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Report on the First Session

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EXPERT COMMITTEE ON SCHOOL HEALTH SERVICES

First Session

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EXPERT COMMITTEE ON SCHOOL HEALTH SERVICES

Report on the First Session [1]

The Second World Health Assembly recognized the importance of the health of school-age children by adopting the WHO 1950 programme which included the convening of an Expert Committee on School Health Services.[2]

The Expert Committee on School Health Services met in plenary sessions and working parties in Geneva from 7 to 12 August 1950 inclusive. The session was opened by the Director-General of the World Health Organization, Dr. Brock Chisholm.

1. Introduction

In its deliberations the committee considered it impractical to produce a comprehensive report within the time allotted and decided, therefore, that its primary task would be to prepare an outline of basic policies and approaches without attempting to be all-inclusive. These policies should be applicable to different countries and different areas within any one country, to so-called underdeveloped as well as technically better developed areas. Many countries have produced quite satisfactory manuals on school health, suited to their own situations, and others should be encouraged to do so. It is to be expected that such manuals, following good administrative practices, will be developed in co-operation with those staff members who are to carry out the provisions of the manual, and will be subjected to constant revision as new information and ideas become available.

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[1] The Executive Board, at its seventh session, adopted the following resolution:
The Executive Board,
Having considered the report of the Expert Committee on School Health Services on its first session,
1. THANKS the members of the committee for their work;
2. AUTHORIZES publication of the report;
3. RECOMMENDS that adequate distribution be arranged, and
4. CONSIDERS that the committee has completed the task assigned to it.
(Resolution EB7.R62, *Off. Rec. World Hlth Org.* **32**)

[2] *Off. Rec. World Hlth Org.* **21**, 152

The committee addressed itself to the problem of the health of the child of school-age. Although health services for children in this group are usually organized in co-operation with the school system, and are referred to as " school health services ", there are sections of the world without any schools or with inadequate schools, and for such areas a service organized in this manner will not be possible. The committee decided, therefore, to limit its discussions to communities in which some type of school or school system has been established. This would include nursery schools as well as schools for older children. It should be noted that any kind of health work being conducted in areas without schools should include consideration of the health needs of children of school-age as part of the overall health programme for a community. The committee would like to add, however, at the risk of labouring the obvious, that the very points cited later as special health needs and opportunities constitute additional arguments for the earliest possible development of schools in areas which lack them.

Furthermore, the committee recognized that the relative amount of medical and public-health effort available to children of school-age will vary according to the health problem of each community. Allocation of services should be made after study of local needs and conditions, but the committee directed attention to the fact that the school as a social unit often offers opportunities to introduce health services for children which are understood and accepted by the community. These services have long-range possibilities for developing confidence in and acceptance of other public-health measures.

2. Reasons for Special Consideration of the School-age Group

Selection of one segment of the population for special health services presupposes clear understanding of the reasons for such selection. Children of school-age should be considered as a segment of the lifetime of the whole population. During this segment of the life span, all children are exposed to situations and are undergoing developmental changes which call for watchful care. Furthermore, the health problems of children coupled with the drama of the child's biological growth present opportunities for educating parents and citizens as to their responsibilities for providing services within the school and the community to help each child attain his own maximum health status. These needs and opportunities, while varying in degree, are basically similar for all children of school-age irrespective of race, climate, geographical location, the particular school which they happen to attend, or the stage of technical development of country and community.

The special reasons mentioned above will be considered under four general headings on which a health programme for the school-age child may be built.

2.1 *Growth and development*

Children are constantly undergoing change. Change is manifested in many ways—physical, mental, emotional, and social. During the early school years growth proceeds at a relatively even pace, but later the problems of puberty and the adolescent spurt in growth often cause difficulties. In this dynamic situation the course of change may be influenced positively in the direction of improvement beyond a theoretically average status, or negatively through the appearance of disease, handicaps, and defects.

Preventive measures undertaken during the period of growth may have a beneficial lifelong effect and may be more easily carried out than if deferred until growth is complete. Attention must be given to problems of increase in physical size and fitness, proper immunization against contagious disease, balanced and adjusted social and emotional growth.

It is apparent, therefore, that a knowledge of the fundamentals of the growth process, as established by long-term studies of individuals and of groups, is essential in the sound planning of a school health programme.

2.2 *Stress, strain, and contagion*

For most children, school is the first experience of group-living outside their own homes. They become part of a situation in which competition plays a major role. Children differ in their reactions to the stress and strain imposed by the competitive atmosphere. Individual responses of withdrawal or aggression call for understanding by all who work with the child.

Furthermore, bringing children together in groups increases sharply the dangers of communicable disease. Although the school thus engenders a risk, it is at the same time an ideal place for effective collaboration in a community-wide programme for the control of communicable disease.

Another hazard is that of accidents, an important cause of death and disability in this age-group. The excitement of group play and the distances to be travelled in going to school are contributing factors.

In view of these exposures to stress, strain, and contagion, the health problems posed offer opportunities for planning co-operative community health programmes in order to provide an environment in which the risks will be minimized.

2.3 *Educational responsibilities and opportunities*

To learn effectively children need good health. Deficiencies in vision and hearing and many other handicaps can make learning very difficult. The opportunity for sound health education along with learning is enormous. Health teaching should be woven into the teaching of all subjects. Health teaching in the schools moreover has important corollaries. When a child is educated in matters of health, he may influence his parents and family in an advantageous manner; and, when he himself becomes an adult and raises a family, it may be hoped that his family will have better knowledge on which to build good health. The school having the services of a public-health nurse has additional teaching opportunities. In her contacts with parents and home visits, the nurse is able to teach in a family setting particularly receptive to learning. In technically underdeveloped areas, the teacher may be the only person to influence the child and the whole community in matters of health.

It must be emphasized that education in health means far more than lectures, classroom exercises, and planned formal instruction. Health knowledge and health practices are acquired more easily and become a part of a child's equipment for living when they have been gained through real experiences in personal care and community hygiene during the school years. The example of adults and the healthfulness of the daily environment are potent educational influences.

Whether in schools or in other locations, physicians and nurses when working with children are constantly fulfilling their important function as teachers through precept and example although they may not realize it.

2.4 *The school as a community unit*

The school plays an important role in the social structure of a community. There is an interrelation between the school and the homes of the children that it serves which is not only conducive to health teaching, but also greatly facilitates an organized approach to health promotion, health appraisal, and health restoration. In this way the school influences not only the families of its own students but also the whole population of the area. The teacher, as a respected person in the community as well as an important member of the child's life, can initiate and participate in planning the health programme. Thus it is apparent that an organized system of schools provides a framework well suited to carry on an effective programme of health supervision which can reach and affect large numbers of persons.

3. What Can Be Done for the Health of the Schoolchild

The development of a school health service will be discussed under four major headings—planning, health promotion, health appraisal, and health restoration, with certain additional sections on details of importance not falling naturally under the above headings.

3.1 *Planning the school health service*

The committee thought it wise, in view of its task, to consider programmes suitable for technically underdeveloped as well as more-developed areas, to start with a brief review of the historical basis of school health services. The strong early influences—the desire to do something about the spread of communicable disease, to discover the basis of poor physical condition in potential army recruits, and to correct the ailments caused by compulsory school life—have largely determined the pattern of most school health services today. Since these stimuli were largely " negative " in that they led to programmes aimed at finding disease and defects, it has often been difficult to build on them a solid structure of health supervision destined to encourage health improvement and to take full advantage of the possibilities for teaching " positive " health to the child and the community.

The committee agreed that, even in an area without organized health work, proper planning of health services for schoolchildren is of great importance and that a balanced programme, over a period of time, can produce satisfying results, growing as the area becomes better developed. Many existing programmes which have evolved under various influences may not be well balanced and will benefit from critical review and analysis of the objectives being attained and the procedures being followed.

In some parts of the world, health workers are faced with vast areas having a formidable incidence of endemic and epidemic diseases, an almost total absence of sanitation, and ignorance of personal and community hygiene. There is great opportunity for campaigns of mass treatment and institution of sanitation projects ; but such a programme alone is one-sided. It must be emphasized that most lasting improvement in public and individual health will come through changing attitudes and developing understanding—in short, through education. As much as possible should be done by the people, by their co-operative action, and as little as possible by unexplained intervention. Co-operative planning by physicians, nurses, and other health workers, together with specialists in agriculture and teachers, can achieve these ends.

Recommendations of minimum programmes suitable when resources are meagre can easily be misconstrued. The committee was concerned lest any minima it suggested be confused with optima. Furthermore, considerable thought was given to the best method of presenting the various levels of programme and development possible. It was agreed that, since a well-balanced programme was important at all levels, an attempt would be made to present an integrated minimum programme and that subsequent progress might be illustrated by general lines of possible growth.

Planning has been placed first to emphasize the fact that health services for children of school-age must be organized co-operatively. Planning is a team project, involving parents, community, professional groups, social agencies, and all interested in the welfare of the child. Planning should include everyone who is going to have any connexion with the programme. Those who are in the planning from the beginning cannot help but have a better understanding of aims, standards, and methodology. Organization of a health council to give form to the mutual planning has been shown to be a helpful device in areas with both minimum and better services. It hardly needs to be emphasized that planning should be based on the local situation and not on a stereotyped pattern.

An example of effective planning is found in the integration of school health services with other services, such as those for infants and pre-school children, the work of the public-health departments, and the services of general practitioners and hospitals. Effective supervision of growth and development demands continuity. A programme of health services for schoolchildren should be a direct continuation of pre-school services and should be so correlated that the benefit of information about the child accumulated during the pre-school period may be available in the school health programme.

3.2 *Promotion of health in the schoolchild*

By promotion of health is meant those general measures related directly to the health of children in the school: environmental hygiene, school nutrition programme, school schedule, safety control, health supervision of school personnel, communicable-disease-control programme, directed physical activities, the promotion of mental health, and the conduct of health instruction. The degree to which any of these important measures may be developed will depend on the community's resources. On the other hand, even under the most limited conditions, a start can be made on all, and the general principles guiding the initiation of the programme will continue to apply as resources improve.

3.2.1 *Environmental hygiene.* Prime desiderata are safe water-supply and adequate disposal of body wastes. A carefully protected spring or properly cleansed containers for carrying water may be far safer than pipes and faucets involving cross-connexions. Similarly, a well-built and well-kept latrine may be far safer as well as of greater fundamental educational value than a porcelain and tile toilet which is allowed to become dirty and a nuisance. It is often stated that rural communities with limited resources may be seriously handicapped from the standpoint of environmental sanitation. While this may be true in relation to ease and comfort, or to aesthetics, it is entirely feasible for such a community to achieve satisfactory standards of safety and to encourage good hygienic practices. In a small community, furthermore, the population is usually sufficiently interdependent to make it relatively easy to get volunteer help and co-operation in the construction of simple but adequate facilities.

A great many existing school-buildings leave much to be desired and, unfortunately, much new construction repeats old errors. Wealthy districts do not necessarily have good school-buildings, and some poor areas have failed to proportion their limited funds in order to secure the maximum possible health benefits. Wherever bad construction, poor ventilation and lighting, lack of washing facilities, insanitary toilets, or similar deficiencies exist, children will be absorbing wrong ideas and learning harmful habits which may never be eradicated. It is essential that the advice of public-health authorities be sought in the planning of new school-buildings or the remodelling of old ones.

This report cannot present the many facets of the safety and educational value of good environmental sanitation. The committee recommended that each country compile standards appropriate to local conditions but designed to meet the health and educational needs of children.

3.2.2 *Nutritional aspects of school health.* Sound nutrition is closely related to educational progress ; the poorer the nutrition, the more difficult it is for the child to learn and to cope with school life. Under-nutrition is a serious obstacle to promotion of physical and mental health. Education in its turn is of importance in securing sound nutrition for the child and the community. In all countries, but particularly where the degree of under-nourishment is considerable, the school may be a potent force in attacking the problem through a family approach and through integration with plans for better nutrition of the pre-school child. Obviously any teaching concerning food must be realistically related to the food of the country.

It is in the light of these principles that the feeding of schoolchildren should be reviewed. Any scheme of school feeding must be accompanied by education in the principles of nutrition related to the food used. To carry out this task teachers need adequate preparation. In some countries

well-organized schemes of school feeding have been of undoubted, many think exceptional, value in improving the state of nutrition not only of the schoolchild population but of the whole nation. The committee did not feel justified in arguing from these successes that the provision of school meals everywhere would be equally effective or desirable. Much depends upon local conditions and customs. There is the danger, for example, particularly in areas with minimal food-supply, that the meal at school will be regarded by the parents as adequate or nearly adequate for the whole day. Wherever this occurs, the benefits of the school meal may be offset by virtual starvation at home.

The committee felt, nevertheless, that schools, particularly in areas of low economic status where nutrition is likely to be poor, have a very important function in providing needed nutritional elements through meals taken at school.

The committee learned with interest of the studies and work carried out by the Food and Agriculture Organization (FAO) in collaboration with the United Nations International Children's Emergency Fund (UNICEF) in the development of school feeding projects and commended the close co-operation existing in this field between WHO, FAO, and other international agencies.

3.2.3 *The school day.* Prerequisites of optimal physical growth include adequate food, fresh air, exercise, rest, and sleep. But for his overall development the growing child needs, in addition, guided work, responsibility, social activity, a co-operative home with understanding parents. He also needs time for himself—for play, work, and experiences, through which he can develop a sense of personal worth. During the school years a substantial portion of a child's life is passed under the jurisdiction of the school authorities. Whether or not the child's many needs will be met by the school depends to a large degree on the wise planning of the school day.

The daily programme for schoolchildren may vary from one geographical area to another, but everywhere the day should be planned on an understanding of the particular health and growth needs of the child.

The portion of the 24 hours allotted for normal study and lessons, including homework where relevant, should take into account the minimum needs of the child for sleep and for " personal life ". Of course, the pattern of " personal life " will vary a great deal from one culture to another, as will the pattern of education and family life. " Personal life " will include, in varying proportions, family life, social life, hobbies, recreation, sports, scouts or clubs, unscheduled free time, meals, transportation, and other informal or planned activities, either at home or in school, which

develop the physical growth and the mental, social, and emotional adjustments of the child.

It should be realized that in order to plan any school schedule successfully the closest co-operation between school and home must be maintained. Only when parents and teachers work together in the best interests of the child can education achieve permanent results. Another factor affecting the health of children and one too often given inadequate attention is the " emotional climate " of a classroom. The personal warmth of the teacher, the permissiveness of class procedures and wise administration of tests, grades, and promotions contribute to the way a child feels about himself and school.

3.2.4 *Safety control.* An important cause of death among children, in some countries the leading cause, is accidents. The exuberance of youthful play, failure to take precautions, lack of appreciation of the degree of risk undertaken, desire to win in competition, contact with traffic on the way to and from school, all increase the likelihood of accidents. The school health programme should include provisions for review of safety measures at the school and in its environs, removal of hazards which may be discovered, and, of fundamental importance, education in safety and accident prevention.

Despite all precautions accidents will occur while a child is at school. There should be a well-understood, written plan for the handling of such emergencies (including sudden illness) with provision for essential first aid, for the calling of medical aid when indicated, and for notification of the parents

3.2.5 *Health supervision of school personnel.* Teachers and other workers in contact with schoolchildren can do a better job if they themselves are in good health. Furthermore, the opportunities for spread of disease through the group contacts which are part of school living (referred to in the section 3.2.6 on communicable-disease control) are applicable to adult personnel in the school, as well as to pupils. To ensure maximal health for school personnel, and to protect them as well as the children, it is important that adequate provision be made for a personnel health service. Such recognized personal health measures as periodic chest x-ray and physical examinations should be a regular part of this service. Personnel handling food, whether paid or voluntary, should comply strictly with official regulations regarding food handlers.

3.2.6 *Communicable-disease control.* Communicable-disease control has always been a prime concern of schools and school health workers. Prompt care for the sick child, protection of his classmates and the teaching staff,

participation in the community's programme for specific preventive measures such as immunization, and fulfilment of the school's function as an educational centre have been the underlying motives.

The committee did not attempt to deal with specific diseases. Other expert committees of WHO are working on these, and it is hoped that they will give due consideration to the special problems presented by school organization in discussing the place of the school in the various control programmes. It is important that schools be prepared to change their regulations as scientific advances are made. Too often time-consuming practices are continued long after they are outmoded. The committee did wish, however, to present a few general principles. It firmly believes that the administration of communicable-disease programmes must be the responsibility of the public-health authority and that school authorities should look to the public-health officer for guidance in this work. Integration of the school health service with the general community health service indicated in section 3.1 on planning the school health service would further this objective. Each school system should develop its regulations in close collaboration with the health officer and with due regard to national and international standards as they are adopted.

A difficult problem is presented by the occurrence of epidemics. Whether or not a school should stay open or should close will depend on the character of the disease, the ubiquity of the infection, the likelihood that children may mingle as much if schools are closed as if they attend school, the advantage of having children under the observing eye of the teacher and the nurse—not on the basis of unscientific fears.

The so-called " minor communicable diseases", such as scabies, pediculosis, ringworm, etc., may in some areas be of the most serious importance. They affect school attendance and they gravely interfere with the ability of children to concentrate on their lessons. Arrangements should be made for adequate treatment, which may need to be given at the school itself.

An effective prevention programme depends upon a well-informed citizenry. Effort directed at health education of adults should accompany educational and preventive services given to the children in schools. Awareness of preventive measures by the total community should be the educational goal. Misleading information in current periodicals, superstitions from past eras, and adherence to disproved methods need to be combated vigorously in a sound educational programme.

For the very reason that the school is the centre of educational stimulation in most communities, it has a unique role to play in the dissemination of knowledge about communicable diseases. The teacher may influence

both children and parents to take preventive measures or follow a directed line of action to stem the course of many diseases.

A common and understandable aim of most schools is a perfect attendance record. Certainly stimulus to attend school is frequently desirable and necessary; but it is a mistake to carry it, as is not infrequently done, to the point where pupils will come to school despite signs or symptoms of impending disturbance. Since a corollary of this problem is the one of upper respiratory infections, two subjects for research are suggested: Is early exclusion from school beneficial to the child or his classmates? What should be the content of health education regarding upper respiratory infections?

3.2.7 *Directed physical activities.* A number of valuable ends are served by physical education for children of school-age. It contributes to better growth and development, it offers an outlet for the child's urge to muscular activity, it helps to promote muscular co-ordination and good posture, and to improve general physical fitness. Furthermore, a properly directed programme of physical activities will promote a sense of teamwork and fair play, will give the shy child an opportunity to express himself, and will help the aggressive child to curb his excess drive. Professionally trained physical educators plan programmes of physical education with these considerations in mind.

Medical interest in the programme is directed toward certain specific problems:

(1) Medical review, with the advice of appropriate specialists when necessary, is important in deciding the extent of activities to be undertaken by individual pupils and in planning the modified programme needed by some children. In some areas of the world where malnutrition is prevalent, great care must be exercised in not overtaxing limited physical endurance.

(2) All children should be encouraged to participate in suitable physical activity, and the tendency of some physicians to give children notes asking that they be excused from all activity should be discouraged.

(3) The school curriculum should have a free period, or one not demanding great concentration, immediately after a period of physical training.

(4) School-buildings should be so planned as to provide washing facilities, if possible shower-baths, to be used after strenuous activity.

(5) The possibility inherent in the physical education programme for physical therapy of musculoskeletal difficulties should be developed. To this end close co-operation of orthopaedists and physiotherapists with

the rest of the school health service and the educational authorities is essential.

(6) Over-emphasis on athletic stars may distract attention from the other pupils. Certainly athletes, ordinarily among the healthiest segment of the school population, should not receive a disproportionate share of available health services.

3.2.8 *Promotion of mental health.* In order to take full advantage of the important opportunity which school health work provides for promotion of mental health and detection of psychological problems in children at an early stage, when they are likely to respond to treatment, three common obstacles must be overcome.

First, many school health workers often display a lack of interest in the psychological aspects of the health problems of the child. It is much easier for them to concentrate on physical defects and disease for which treatment may be simpler than the management of emotional difficulty. To arouse real interest when it is not forthcoming spontaneously is not easy. It requires demonstration on actual cases and specific illustrations of the impact of emotional factors in the local school situation.

Secondly, even those school health workers who have developed an interest in the mental health aspects of their work have often felt themselves greatly handicapped by the lack of appropriate training. The committee therefore welcomed the initiative taken by the WHO Expert Committee on Professional and Technical Education in recommending that more public-health schools should include mental hygiene as an elective subject in the postgraduate training of physicians for public-health work.[3] It is also commendable that in certain countries the syllabus for public-health nurses has been revised in recent years to include a greater amount of training in this subject. But revision of the syllabus of training institutions alone can affect the general practices of school health work only over a long period of time; it is equally important that in-service training be started without delay. One of the main aims of such training must be to create an attitude which makes the school medical officer and the school nurse sensitive to the implication of mental health problems in childhood, not only in their clinical work but in their appraisal both of their own practices and the general school milieu. Training needs to be a formative experience rather than the mere imparting of technical knowledge: such teaching must certainly have a clinical basis, but there is room for experiments with many different methods, especially those which can give health workers insight into their own reactions to the mental

[3] *World Hlth Org. techn. Rep. Ser.* 1950, **22**, 18

health problems of others. Periodic review of all school health procedures in terms of mental health impact on parents and child is a commonly omitted but essential policy. Training should encompass criteria to be used in this self-evaluation and examples of the more frequent shortcomings.

The committee noted with appreciation the intention of the Expert Committee on Mental Health to devote its next meeting to the question of the mental hygiene training of public-health workers and expresses the hope that this committee will make specific recommendations regarding the training in this respect of school health workers.[4]

The third obstacle which exists is that the school health worker interested in the mental health problems of children cannot alone deal with them. Intimate team-work is essential among teachers, school health workers, child-guidance clinics and social services of the community and, at a higher level, among education, health, and social welfare authorities. It must be admitted that in some instances professional and departmental rivalries have prevented such team-work from developing. Health workers, provided their work is based on a respect for the individuality of the child and its parents, can take the initiative in developing such team-work, realizing that in the team the teacher plays a key role. In the creation of a school milieu which has a favourable rather than a noxious effect on the mental health of children, the responsibility must rest with the teacher, but the health worker has a duty to act as the collaborator and adviser of the teacher in carrying out this responsibility. The teacher has also a far greater opportunity than the school health worker of recognizing the existence of psychological problems in the schoolchild. To help evaluate such problems and to advise the teacher upon them will often in the first instance be the responsibility of the school health service. But in this activity again, the responsibility can be properly fulfilled only in the closest collaboration with the teacher. It calls for the technique of the case conference rather than the isolated consultation.

Training should enable school health workers to advise upon the less complex emotional problems and also to recognize the more serious disturbances for which specialized child psychiatric facilities will be needed. Availability of such assistance will vary tremendously in different parts of the world. In some areas no specialists at all will be available locally for many years to come. In other areas meagre facilities may exist, and proper planning for their most effective utilization is essential. In general, it is desirable, when child psychiatric resources are so limited, to concentrate first on training and consultation with school health workers before undertaking time-consuming individual case-management.

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[4] See report on the second session of the Expert Committee on Mental Health, *World Hlth Org. techn. Rep. Ser.* 1951, **31**.

In certain urban areas child-guidance clinics fill some of the need. It is probable that the inactivity of many school health services in the field of mental health has led to excessive referrals to such clinics. It is important, however, that the pendulum should not swing to the other extreme. The school health service should carry responsibility for much of the initial screening of cases, but should avoid the responsibility of treating the seriously disturbed child. To maintain a proper selection of cases for referral, the school health worker must develop close co-operative relations with the specialist team of the child-guidance clinic. This relationship must be effective not only in handling individual clinical problems but in bringing to bear the principles of mental hygiene on all aspects of school life.

There is one other matter for comment, although it does not fall directly within the competence of WHO. The major role of the schoolteacher in the promotion of mental health of schoolchildren has been emphasized above at several points. The general tone of classroom activities is a potent influence on the emotional development of children. It is important, therefore, that the training of teachers should equip them to play this role. The committee wished to commend the initiative of WHO in approaching UNESCO to offer assistance should the latter body sponsor a technical conference to discuss the mental hygiene training of schoolteachers.[5] The committee expressed the hope that the Director-General of UNESCO will undertake action in this matter and strongly recommended that, should he do so, WHO assist by provision of experts in child psychiatry and mental hygiene to participate in such a conference.

3.2.9 *Conduct of health education.* As stated earlier in this report, one important reason for supporting a school health programme lies in the opportunities to help children, during their formative years, to gain an understanding of what health means and how it is achieved and maintained. That education for health is an integral part of all school life has been pointed out repeatedly. Not only the teacher but also the physician, nurse, and other school staff members are contributing to the way each child looks at his own health and what he will do about it. Their influence may be far-reaching. Because of this, professional health workers as well as teachers need constantly to review their approaches to children since what may appear as a cursory contact or routine procedure to the adult may leave a lasting impression, positive or negative, on the mind and emotions of the child. It cannot be emphasized too often that school health workers must consider every contact they have with pupils as a situation in which learning is taking place.

[5] *World Hlth Org. techn. Rep. Ser.* 1950, **9**, 15

Health teaching needs to be linked with the everyday living needs and experiences of children, related to their changing interests and to the social, cultural, and economic environment in which they are living and growing. The emphasis should be on the simple and practical throughout both incidental and planned health instruction. Attention may be given to personal, home, school, and village cleanliness; the most effective use of available foodstuffs; development of school and home gardens; provision of drinking and hand-washing facilities; erection of suitable latrines; drainage of mosquito-breeding places; rodent and insect control; effect of physical disease and defect on the body and on ability to learn; mother-craft and child care.

Development of selected visual aids and teaching materials of a very practical nature is to be encouraged and should be related to indigenous problems, resources, and culture. In developing school and village projects, active participation of students, parents, and community leaders should be encouraged by the teacher. These activities may lead to the development of school and village health committees, guilds, and councils in which adults and students alike take a real part in planning and organizing various practical health projects.

In the more-developed areas the opportunities for providing learning experiences in health are enriched through the greater availability of well-balanced school health services, qualified physicians, nurses, other health specialists, and teaching personnel. Yet the availability of these resources in any given area does not in and of itself ensure provision of adequate health education. Joint planning of every phase of the health programme for children is necessary in order to exploit all educational opportunities. Moreover, as stated before, physician and nurse must appreciate the function of their contacts with individual children as educational experiences and understand how to make the most of them.

Physician and nurse can also be used to great advantage in the curriculum of formal health instruction—through providing teachers with educational information based, where appropriate, on actual findings among children in the school (without, of course, identifying any child), and through participation in classroom discussions, where such participation is an integral part of the subject matter or project with which the students are engaged.

Health teaching will also reach the pupil through his courses in such subjects as biological science, domestic science, physical education, chemistry, physics, and even the humanities. In addition, formal courses in health instruction, though all too often dry recitals of facts, can be dynamic and meaningful. A great deal obviously depends on the person in charge of the course. In some countries health teaching is the direct

responsibility of the physician and nurse. Those charged with this duty should have special preparation in teaching techniques. If the teacher must be trained as a health worker, conversely physician, nurse, and sanitary engineer must be trained as educators. In fundamental education training centres, physicians and other health workers should go through courses of training along with teachers, agricultural specialists, and other social workers in the educational approach to the problems of improving health conditions. They need experience, too, in using educational media (film strips, films, radio programmes, textbooks). Health workers must go still further, however, and seek to help teachers by providing technically sound material on health matters to writers of the textbooks and producers of the films which teachers use.

In other countries pedagogical specialists have been trained in essentials of health and hygiene and have also had special experience in methods of transmitting these facts to both children and adults. They are employed as " health educators ". Their work may include classroom teaching, but the greater part of their time is devoted to developing health curricula for various grade levels, and in-service courses and institutes of health for teachers ; co-ordinating the health services and health instruction in the school ; and in helping school health councils to function effectively. Many communities make extensive use of health educators in public and private health agencies.

In all areas health education of schoolchildren should be a part of a programme of general community health education so that parents may learn along with their children.

One controversial problem in health education is presented by what is popularly called sex education. It appeared to the committee that this subject comprises two separate problems. The first is the task of aiding the child to acquire knowledge of sexual physiology. This objective, the committee felt, should be an integral part of the general teaching of human physiology which health instruction should include.

The second problem is that of enabling the child to develop a capacity for responsible behaviour in sexual relations. This appeared to the committee to be one part of the general problem of devising methods of education which assist the child to learn how to establish relations with other human beings which are in all respects harmonious and responsible.

3.3 *Appraisal of health of the schoolchild*

Appraisal of the state of a child's health and the progress of his growth and development calls for due appreciation of the fact that the need is continuous rather than sporadic and that it is most successfully accomplished through combined effort. How many different persons take

part in this effort will vary, of course, depending on the resources of the community, but in every instance one must count basically on the parent, whose observations and interpretations of the child's behaviour are of great significance.

3.3.1 *Place of the teacher in health appraisal.* An interested and observant teacher can be a tremendous aid to parents and school health specialists in helping them understand the health needs of a child. As a trained observer who spends a great deal of time with the children, the teacher can be alert to the subtle change in appearance or behaviour which may herald the onset of disease. To carry out this function teachers need careful preparation, both in teachers' education institutions and during service. In this training it is well to point out that teaching in connexion with specific cases is far more effective than lectures by specialists and classroom exercises.

Certain specific procedures when carried out by teachers add immeasurably to the quality of the health programme in the school. The fundamental method is continuous alert observation—not just an inspection at a particular moment. Alertness means an almost subconscious interest in each child and awareness that some change has occurred. In addition, there are certain specific preliminary tests which are of considerable value. Such tests, known as " screening ", have the purpose of measuring certain relatively objective indices to help evaluate health status and to select those children most likely to be in need of the services of physician or nurse. For example, effective vision is an obvious prerequisite for successful education. Investigations have demonstrated that the teacher, after a brief period of training, can be satisfactorily accurate in performing vision tests and has the advantage of knowing the behaviour of individual children and of being able to detect those who try to memorize the chart. The teacher is cognizant of children who squint or show signs of eye strain. These symptoms are useful in evaluating doubtful cases. Furthermore, the results of such testing make excellent material for a classroom project in health teaching.

Effective objective testing of hearing is a technical procedure which ordinarily should not be undertaken by the teacher. However, the teacher's observation of inattentiveness or apathy, particularly when the trait appears as something hitherto unnoticed, may be an index of hearing loss or some other health problem.

Weighing and measuring are simple ways of recording two indices of growth and can be of great value when recorded in a cumulative record and properly used and interpreted. Reliance cannot, of course, be placed upon height and weight tables as an index to the nutritional status of the individual child.

The positive value of these functions of the teacher for the health of the child, for his educational progress, and for general health teaching should be clear. Yet not infrequently it is stated that such activities demand too much of the teacher's time. Expenditure of time for anything so closely related to educational progress hardly needs justification, but it is important to plan the screening tests so that there is a minimum of interference with classroom routines and to impress on the teacher that continuous alert observation does not require extra time—it requires a deep interest in children.

In some cases the device of a " Health Day ", set officially by the educational authority, helps to make the time problem less difficult. A certain day each half year or a certain number of hours in a definite day are set aside for health work. The occasion is used to focus the pupils' attention on health, with special exercises, special displays, the performance of the specified screening tests, and the completion of health records. When such a day is set administratively, it is easier to plan the work and to make the necessary charts and scales available. Establishment of such a day requires understanding of its significance, and that of the whole health programme, by the school authorities. Building of such understanding is an important task of health service officials. It must be made clear that health activity and health awareness do not end with this day—the day is a convenient landmark but one must avoid over-emphasis to the detriment of the continuing responsibility.

The role outlined for the teacher is obviously important and fundamental in any health service. In areas with extremely limited health facilities, the teacher may be one of the few persons in the community, besides the parents, interested in the child's health. While a programme which depends on the teacher to carry the whole burden cannot be as productive as one with a nurse and physician, there is obviously much that can be done. Conversely, in a highly developed service the role of the teacher, while no longer unique, is still as important to the child's welfare as ever, and there is no substitute for the knowledge gained from the teacher's continued classroom observation. Reports of deviations noted through such observation and the record of the screening tests performed by the teacher form an essential part of the health history. They provide information to physician and nurse which is often essential in understanding the child's problem, and which would not be available to the medical staff from any other source. It appears that teachers can perform preliminary tests and screening most advantageously, permitting the nurse to use her time in following up through home visits and conferences with children and parents.

It is of great importance that the results of any medical action regarding the health of the child, whether or not it is stimulated by the teacher's observations, should be reported back to the teacher in lay terms and

with a clear statement as to future plans or significance. Within the school this objective can be accomplished most easily when the teacher is present at the child's examination, although this is not always feasible.

3.3.2 *Place of the physician and of the nurse in health appraisal.* The committee thought it desirable to group both medical and nursing services under this heading since they are so closely related. Participation of both physician and nurse is essential to a balanced school health service. In some areas of the world, however, there are physicians but few nurses, while in other areas the reverse is true. Wherever possible, work in the school should be a regular assignment for physician and nurse so that they may feel themselves members of the school staff and essential parts of the health team of the institution. When the teacher's function has been properly fulfilled, addition of either physician or nurse or both to the team will mark a great step forward.

In general, the nurse should be well equipped to help with preparation of records and history, to confer with parents and community agencies, and to follow through any medical recommendations. When there is no school physician, she may have to do more of the preliminary health inspections and make decisions as to who needs to be sent to the nearest medical centre.

The physician can make a definitive examination, a medical diagnosis, prescribe treatment, and confer with the parents. To these functions, he must add, when he works alone, certain tasks of the nurse. Ordinarily other demands on his time under these circumstances will be so great that much of this work will perforce be delegated to the teacher.

When both a physician and a nurse are available, a division of activities should be carefully planned, since the nurse can add considerably to the efficiency of the physician.

When a physician serves the school, it is possible for the preliminary selection of children to become more effective and to cover more adequately cases which are brought to attention by teacher or nurse or both. Consultation with educational staff on general problems will be an important part of in-service education.

The physician's responsibility in relation to health supervision needs careful evaluation. The committee believed that health appraisal is the cornerstone of health service for the child of school-age. The continuous observation by teachers, discussed in the previous section, combined with the objective measures described as "screening" tests, form the basis for effective health appraisal. The activities of physician and nurse in instructing the teacher in proper performance of these functions have a high priority and can be as rewarding as any phase of medical and nursing activity in the school.

When a nurse serves the school she can collaborate with the teacher through pre-arranged, organized teacher-nurse conferences, to provide annual or semi-annual review of the health status of every child in the class. From this preliminary health appraisal those children most likely to need care can be selected for the physician's attention. Caring for these cases should receive priority in using the time the physician has allocated to school health examinations. Experience has demonstrated that medical examinations are particularly fruitful when the student has been specifically referred to the physician because parent, teacher, or nurse suspected that something was wrong.

Physical examination, carried out at periodic intervals with care, on the basis of adequate history, with parents present and with sufficient time for the physician to carry out his function as a counsellor in health and a teacher for parent and child, is a highly valuable procedure and one of the fundamental parts of a complete school health service. The committee questioned seriously, however, the value of the all-too-common cursory medical inspection carried out as routine. Medical examinations should be sufficiently painstaking and comprehensive to command medical respect; sufficiently informative to guide school personnel in the proper counselling of the students; and sufficiently personalized to form a desirable educational experience. In the younger age-group, the school should make an unusual effort to announce and schedule medical examinations at such times and places that a parent can attend the examination and have the benefit of the physician's immediate recommendations concerning the health of the child.

When planning the use of the physician's time available for schoolchildren, the various priorities should be provided for properly. The number of periodic examinations to be carried out must be decided after consideration of the time necessary for performance of the functions already cited—advice and consultation to parents, children, and school personnel, and diagnosis and treatment of conditions referred from screening procedures—which take precedence. As physician time becomes available for periodic examinations, newly admitted children should receive attention first, then children leaving school through graduation or for other reasons, then those about the beginning of puberty, i.e., about 13 or 14 years old, and then those about 9 or 10 years old.

In furthering the objective of continuous health supervision of all pupils, the nurse has the important tasks of (1) integrating the health activities within the school; (2) relating the health services of the school to those of the health department; and (3) establishing her relations to parents as a friend and counsellor. She will be able to offer consultant service to teachers and can guide them in their day-to-day observations of children and in the recognition of departures from the normal. The

nurse can give demonstrations which will assist the teacher in carrying out the preliminary tests and measurements referred to previously. She can assist the teacher in obtaining source material so that the latter will have the subject-matter for health teaching which can permeate daily instruction in many subjects. Since correct interpretation of individual health needs is a matter demanding professional skill and judgement, the nurse, working in close co-operation with the school physician, is often in a most favourable position to interpret medical findings and their health implications to the teachers.

There needs to be organized and mutually understood means for interchange of information between teacher and nurse as problems arise. The mechanism for this interchange will vary, of course, depending upon whether the nurse's headquarters are located in a single school, a central school office, or in a health centre, as well as upon the frequency of her visits.

Visits made to the homes by the nurse will help to expedite and complete plans for care and will constitute one of the best means of direct health education for parents and children. The nurse will be concerned with the child as a member of the family unit and not only as a pupil in school. In selected cases she may make arrangements directly for needed care.

The nurse may carry out immunizations on the basis of a written policy from her medical supervisor, but each country will have to study the proper procedure for legal protection of the nurse in this activity.

It follows from the types of duties described that the most efficient functioning of the school health service demands far more time in school by the nurse than by the physician. No definite proportion can be recommended as universally applicable, but some members of the committee considered a reasonable approximation to be four to five hours of nurse's time for each hour of physician's time.

In many instances the nurse may not be able to visit the school more frequently than once a year, and she will be very dependent on the teacher for referral of conditions requiring her attention. Under such circumstances the functions of the nurse as health adviser are even more important.

3.4 *Restoration of health of the schoolchild*

3.4.1 *Provision of treatment facilities.* The ultimate value of much of the work to be done for the schoolchild depends upon the provision of good treatment. It was, therefore, the considered opinion of the committee that any programme of health services for children of school-age must include provision for treatment of both physical and emotional health problems. The committee recognized that the manner in which this treat-

ment should be provided was affected sharply by problems of social and medical organization and by the economics of the various countries and areas of the world. The committee was not of one mind concerning the ways in which treatment might best be provided but agreed upon the following general principles:

(1) Any school health service will fail to achieve its objectives unless treatment is secured. Therefore, a school health service, however it may be organized in any country or area, must consider as one of its functions the securing of facilities for treatment which are available for all schoolchildren.

(2) Such arrangements for treatment must be fully integrated with the general health services of the area.

(3) Since the desire to facilitate educational progress and health education impels the school health service to secure prompt and adequate treatment of pupils, it may be appropriate to set up directly such specialist services as orthopaedic clinics, eye clinics, child-guidance clinics, paediatric clinics, etc. Such direct service, however, needs to be correlated with the parallel services in the community for the general population. Correlation is not always easy since exchange of information is time-consuming and transfer of records cumbersome. One device suggested for approaching the desired relationship is to attempt to use the same specialist staff in both places. While this may work well in smaller cities, it is more difficult in large urban centres.

(4) The committee saw a possible disadvantage in the complete separation of the work of a school physician from curative medicine. The question should be further studied, particularly the possibility that school physicians could have hospital or other assignments in the curative field.

3.4.2 *Approach of treatment through the family.* Treatment of many health conditions of children needs to be approached on a family basis or the problem is likely to recur all too soon. The public-health nurse, serving as a link between school and home and the health services available in the community, may be the person best suited to accomplish this objective. In this, as in other instances, adequate interchange of information between community treatment agencies and the school is necessary to avoid duplication and to carry treatment through to effective completion. There needs to be mutual understanding of the purposes for which information requested by the school is to be used, so that the making of such a report will not be considered an unnecessary task. One country has met this need for co-ordination of information about a child by assigning a health visitor to the hospital for the express purpose of getting essential information back to all health department services.

3.4.3 *Restoration of health of the handicapped child.* The committee learned with interest that a special joint committee of experts is to be established with the United Nations and the specialized agencies to study the details of the problems surrounding the handicapped child. In view of the complexity (even the actual numbers of the many different categories are unknown) of this problem, the committee confined discussion to a few points of principle.

The committee wished to stress the importance of discovering the child who is handicapped mentally or physically in order to ensure that special attention be given to the promotion of the child's health and to the special problem of his education. This case-finding function, and the equally important related work of collaborating with education departments in making the provisions necessary to ensure that the handicapped child will receive the maximum educational opportunities, are among the reasons why the committee wished to see fully-developed school health services everywhere.

The work involved is of a highly skilled nature and, at the same time, closely related to other aspects of school health. Care for handicapped children is not only in the interest of this underprivileged section of youth, but benefits indirectly their normal schoolmates. It thus becomes important to unify organization of health services for the handicapped with the health services for all schoolchildren.

The social problems which accompany existence of handicapping conditions make it highly desirable that international plans in this regard be co-ordinated with the work of the Department of Social Affairs of the United Nations.

3.5 *Other matters of importance*

3.5.1 *Importance of dental health in the school health programme.* The committee learned with interest that WHO has planned to develop a programme for dental health and therefore decided to confine their observations to a few broad principles governing the work of the dentist in the school health service which might be of value as a guide to more detailed consideration.

Dental health is of great importance to the prevention of ill-health and the promotion of health of the schoolchild, and its benefits will be seen throughout life. Every school health programme should therefore include arrangements for dental health education and care. This is essential in all countries, and has additional significance in underdeveloped areas by reason of the fact that examination of the mouth can reveal conditions such as gingivitis (the result of poor nutrition and other adverse factors) which, if not remedied, might do permanent damage.

Since examination by one untrained in dentistry is likely to be misleading, and since in any case detailed examination by a trained dental worker will have to be made before treatment, it is considered inadvisable for physician, nurse, or teacher to examine for dental defects. However, teachers, physicians, and nurses can, with great profit, include the subject of dental health in their health teaching.

In the development of a school dental service it is important that dentists (whether employed whole-time or part-time) should be appointed with a definite responsibility to schools in their area. Only in this way can a real relationship of understanding be established between the schoolteacher and the dentist through which the fundamentally preventive character of the dental service can be recognized. The teacher, school nurse, and dentist working in partnership should try to educate children to seek periodic examination of the teeth and early remedial treatment.

It follows naturally from this that the dentist assigned to the school must combine the work of examination and treatment.

Prevention of dental caries with present knowledge depends mainly upon detection of early defects and remedial treatment, along with promotion of sound dietary habits. The search for other forms of preventive care is, of course, of great importance. Mass prophylaxis, if it could be achieved, would have worldwide significance to health. In this connexion the committee wished to see the use of preventive techniques, such as the use of fluorine, carefully investigated.

3.5.2 *Health records.* Health records are not an end in themselves. Their importance is measured chiefly by the degree to which they are useful to the staff in helping the child to obtain and maintain maximum health within the limits of his potentialities. The following principles in developing and maintaining health records are focused on this objective.

(1) Health records should be cumulative throughout the school life of the child. They should contain pertinent information regarding the child from hospitals, clinics, and family physician. It is desirable that records showing pre-school health supervision be a part of the school health record where this is possible. The record of health status during the school years can be of considerable value in guiding the child into the vocation for which he is most suited.

(2) Health records should contain information on the preventive services (immunizations), screening tests (vision and hearing), findings of the school medical examiner or private physician, and recommendations for therapeutic measures.

(3) Health records should show the progress the child is making in attaining health objectives whether this be the correction of a physical

defect, receiving adequate medical supervision, or developing new habits related to health status.

(4) Any available data bearing on the growth and development of the child should be a part of the cumulative record.

(5) Certain information contained in school health records may be tabulated because of their usefulness in guiding administrative policies. Statistical summaries of diagnoses, however, can be undertaken with confidence only when diagnostic criteria are standard and uniformly understood, when provision is made for both positive and negative statements regarding the diagnosis or diagnoses under consideration, and when periodic evaluation of the accuracy of the statements on the records can be undertaken. Since school health records involve such a large number of persons, the committee felt that further study of ways and means of using these records for collection and analysis of important data was well merited.

(6) Because observations made by the teacher of symptoms and behaviour related to potential health problems is of significance to physician and nurse, it is desirable that a record be maintained whereby the teacher may note such symptoms. When this is a separate record it may well serve the purpose of offering the physician and nurse an opportunity, without violating any professional confidence, to translate their findings and recommendations into lay language to the end that the teacher may understand the child's needs and participate as a team member in helping the child with his problems.

(7) It is suggested that in developing new school health records of any type the staff who are to use the records participate with the administrative staff in developing them.

(8) Finally, when new types of records are introduced to physicians, nurses, or teachers, a period of in-service education preceding the use of the records is important.

3.5.3 *Vocational guidance*. The committee approached the problem of vocational guidance from the single aspect of what part any organized service for school health might play in furthering the objectives of vocational guidance. It was agreed that vocational counsellors or committees charged with the responsibility of guiding children into vocational training or employment need to draw heavily on records of educational progress of the child. In terms of proper placement from the health standpoint, great aid can be given by the school health service which has developed cumulative health history records.

A single physical examination is no substitute for the information gained over a number of years by the school health service in its contacts

with the child at home and in school. Properly used, the information may assist in finding gainful occupation for handicapped children who might otherwise be unable to compete in the labour market.

There was general agreement on the unique value of the contribution to be made by the school health service in vocational guidance. Nevertheless, the committee felt it to be of the utmost importance to sound a note of warning on the possible dangers associated with the passing of medical information to lay committees. The nature of the information contained in a child's health record might easily be misinterpreted and its disclosure might do the child serious harm. It is therefore most important that records should not themselves be handed over. Such records are, in any event, of limited value in comparison with that provided by a careful interpretation of their content by one who understands their meaning. The proper procedure for the conduct of this delicate operation is not in doubt ; it consists in placing the responsibility for giving the necessary medical guidance upon the shoulders of the school medical officer, who should discharge this in person or by confidential letter. In carrying out this duty the school medical officer would naturally and properly regard the information given as primarily in the interests of the individual and his parents and only secondarily for the guidance of a committee or other responsible person conducting the vocational guidance. School medical officers should make themselves familiar with the conditions and hazards of all available occupations in the district.

The committee noted with appreciation the work being carried out by the International Labour Organization in vocational guidance.

4. Staff and Training Required for a School Health Service

4.1 *Basic principles*

A school health programme can be no better than the staff which provides the services. For this reason, critical attention must be focused on the selection of staff, their training, and their ability to work in co-operative team-work situations.

Three basic principles underlying the provision of health care for school-children are : (1) programme of health for children can be conducted when only a teacher is available ; (2) professional health staff, including physicians, nurses, and dentists, contribute additional services which enrich the health experiences of the child ; (3) irrespective of the number and type of personnel available, a satisfactory educational programme for the child can be developed only when there is an accepted philosophy of team-work among the staff. This implies that the work is not only

planned jointly, but also carried out co-operatively by teachers, physicians, nurses, other specialists, and administrators.

4.2 *Roles of personnel*

Previous sections of this report have emphasized the special contributions which health personnel and teachers bring to helping boys and girls develop healthier bodies and more satisfying personal living. It seems appropriate now to stress the kinds of services which can be given in various school situations and to indicate the necessity for a closer working together of the many different types of workers who have an interest in the health of children. In some areas, in addition to the physicians and nurses who form the core of the health service personnel, there have been added dentists, social workers, health educators, visiting teachers, dental hygienists, psychologists, psychiatrists, nutritionists, and a great number of auxiliary personnel, including trained volunteers, " dressers ", matrons, and sub-professional workers. There is naturally great variation among areas in the numbers and kinds of workers who are employed in the school health programmes.

In areas where the teacher has no resources in the school health service to call upon, it is clear that, in addition to the instruction and experiences in healthful living which should form a vital part of the daily schedule, the teacher will also need to be attentive to many other health matters. Maintaining sanitary conditions of the school site ; attention to sudden illnesses or accidents befalling children ; discovering children with health problems which handicap learning ; trying to find community or governmental resources to take care of the problem discovered : all these are the responsibilities of the teacher to carry out to the best of his ability in the situation.

When a nurse is available in the community, the teacher will continue to observe the children for deviations from normal health functioning and to detect children with lowered visual acuity ; but the nurse will assume responsibility for a large proportion of the work of aiding parents to secure medical attention for the child. Much stimulus will be given to the teaching of health in and out of the classroom through the nurse's individual teaching of children and the help she gives to the teacher.

The physician's role will vary depending on the medical resources in the community. If there are few or no other physicians in the area, he may find himself not only performing educational, diagnostic, and preventive services but treatment services as well. In areas with more resources, his work may be limited to the health appraisal of children, and to educational functions of many types. Therapy for the children will be given by private physicians and public agencies. As a member of the " health

team " the physician will work closely with teacher and nurse, sharing his knowledge with them and learning from them facts bearing on the child's health and behaviour.

Other professional workers have been added to the school health staff, as the economy of the community has permitted the employment of specialists to deal with the great variety of health problems which the school population offers. Auxiliary workers under professional supervision have been useful not only in areas where a dearth of professional personnel exists, but also in more-favoured areas where technical assistants and volunteer workers have carried out tasks which release professional staff for services which they alone are competent to perform.

As staff are added, better administrative planning and more extensive staff supervision are needed. Team-work becomes more imperative, but it does not emerge as a philosophy of work without the conscious effort of the administrator and staff.

4.3 *Preparation of personnel*

A programme which meets the health needs of schoolchildren demands staff trained for this work. A large part of the apathy toward, and ineffectiveness of, many school health services is the direct result of inadequate preparation of staff.

4.3.1 *School physicians.* The physician who works with schoolchildren must be more than a good clinician. Because the school health programme is primarily preventive and educational in its objectives, he must also be familiar with sound public-health theory and practice, possess insight into the emotional needs of children, and be familiar with the different techniques of teaching. To work effectively as a " team member " with nurses, teachers, parents, and other health workers, he must learn to respect and to utilize the skills which other professions bring to bear upon problems of child health.

Medical schools, therefore, will contribute greatly to the professional usefulness of their graduates as regards school health by including educational experiences in public health, mental health, and school hygiene in the curriculum.

Arrangements need to be made for courses which will enable physicians interested in entering the school health service and physicians who are now working in schools to acquire skills in child psychiatry, paediatrics, and pedagogy which will enrich their teaching of children, parents, and teachers. Experience from several countries indicates that conferences and institutes in which physicians, nurses, and teachers discuss common

problems are exceedingly helpful in raising the standards of the school health services.

The problem of what should be the best training for the school physician seemed to the committee to be one of the most important matters which it had discussed. However it was impossible in the time available to pursue the matter in the detail required, and the committee therefore strongly recommended that the matter be further studied.

4.3.2 *Nurses.* The nurse, like the physician, has a different type of task when she works within the framework of the school, for it is not the clinical situation to which she has been accustomed in her hospital experiences. It is a new kind of experience, one with children, to which the nurse must bring warmth, acceptance, and understanding. To the teacher she must be a source of information and guidance. To the parent she must be a friendly counsellor—cognizant of community resources, sympathetic with family problems, and an interpreter par excellence of the child's needs as revealed by medical examinations and school behaviour.

The nurse, then, has many roles to play, and she must be well qualified by training in many different aspects of the work. First, she should be a fully qualified nurse and registered in her own country. She should have, in addition, preparation in public-health nursing, such preparation to include courses in psychology, mental health, health education, and the understanding of behaviour, as well as a good background knowledge of child growth and development. Furthermore, she should expect, when employed, to work under a qualified nurse supervisor.

The precise preparation required of the public-health nurse needs further close study, and the committee recommended that this be undertaken.

In those countries where there is a great shortage of qualified nurses it may not be possible to secure nurses with the above qualifications for school health services. In such cases the best-prepared nurses available should be utilized. These countries should make every effort to develop schools of nursing in which the principles of mental health, public health, and prevention of disease are integrated into the basic nursing curriculum.[6] In this way all nurses will be better prepared to carry out their function of teaching positive health to both the children and their families.

Where it is necessary, and desirable, to use auxiliary nursing personnel in the school health service, they should function under the

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[6] See report on the first session of the Expert Committee on Nursing, *World Hlth Org. techn. Rep. Ser.* 1950, **24**.

supervision of a well-qualified nurse with public-health preparation where possible.

School health procedures are ever changing. Thus the nurse, as other health workers, must have the opportunity to improve her professional qualifications. This may be achieved in many ways, through planned educational staff meetings, attendance at vacation institutes, or short-term conferences.

4.3.3 *Teachers.* If teachers are expected to develop in children the health practices and sound informational background conducive to healthful living, then they must have the opportunity to learn themselves what to teach about health and how to teach. The best means of accomplishing this, obviously, is to introduce health instruction as part of the teachers' preparation course of study in the teachers' training institutions. In such preparatory courses the prospective teacher will learn not only the fundamental facts concerning the functioning of the human body and preventive health measures but also will have experience in learning to observe children from a health and developmental point of view and to make simple tests such as vision-testing and weighing the child. As has been pointed out in the section on mental health, it is evident that the teacher needs considerable insight into the emotional needs of children. Much stress in the preparation of teachers should therefore be placed on their gaining basic understanding of a child's needs at various stages of his growth. The prospective teacher must also be given insight into the methods by which health can be taught through activities and projects with health implications.

Teachers' training institutions need to maintain close relations with the public-health officer of the community and other specialists to the end that the curriculum in health teaching shall be modern in its approach and available consultant services be used.

Many teachers are now at work who have not had such preparation for teaching health. For them instruction must be specially planned through vacation courses, conferences, institutes, and seminars, in close co-operation with public-health agencies, unofficial health groups, medical and nursing resources, and other pertinent groups. Teaching devices which have been found effective in in-service courses for teachers have included case studies of children, participation in school and community health projects, demonstrations of good case-finding techniques, and development of new teaching units. Such methods of teaching should form an important part of any course for teachers. Development of selected visual aids and teaching materials of a very practical nature should be encouraged. These should be focused on the problems, resources, and cultural practices of the children and parents in the area involved.

4.3.4 *Auxiliary personnel.* In some areas of the world, it will be impossible for many years to obtain the number of qualified physicians and nurses needed in the school programme. For this reason auxiliary aides are a definite need and must be recruited from many sources to work under the supervision of trained personnel.

At present much of the medical work in some areas is done by medical aides (dressers, feldschers, hospital assistants, apothecaries, compounders, dispensers, sanitary inspectors, etc.). Many individuals in these categories are exceedingly capable and intelligent, and can well be used for assisting in school health work. The use of auxiliary aides, however, carries with it the responsibility of training these workers for new tasks. Their previous training has included little regarding child health, either preventive or curative, and less with regard to education or social medicine.

Courses need to be organized, therefore, both before the workers assume new tasks and at frequent intervals after employment. Their training should include those aspects of child health and school hygiene which are appropriate to local needs and within the capabilities of the auxiliary worker to perform. Among points to be emphasized might be included the sanitation of the school premises, elements of nutrition, and treatment for minor ailments, together with an understanding of the types of illnesses needing medical and hospital care. In many well-developed school health systems, the practice of employing auxiliary workers with training in specific services is being encouraged. Technicians to give vision and hearing tests, secretarial help to maintain cumulative records, matrons to serve the needs of girls in secondary schools, volunteers to help in well-organized school health clinics and medical examination procedures—all these are but examples of types of auxiliary assistance that are becoming increasingly useful. It is evident that training is necessary for all groups.

4.3.5 *Specific training programme.* The committee considered the subject of proper training and preparation of personnel as one of the most fundamental with which it had to deal and, while it has made certain general and specific suggestions, it believed that further detailed study is essential. Co-operative planning by representatives of schools of medicine, public health, nursing, and education should be able to produce desirable curricula for the respective schools. The various schools should also share in planning and administering the curricula needed for conducting special school health institutes.

5. Framework of Organization and Administration into which the School Health Services can be Fitted

In considering what would be the best framework of organization and administration into which health services for children of school-age can be fitted, the committee put forward the following guiding principles:

(1) Great variation in forms of administration is possible, and no standard framework can be devised to meet the circumstances of all countries.

(2) Efficiency of the school health work will ultimately depend less upon the particular framework of administration than upon the manner in which the school health teams discharge their responsibilities and bring about a material understanding in co-operation with all other authorities who share services related to the school work.

(3) In view of the importance of this co-operative relationship, the committee stressed the great advantage which will be derived from integrating the administration of the school health service with the administration of the general community health programme. This can be achieved when the medical officer in charge of community health is also the school medical officer and, no doubt, in other ways.

(4) The school medical officer (and other staff in the school health team) must have a definite assignment which will place him in a position of responsibility towards the maintenance of health in the school. He must not in any circumstances be regarded as an occasional visitor with no continuing responsibility.

(5) Sound relationships between the school health team and the family and the community (of which the school is a part) will be furthered when the nurse serving the school serves also the general health needs of the community. Where this is impractical, administrative provisions between departments should permit the nurse working in the school to share in the work and professional meetings of the community health workers.

(6) A school health service should serve all children of school-age in a defined community and therefore should include children attending private schools.

(7) Health services for children of school-age cannot be isolated from community health care in general; this is particularly true of maternal and child health activities. A good school health service, therefore, will be correlated with the child services for the pre-school years through some such means as having the school health staff work also in the maternal and child health service. The same principle is true for the period after

leaving school, and the school health service should be correlated with such general health services as industrial hygiene and appropriate clinics.

(8) Reference was made earlier to the desirability of school health councils or committees. Their organization can bring together all in an area who are interested in school health—parents, industrialists, and social workers, in addition to the more directly involved professional personnel. In smaller communities, where the school is a centre of community activity, the village health committee may well function as a school health committee.

(9) The committee stressed the importance of the total and continuing child health concept. Prenatal work, infant-welfare centres, pre-school health services, school health work, and health supervision of adolescents should be guided by the same medical administration, in order to obtain uninterrupted continuity in the supervision of the individual during the whole period of growth and development. Where, however, it is administratively impossible or inadvisable to follow this procedure, responsibility must be assumed by the different agencies involved so to co-ordinate their work that the health guidance of any child is not fractionized.

6. Further Studies

In the course of the discussions certain topics arose which the committee felt deserved further thought and more detailed study. It was recommended, therefore, that the following problems be made subjects for consideration, either by members drawn from the advisory panel of experts of the World Health Organization, or by reference to appropriate expert committees or conferences.

(1) A study of the use of school health records, and an analysis of the recordings made by staff in terms of their usefulness in (*a*) guidance of children and their parents, (*b*) improving supervisory and administrative practices, (*c*) providing basic research information in planned studies in child health.

(2) A study of the content of the curriculum and methods of training for preparing physicians to work in schools. The validity of the curriculum needs to be ascertained in terms of the kinds of services and experiences school physicians will encounter.

(3) An analysis of the physical, emotional, and social health problems encountered by the nurse and their significance for developing pre-service and in-service training for public-health nurses engaged in school health work.

(4) An analysis of the new types of preventive dental health programmes with a view to determining their usefulness in mass prophylaxis campaigns on a worldwide scale.

(5) A study of the ways in which organization of health services for the handicapped child can be co-ordinated with the health services for all schoolchildren.

(6) Area studies of school feeding programmes to determine their effect on the physical growth, emotional reactions, and social adjustment of children. A study is also needed on the attitudes and practices of parents when school meals are provided.

(7) An analysis of the problems encountered in the effective administration of a health service for school personnel, and how such a service may be implemented.

(8) An analysis of the different methods of assessing nutritional and growth status, with a view to determining their value and effectiveness for use in the school health programme.

(9) A study of the various ways of co-ordinating examinations by private physicians into the programme of continuous health appraisal.

7. Conclusion

In concluding its task of preparing an outline of basic policies and approaches, the committee agreed that the effective application of improved health programmes for children of school-age would inevitably result in healthier and happier children and adults.

Every country has opportunities and responsibilities for revising its health policies for school-age children. Throughout its report the committee has indicated the directions such revisions might take, and has pointed out ways of introducing them. The committee hoped that the ideas and suggestions developed in the course of its discussions would find practical application for the improvement of the health of school-age children in all areas.