instances were cited in which excessive patient load had resulted in a highly impersonal and superficial type of care prejudicial to the formation of good habits for physicians in training. One way of overcoming this difficulty is to apportion a certain number of beds for the exclusive use of teaching and research. It should never be forgotten that the primary function of a teaching department is to teach.

The facilities required for good paediatric teaching include : (1) an adequate number of teaching beds, under the direct control and supervision of the department of paediatrics ; (2) a library for students ; (3) sufficient laboratory space to enable students to carry out investigations ; (4) an adequate supply of teaching aids, with renewal and supplementation at regular intervals ; and (5) access to all branches of the community health services and social agencies providing care for children.

There is great advantage in having the paediatric departmental offices located in the proximity of both the paediatric wards and the medical school, to facilitate communication between the teaching staff of the department and their colleagues in other teaching departments.

5. ROLE OF INTERNATIONAL AGENCIES

In the course of the discussions, members of the Group made a number of suggestions on the ways in which international agencies interested in medical education might lend support to the improvement of teaching programmes in paediatrics everywhere. There was general agreement on the following items :

1. Promotion of inter-regional, regional and national surveys and study groups on paediatric education in the Western Pacific, South-East Asia, Africa and the Mediterranean area, analogous to those already conducted in Canada, the USA, Latin America and Western Europe.

¹ *Wld Hlth Org. techn. Rep. Ser.*, 1953, 69, 8 (section 2.2)

The Group was pleased to learn that a conference on paediatric education is being planned for Latin America as a follow-up to the recent continent-wide survey sponsored by the Pan American Sanitary Bureau (WHO Regional Office of the Americas). The inclusion of deans and faculty members from other departments of medical schools could increase the effectiveness of such study groups.

2. Extension of opportunities for foreign travel by heads and other staff members of paediatric departments. Arrangements might take the form of exchanges or fellowships of short or long duration, as seem most appropriate. There is need for developing paediatricians with appreciation of global problems as they affect children everywhere.

3. Assistance in providing equipment and in establishing and maintaining audiovisual aids for paediatric teaching in those parts of the world where such facilities are now lacking. It was repeatedly emphasized that such materials would prove of greatest value if they were produced locally and utilized local subject matter.

4. Improvement of teaching techniques and methodology. Here again, the Group agreed that introduction of paediatric staff members to teaching procedures in other countries could serve as a source of stimulation and encourage new and experimental features in the teaching programme. Research projects on an international basis in fields of common interest should serve as a stimulant to participants and students alike and would add an important element to teaching and contribute information on important world problems.
