

Office at its Second Session in November, 1948. In February, 1949, the Tuberculosis Research Office was established in Copenhagen in order to permit close working co-operation with the Joint Enterprise of Unicef and the Scandinavian Voluntary Anti-Tuberculosis Organization, and to undertake the responsibility of directing and supervising the tabulation and analysis of the statistical material collected in the B.C.G. campaign in various countries.

The B.C.G. campaign includes plans to tuberculin-test 50,000,000 children and young adults in Europe, and estimates that 15,000,000 persons will be vaccinated with B.C.G. By the first half of May, 1949, about 9,000,000 were tested and 4,000,000 vaccinated in Finland, Poland, Czechoslovakia, Yugoslavia, Hungary, Greece, Bulgaria, Austria, and Italy. The campaign has also been started in India, Ceylon, and North Africa, and plans are ready for the Middle East countries. It is expected that before long the work will be extended to East Asia and Central and South America. The wide geographical area involved, the large numbers to be tested and vaccinated, and the uniformity of procedures and materials used in the campaign are unique and unprecedented. An enormous number of observations on tuberculin sensitivity as well as records of vaccination have already been collected.

The compilation and analysis of these data require the greatest care and attention, and should provide not only an adequate documentation of the work of the campaign but also a valuable permanent record of the findings of the prevaccination tuberculin testings performed in various countries and areas.

During recent years much information has been accumulating which suggests that B.C.G. vaccination affords some protection against the development of tuberculosis, but decisive proof of this and the exact degree of protection are lacking. The statistical analysis of the records of vaccination and tuberculin testing carried out by the W.H.O. Tuberculosis Research Office should provide useful data on the protective powers of B.C.G. vaccine.

In order to encourage young people to gain wider experience in their work and improve their knowledge of languages by taking employment abroad, the Brussels Treaty Powers—Belgium, France, Luxembourg, the Netherlands, and the United Kingdom—have agreed on a Convention to facilitate exchanges of student employees between the five countries and to establish the principles by which such exchanges should be regulated. The Convention was signed by the Foreign Ministers at the meeting of the Consultative Council held in Brussels on April 17. It concerns student employees of either sex who may be employed in either manual or non-manual work. In general they will not be more than 30 years of age. The five Governments will exempt any necessary permits enabling student employees to stay in their countries and to take employment there from all taxes or charges other than purely nominal charges. In general the period for which they can stay in the country will be not more than a year, but in exceptional cases it could be extended for a further six months. No fixed numbers of student employees are laid down in the Convention, but it provides methods for regulating the numbers to be admitted by the various countries. The five Governments also agree to facilitate the exchanges of student employees either by setting up a central agency to supervise the application of the Convention or by other appropriate means with the help of organizations concerned with such exchanges. The Convention can be extended to nationals of any other country with the consent of all the five Governments. Last year the United Kingdom was visited by 704 student employees from the Brussels Treaty countries, of whom 101 came from Belgium, 241 from the Netherlands, 359 from France, and 3 from Luxembourg.

MEDICAL STATISTICS AND WORLD HEALTH

BY

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A World Health Organization could not function effectively without the aid of some medical statistics from most of its member States: as well try to conduct a global airway system without the aid of telecommunication. It is not enough to give directions and get the units moving; it is also necessary to measure their progress and know where they are. The Health Section of the League of Nations established an information system for epidemic diseases which proved its usefulness and continued to operate until it was incorporated in the World Health Organization. But the aims of W.H.O. extend far beyond the circulating of information on which countries can take action if they wish, and the "control" of epidemic diseases forms only a fraction of the whole programme of action.

The Aims of W.H.O.

Child health may be taken as an example, for it is known to be closely correlated with the infant mortality rate, which is not difficult to estimate. When countries are arranged in ascending order of this rate they fall into several broad groups. First come those with fairly complete medical certification of the cause of death and well-organized systems of vital statistics; next come those with poorly developed medical certification and vital statistics; and then those countries not yet possessing any system of registration but where infant mortality is known to be very high. It is not by accident that infant mortality and quality of medical statistics tend to run together, nor is this merely due to both being by-products of the quality of social and sanitary services. Whilst it is true that infant mortality can be brought down a long way by improving social conditions, guided by the experience of other countries who have had the advantage of good medical statistics, a point is reached beyond which a country is unable to reduce its rate further without guidance from *its own* statistics of mortality from different causes in various groups of its population.

The statistical concern of W.H.O. in this question of child health consists, therefore, in (a) assembling the national data in existence and drawing such conclusions as can be drawn from the imperfect material; (b) considering the faults in the data and how they can be removed by (i) international rules regarding definitions and mode of presentation of vital statistics, and (ii) advice and help to countries in establishing or improving their systems of collecting data; (c) enabling countries to benefit as fully as possible from experiences of other countries which have advanced further in the improvement of child health; (d) encouraging statistical researches into the various factors associated with child mortality and morbidity through the agency of National Committees on Health Statistics or their equivalents; (e) statistical supervision of international projects for improving child health so that their effectiveness may be measured and waste of money and effort minimized.

It is one thing, however, to make a tidy statement of aims such as the above, and another thing to see them realized, not only for child health, but also for other great problems such as tuberculosis and cancer. There is a natural inertia concerning statistics in any medical

assembly, which arises partly from dislike of the subject, partly from lack of understanding of its complexities, and partly from suspicion that statisticians like to pile up figures merely for the pleasure of doing it. Fortunately, in the case of the World Health Organization this inertia was largely overcome at the start, when certain responsibilities had to be taken over from other organizations—namely, the epidemiological information services, the revision of the *International List of Causes of Death* due in 1948, and the periodical reports on cancer of the uterine cervix.

Classification of Diseases and Causes of Death

For the *International List* revision much preparatory work had already been done by three countries working together to design a Statistical Classification of Diseases, Injuries, and Causes of Death to serve the purposes of morbidity and mortality; and when the Interim Commission of W.H.O. appointed an Expert Committee to revise the *International List*, that committee was able to continue the work at its first meetings at Ottawa and Geneva in 1947. An International Conference, convened by the French Government to carry out the Sixth Revision early in 1948, adopted the new classification and entrusted the Expert Committee with its completion, making at the same time strong recommendations to W.H.O. on the lines of action to be taken for developing and promoting good health statistics. These are being initiated, and considerable progress has already been made not merely in establishing the machinery but in setting it in motion.

At the First World Health Assembly publication in English, French, and Spanish of the new *International Statistical Classification*, in two volumes, was authorized; and the first volume in English became available for use in 1949 and has been used for national statistics of morbidity, including hospital in-patients and cancer registration, in England and Wales since the beginning of that year. It was also used there and in the United States of America and in Canada for coding the deaths in 1949 in parallel with the Fifth Revision of the *International List* (1938), with a view to testing the new classification and providing a statistical bridge for future comparability. The Spanish edition of the first volume has just been issued and the French edition is almost ready.

The second volume, of which the English edition has now been published, consists of an alphabetical *Index* of diseases, injuries, and causes of death, with the number of the category to which each is assigned. The *Index* was designed to include as nearly as possible every disease, and every reasonable name attached to a disease, which is likely to be entered on a medical record or certificate. Not all of the terms included are recognized as being good descriptive terms, and in this respect the *Index* differs from the index to a Nomenclature of Disease. It is not intended to tell physicians what they should write on certificates, but rather to which category of the classification what they write will be assigned; and also to enable anyone who has sufficient knowledge of medical terminology for the work of coding medical records to discover the proper category for anything found on them. Although cross-indexing was reduced to a minimum by various devices, the index contains 524 pages with more than 40,000 items, many of them not important enough to appear in the tabular list of included terms under each category printed in the first volume.

Construction of the *Index* has been a laborious task, carried out mainly in Washington under the direction of a subcommittee appointed for the purpose by the Interim

Commission of W.H.O. in 1947. It is a good example of what can be accomplished by international team-work, for a great many people besides the subcommittee helped in its construction while living in Ottawa, Oxford, Geneva, London, and other places. The final work of editing and printing was done in Geneva, and the copies for use in Britain have been bound and published by H.M. Stationery Office. It is to be expected that faults and mistakes will be found in both volumes of the *Classification*, and that experience will show that some parts of it are unsatisfactory. In that case it is to be hoped that suggestions for improvement will be sent to the World Health Organization for consideration with a view to amendments being made in the future without necessarily waiting ten years.

Uniform Presentation of Statistics

The First World Health Assembly issued a set of Regulations for the use of the *Classification* and for uniform presentation of statistics derived from it. An important feature of these was the prescription of a standard form of death certificate, and the throwing of responsibility on to the medical certifier to decide which was the underlying cause of death when more than one morbid condition was present. Most countries have been making the selection of the principal cause for statistical purposes by means of fixed rules of precedence, a method which made coding easier but led to strange anomalies in death rates from some diseases. Diabetes, for example, was accorded a high preference in pre-insulin days, and it continued to kill people with little-diminished frequency according to the statistics of countries still using fixed rules. But in England, where the certifier has for long been able to distinguish between dying *from* diabetes and dying *with* diabetes, the death rates in early and middle life have fallen greatly.

The change to this new system of death-accounting has been a serious undertaking for many countries accustomed to using the convenient *Manual of Joint Causes* when more than one cause of death is stated; but it was recognized by them that knowledge of the causes of mortality depends ultimately on good certification by the physician in attendance, and that, if knowledge is to increase further, the aim must be to improve that certification by education and every possible means and then rely upon it. In many countries over one-half of the death certificates mention more than one morbid condition, and so long as these were dealt with by arbitrary rules of preference there was no incentive to try to understand and record their relative importance or sequence in a particular patient. In North America and Australia real progress was made during 1949 towards overcoming the initial difficulties of the new system, which was first introduced in England and Wales in 1940. A prospect of obtaining valid international comparisons of death rates from chronic diseases is at last opening up, at least in the great cities.

The Expert Committee on Health Statistics

Another decision of the First Assembly was to set up an Expert Committee on Health Statistics, which met for the first time in May, 1949. Amongst the recommendations then made which were approved by the Second Assembly were the appointment of subcommittees to establish international definitions of stillbirth and foetal death, to advise on cancer statistics (including the difficult matter of survival and recovery rates), and to examine the question of hospital morbidity statistics. Reports from these working parties of experts, and also from the second meeting of the parent

committee, have been presented to the Third Assembly, but at the time of writing it is not permissible to do more than refer to these in general terms. It can be said that on the one hand they point the way to removal of serious obstacles which have hitherto prevented valid international comparisons of foetal and neonatal death rates and of survival and recovery rates of cancer patients; and, on the other hand, they refer a number of problems on which statistical investigations are needed for the advance of knowledge, and which could be done in certain countries, to National Committees (or equivalent advisory committees) for Health Statistics.

It was seen clearly at the International Conference for Revision of the Classification of Diseases at Paris in 1948 that if studies of a statistical nature such as these were to be started in countries able to do them, for the benefit of all countries, some kind of national machinery for that purpose would need to be set up in most instances. A number of countries have already established National Committees for Health Statistics with this in view, and in others Advisory Committees on Medical Statistics have been appointed, consisting of specialists in medicine, surgery, obstetrics, paediatrics, pathology, psychiatry, public health, medical statistics, and other subjects. Research on such problems as birth weight in relation to the gestation period, classification of operative procedures, and the follow-up of cancer patients can be planned and supervised by such committees acting singly or in co-operation with those in other countries, the function of W.H.O. being to suggest the lines of work and prevent duplication of effort.

Most of this work concerns countries with fairly well developed health and statistical administrations, but the Expert Committee on Health Statistics has also suggested that W.H.O. should foster the building up of such medical statistical services as may be practicable in underdeveloped areas, offering expert advice if desired. It has also expressed its opinion that when large-scale projects for reducing the incidence of diseases are embarked upon by W.H.O. the advice of statisticians should be sought during the planning stage.

For all these activities a strong Secretariat for the newly constituted Division of Health Statistics is essential, and temptations to economize at the expense of those unpopular people the statisticians will have to be resisted. Diseases may not be "cured by statistics," and no doubt some have been conquered without much help from them, but it is certain that the great scourges of the present day stand little chance of being eradicated without team-work in which statisticians play their proper part.

A Convention signed last November by the Foreign Ministers of the five Brussels Treaty Powers—Belgium, France, Luxembourg, the Netherlands, and the United Kingdom—lays down that nationals of any of the five countries who are without sufficient means, and who are lawfully residing in the territories of any of them, may benefit under their medical and social legislation. Under the terms of the November Convention repatriation can take place only in certain circumstances. A Supplementary Agreement now signed states that the five will have recourse to repatriation only in exceptional cases, and then only when no humanitarian considerations would deter. Particular attention will be paid to the family ties and close associations which may bind the person concerned to the foreign country where he or she resides. The five have also agreed that repatriation should cover the husband or wife and children of the assisted person.

THE INTERNATIONAL CONTROL OF EPIDEMICS

BY

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In another article in this issue Dr. N. Howard-Jones has ably pointed out that international co-operation in the field of public health originated in successive attempts made by nations to defend themselves against invasion from epidemic diseases.

Such was indeed the only object of the first international health institutions, and the international control of epidemics has remained a fundamental and statutory obligation of all of them—of the Quarantine Board of Egypt, the Office International d'Hygiène Publique, the Health Organization of the League of Nations, and now the World Health Organization—even though the functions of each successive organization were gradually extended to meet the ever-expanding notion of what constitutes international health.

The international control of epidemic diseases demands, first, knowledge of the countries and places, ports in particular, where these diseases actually prevail and from which they are apt to be carried into other countries; secondly, knowledge of the means of propagation of these diseases, and, as a corollary, knowledge of the methods of controlling such propagation; and, finally, international rules for the sanitary control of international traffic.

The first point requires an efficient international epidemiological intelligence service, the second requires a machinery whereby the latest acquisitions of science may be brought into practice in international epidemic control, and the third requires sanitary legislation which is universally applicable to international traffic.

I shall briefly review the present situation as regards each of these items, and particularly their recent developments.

International Epidemiological Intelligence Services

Traditionally, countries have attempted to obtain information of epidemic diseases abroad by means of their consular agents in foreign ports, who sent news of the kind by mail. This system, which is still followed by some nations, is expensive, slow, and unreliable.

Exchange of information by diplomatic channels, as provided for by the early International Sanitary Conventions, was hardly more practical. Only too often the diplomatic representatives sent home the information handed to them by the local health authorities by ordinary mail only, so that infected ships could actually travel faster than the news concerning an epidemic outbreak. Obviously, this system was inadequate to check international transmission of disease. That is why in 1925 the Health Organization of the League of Nations set up an epidemiological station in Singapore, the most important shipping centre in the Orient. Some 180 ports in the countries bordering on the Indian and Western Pacific Oceans volunteered to keep the station informed telegraphically each week of their sanitary situation. The Singapore station in turn broadcast, through a series of wireless stations, the information thus received to health administrations and ships at sea.

One year after this revolutionary initiative the 1926 Sanitary Convention recognized the need for centralized collection and distribution of epidemiological information, and formally entrusted the Office International d'Hygiène