REPORT ON EXPERT COMMITTEE MEETINGS

Report by the Director-General

1. INTRODUCTION

In compliance with paragraph 10.6 of the Regulations for Expert Advisory Panels and Committees, the Director-General is reporting, in this document, on the action to be taken with reference to meetings of expert committees.

This document reports on 15 meetings of expert committees, the reports of which have been prepared in both working languages since the thirty-sixth session of the Executive Board and are annexed to this document. These meetings are reviewed hereunder in the following order:

1. Expert Committee on Diabetes Mellitus

2. Expert Committee on Immunology and Parasitic Diseases

3. Expert Committee on Cancer Treatment

4. Joint Meeting of the FAO Committee on Pesticides in Agriculture and the WHO Expert Committee on Pesticide Residues (Evaluation of the Toxicity of Pesticide Residues in Food)

5. Expert Committee on Nutrition and Infection

6. Expert Committee on Water Pollution Control

7. Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel (University Student Health Services)

8. Expert Committee on Rabies

9. Expert Committee on Onchocerciasis

1 Basic Documents, 16th ed., p. 92.
2. WHO EXPERT COMMITTEE MEETINGS

2.1 Expert Committee on Diabetes Mellitus

2.1.1 Background information

Widespread signs pointing to a rapidly increasing prevalence of diabetes mellitus in a number of countries motivated the Organization to convene an expert committee to review the diabetes mellitus situation in the world and to consider practical measures for the prevention and control of the disease as a public health problem.

2.1.2 The report

The Committee considered available statistical data and noted that the rise in the prevalence of the disease coincided with increased food consumption, obesity and reduced physical exertion, particularly in the more affluent communities.

It reviewed the natural history of diabetes mellitus and its causes; defining the condition and related states, and the diagnostic laboratory criteria used. It proposed that the classification of cases based on the age of recognized onset be adhered to for epidemiological research and inter-country studies. It discussed prevention in terms of its genetic, eugenic, congenital, nutritional and dietary aspects. Early case detection by screening procedures was reviewed from the point of view of selecting the group to be screened as well as the testing techniques to be used.

An outline of public health control of the disease was given, based on organized services for case-finding, follow-up and medical care, and on education programmes aimed at the public and the health professions organized by health authorities in collaboration with interested professional and voluntary associations.

The principles of treatment of the individual patient were also discussed as well as the social aspects of employment and placement of young and adult diabetics. The Committee expressed itself against the restrictions applied in many countries to the employment of diabetics.

2.1.3 The recommendations

The Committee recommended for appropriate national and international action:

(a) The collection of basic epidemiological data to ascertain the prevalence and to help to clarify the natural history of the disease.
(b) Health education programmes aiming at reducing obesity and other presumed diabetogenic conditions in adults.
(c) Promotion of organized action for the detection, prevention and control of the disease.
(d) Comparative studies on the natural history of potential and latent diabetics.
(e) Studies on the relationship between diabetes mellitus and other diseases, such as atherosclerosis and tuberculosis.
(f) Research on the prevalence of insulin antagonists, possible genetic markers and insulin antibodies in various countries.

2.1.4 Implications for the Organization's programme

The Committee's deliberations and recommendations will guide WHO in encouraging or assisting national health administrations to organize their resources for the control of diabetes and in organizing further studies in the etiological factors of diabetes. The research recommendations will be followed up and kept under review as more data become available.
2.2 Expert Committee on Immunology and Parasitic Diseases

2.2.1 Background information

The need for applying new knowledge in immunology to the problems of parasitic diseases was stressed in the reports of the five Scientific Groups on "Research in Immunology", which summarized the present state of knowledge in immunology.

An expert committee on immunology and parasitic diseases was, therefore, convened in December 1964 to consider recent advances concerning the existing and potential interrelationships between immunology and parasitology from a public health point of view, and also to identify gaps in the present knowledge of the immunology of parasitic diseases, in particular, of the fundamental problems of immunological resistance to protozoan and metazoan parasites.

2.2.2 The report

The Committee reviewed current concepts of immunology of actual or potential importance for parasitic diseases and concerning the nature and structure of antigens and antigenic determinants; the heterogeneity of antibodies; the biological and immunochemical significance of the heterogeneity of immunoglobulins; the concept of delayed hypersensitivity and the mechanism by which combinations of antigen and antibody produce cytotoxic and cytolytic effects, as well as immunopathological tissue damage.

In the field of parasitic diseases, the Committee described those characteristics of parasitic infections which differ fundamentally from those of bacterial or viral infections and, therefore, may be specially important in immune responses or the lack thereof, and then discussed selected parasitic infections where studies have demonstrated natural resistance, active and passive immunity, specific effects on the parasites and hypersensitivity manifestations in the host.

The Committee also considered in some detail the antigens of parasites and the methods currently used or potentially available for immunodiagnostic testing and for detecting hypersensitivity to antigens of parasites.

2.2.3 The recommendations

The Committee recommended:

(a) That WHO organize a meeting on the immunopathological and pathogenetic aspects of parasitic diseases and promote exchanges of immunologists and parasitologists to work in one another's laboratories, and arrange for the collection, storage and distribution of parasitic material and antisera for biochemical and immunological analyses.

(b) Research studies: (i) to define further the antigens related to critical stages of parasite development, leading to immunological measure of host resistance and immunological means of inducing or increasing it; (ii) to determine which of the antibodies detected in current diagnostic tests are effective in immunity against parasites.

(c) Further research designed to overcome the immediate, formidable obstacles to the prospects of immunization against malaria, including in vitro cultivation of the parasite and study of its antigenic composition, and carefully controlled studies in human volunteers and in monkeys and splenectomized chimpanzees in non-malarious environments.

(d) Intensive investigation of the possibility of developing immunization procedures by the study of: the antigenic variation in trypanosomiasis, the immune responses of N. Dama and other African breeds of cattle which are resistant to trypanosomiasis, the frequent infection of cattle in Europe with Trypanosoma theileri, the establishment of "banks" of frozen trypanosomes, and the high serum IgM levels found in trypanosomiasis.

(e) Evaluation of new serological techniques requiring minute amounts of blood for use in field operations.

(f) Further study of irradiated vaccines, particularly against hookworm and methods for in vitro cultivation of parasites.

(g) The promotion of WHO Immunology Research and Training Centres in developing countries, on the lines of the prototype unit at the University of Ibadan, Nigeria.
2.2.4 Implications for the Organization's programme

(1) The report will be given appropriate distribution, intended to stimulate the mutual interest of parasitologists and immunologists in each other's disciplines, and to guide national research programmes on the role immunology can play in the diagnosis and control of the parasitic diseases.

(2) The report will also guide the WHO programme in immunology research.

(3) A second Immunology Research and Training Centre is planned for 1966 in São Paulo.

2.3 Expert Committees on Cancer Treatment

2.3.1 Background information

In 1962 an expert committee on cancer control outlined a comprehensive approach to problems of detection, diagnosis, treatment and the after-care of cancer patients, and an administrative framework for cancer control programmes, making recommendations with respect to education of the public, statistical investigations and personnel.

A meeting on prevention of cancer was held in 1963 to discuss etiological factors and their investigation and control. It dealt with pre-cancerous states and the organization of cancer prevention.

The main scope of this expert committee was to bring together different views on and approaches to cancer treatment.

2.3.2 The report

The Committee reviewed the different medical disciplines involved in the diagnosis of cancer and the general principles that should govern its treatment by several existing methods, such as surgery, radiotherapy, chemotherapy, hormonotherapy, etc. drawing attention to the importance of the evaluation of such treatment. It also analysed the role of different types of cancer registers and their usefulness in this regard.

The need for well-designed clinical trails was emphasized. Special attention was given to the need to obtain comparable data in assessing end results in cancer treatment. The TNM (Tumour, Nodes, Metastasis) system for recording cases, as recommended by the International Union against Cancer (UICC), was felt to be of value in allowing such a comparative study on cancer material to be made.

Practical advice was given on the proper planning of the different types of establishments for cancer treatment.

The necessity was stressed for pursuing research from the point of view of cancer treatment, mainly as to clinical diagnosis, the value of prognostic factors and even in some fields of basic research such as host-tumour relationship and antiviral therapy.

2.3.3 The recommendations

(a) The Committee endorsed the efforts of the UICC to develop an internationally acceptable descriptive system of the clinical stages of cancer and urged that persistent concerted effort be made to obtain an agreement on histopathological classification of tumours.

(b) It recommended that WHO endeavour to obtain agreement on basic definitions and methods of reporting data in cancer registers to allow evaluation of end results in cancer treatment.

(c) The organization of cancer treatment in any country should take account of the facilities already existing for the purpose and fit in with its socio-economic system and the character and organization of its medical and health services in general. The complexity of the procedures needed for diagnosis, treatment, follow-up and the highly specialized medical and other scientific personnel required together with the expense involved make planned organization of cancer treatment essential.

2.3.4 Implications for the Organization's programme

WHO is making a concerted and persistent effort to obtain an agreement on histopathological classification of tumours and on basic definitions and methods of reporting data in cancer registries.
It is reviewing techniques of registration of cancer, while examining the
need to call a meeting on this subject some time in 1967.

2.4 Joint Meeting of the FAO Committee on Pesticides in Agriculture and the
WHO Expert Committee on Pesticide Residues (Evaluation of the Toxicity
of Pesticide Residues in Food)

2.4.1 Background Information

This is the third meeting of the Expert Committee on Pesticide Residues. At
the first meeting, which was held jointly with the FAO Panel of Experts on the
Use of Pesticides in Agriculture 1 it was recommended that studies should be
undertaken to evaluate the toxicity of pesticide residues and that the conclusions
should be issued in the form of acceptable daily intakes. The second meeting of
the Expert Committee on Pesticide Residues was held jointly in 1965 with the FAO
Committee on Pesticides in Agriculture. It continued the work of the first and
recommended that a further meeting should be convened to consider a number of other
pesticides used in agriculture.

2.4.2 The report 3

The participants in the joint meeting which took place in Rome in 1965 re-
evaluated, in the light of new toxicological data, those pesticides already considered
in 1963. For 32 of these pesticides the toxicological evaluation was not changed.
However, for DDT, the acceptable daily intake set at the 1963 meeting was doubled
and a small acceptable daily intake established for diazinon. The meeting also
considered five additional pesticides: dichlorvos, pyrethrin, dimethrin, allethrin
and piperonyl butoxide - using the same criteria for their evaluation as were used
for those substances evaluated at the 1963 meeting.

In addition the Joint Committee evaluated the hazards which may arise from the
consumption of fumigated food. Fumigants are used for the protection of crops but
the Committee felt it unlikely that the extent to which they are used today would

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create a hazard. However, because of lack of toxicological data on these substances, an acceptable daily intake value for the residue of the unchanged fumigant was established in only one case, that of hydrogen cyanide.

2.4.3 The recommendations

(a) The Joint Committee recommended that further joint meetings of the FAO Committee on Pesticides in Agriculture and the Expert Committee on Pesticide Residues be convened to draw up acceptable daily intakes for pesticides already evaluated but on which further information has become available, and for pesticides not yet dealt with by the joint meetings. As there is widespread concern about agricultural pesticide residues in food, and because of the number of new pesticides proposed for use, there is a need to keep this problem constantly under review.

(b) Because of the large amount of data now being accumulated, it recommended that FAO establish a pesticide information storage and retrieval system to facilitate the work of all bodies concerned with these substances.

(c) The joint meeting also recommended that WHO develop a research programme on this subject, paying attention to priorities and co-ordinating and encouraging the efforts of research workers in this field.

(d) The joint meeting recommended that FAO and WHO, in co-operation with the International Union of Pure and Applied Chemistry (IUPAC) consider initiating a research programme, aiming also at ascertaining the nature of the pesticide residues in food and establishing agreed analytical methods for their estimation.

2.4.4 Implications for the Organization's programme

It is planned to hold a further joint meeting in 1966.

Steps are also being taken to establish a research programme in this field, but the proposed programme on research of agreed analytical methods for the estimation of pesticide residues is mainly the responsibility of FAO and IUPAC.
2.5 Expert Committee on Nutrition and Infection

2.5.1 Background information

The fact that malnutrition and infectious diseases are widespread concurrently in the same regions of the world warranted a closer examination of the two phenomena and their possible interactions.

The first FAO/WHO Joint Expert Committee on Nutrition in 1949 recognized the public health significance of the problem and recommended that WHO promote relevant studies. The following years saw the great accumulation of knowledge on protein-calorie deficiency disease in infants and young children and the precipitating role of infections gave substance to the Committee's recommendations which were reiterated at the meetings of joint expert committees on nutrition between 1952 and 1957. Other expert committees and groups convened by WHO, viz. Diarrhoeal Diseases Study Group, Expert Committee on Enteric Infections and Expert Committee on Soil-transmitted Helminths had drawn attention to the importance of malnutrition in relation to infection.

2.5.2 The report

The meeting of the Expert Committee on Nutrition and Infection which was held in Geneva in March 1965 was the first of its kind to be organized by WHO. The Committee examined critically the available evidence from (a) morbidity and mortality statistics dealing with systemic infections, diarrhoeal diseases and parasitic infections; (b) experimental studies on the effect of malnutrition on infection; (c) studies on the effect of infection on nutritional status, and (d) observations on synergism between malnutrition and infection.

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It concluded that nutritional factors, among others, influence the susceptibility to infection and the course and outcome of the resulting illness and that malnutrition is generally synergistic with infections due to bacteria, rickettsiae, intestinal protozoa and helminths. Experimentally it could be antagonistic with viral infections and systemic protozoal and helminth infections, but this did not mean that naturally occurring malnutrition is useful in inhibiting infectious disease in man.

The Committee was convinced that systemic and enteric infections were major contributory factors in precipitating certain acute nutritional diseases, such as kwashiorkor and keratomalacia. The "weanling diarrhoea" occurring in infants during the weaning period in many developing countries was a good illustration of the interaction between nutrition and infection.

The mechanisms which the state of nutrition could affect include: antibody formation, phagocytic activity, tissue integrity, non-specific factors such as lysozyme, properdin and interferon, endocrine balance and gastro-intestinal flora. More precise knowledge on these mechanisms is necessary and an epidemiological study of the interrelationships between disease agents, the host and the environment, because preoccupation with either the infectious or the nutritional aspect alone has often missed significant interactions.

2.5.3 The recommendations

The Committee recommended:

(a) that WHO guide and assist Member governments to plan programmes for the control of malnutrition and of communicable diseases in the light of the interaction that exists between these conditions;

(b) that programmes of control of communicable diseases in children be combined with measures to improve their nutritional status;

(c) that in the reporting of morbidity and mortality the recent classification of nutritional diseases be used and in particular, that separate data be given for the second year of life during which the synergism between nutrition and infection was most important;
(d) that current cultural dietary and therapeutic practices be studied with a view to bringing about improvement where necessary;

(e) that great stress be laid on the principles governing the fundamental relationships between nutrition and various infections in teaching medical and paramedical students and that appropriate field and experimental studies be organized.

2.5.4 Implications for the Organization's programme

These deliberations of the Committee on the interrelationships between infection and nutritional status will guide the planning of programmes in the fields of nutrition, communicable disease control, health statistics and the education and training of staff. In the field of research, WHO will concentrate on the field testing of measures intended to reduce morbidity and mortality due to the interaction of the two phenomena in infants and pre-school children, i.e. the group most susceptible to it.

2.6 Expert Committee on Water Pollution Control

2.6.1 Background information

Water pollution has for many years been the concern of the Organization. In the European Region, a series of studies and meetings was organized including field surveys by consultants and staff. The information collected over the years shows that water pollution problems are of great importance all over the world, for public health and for social and economic development, and that rapid urbanization and industrialization are aggravating factors. To assess the magnitude and variety of the water pollution problem in the world, WHO convened this first expert committee, which met in Geneva in April 1965.

2.6.2 The report

The Committee reviewed various classes of pollution and the characteristics of each, as well as a number of studies carried out on typical sets of problems. It evaluated the progress and trends in control measures, including new problems, evolved by a rapidly expanding technological society with increasing demands for

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1 Bull. Wld Hlth Org., 14, 5-6.
World Health Organization: Monograph Series, No. 18.

water of good quality. The Committee found that only in a few countries could effective control be said to exist, and that no country was satisfied with the present position or could look to the future with confidence, for even a very conservative rate of increase in water demands, as low as 4 per cent. per annum, will mean that waste purification facilities will have to be at least doubled in 20 years.

Widespread and serious water pollution has occurred in industrial countries over the period of their industrialization. In many of the developing countries, unless urgent measures were taken, water pollution was likely to increase with great rapidity, adversely affecting human health and other beneficial uses of this indispensable national resource, thus impairing social and economic development.

Although much study and research of pollution is still necessary, there are tests of general application which make it possible to assess the kind and amount of it existing in a given locality. However, this entails the existence of authorities empowered by law to work out and execute water management policy of which pollution control would be the major part. The economic aspects of water pollution are beginning to receive attention and work is being done now on costs and benefits. These are likely to influence pollution control policy.

2.6.3 The recommendations

WHO can be of great assistance to developing countries by disseminating information and preparing critical reviews of survey methods and procedures.

2.6.4 Implications for the Organization's programme

The deliberations of this committee will guide the WHO programme of technical assistance to Member countries, particularly where projects are being considered for financing by the Special Fund, and in connexion with the sponsorship by the Organization of water pollution surveys, either for international rivers, or for purely national problems. An early start in such studies in the developing countries will promote the full utilization of the experience acquired over half a century by highly industrialized countries.
2.7 Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel (University Student Health Services)

2.7.1 Background information

In 1952 an expert committee\(^1\) which dealt with medical education briefly outlined the functions of a student health service, while in 1951 another expert committee\(^2\) had also considered the subject of school health services. Subsequently, fellowships were awarded to persons responsible for university health services to study organization and practices followed in universities of other countries and concurrently, national legislation pertaining to school and university health services was summarized in the International Digest of Health Legislation.

It now seemed timely for WHO to resume consideration of this subject in the light of this experience and, accordingly, an expert committee meeting was convened in April 1965 to advise on the protection and promotion of student health in universities and other institutions for higher education, the scope and organization of such services, and the contribution they can make to teaching and demonstration programmes in preventive medicine.

2.7.2 The report\(^3\)

The Committee first considered the need for university health services, or health services in institutions of higher education. It then reviewed various aspects of these services, for instance, the questions of entrance and periodic medical examinations, environmental health and safety, morbidity and medical care, dental health and a number of others, including more generally the influence of such a health service on university life.

The Committee then outlined the role of university health services in teaching and research, and in particular the benefits that may be derived from such services for the education of medical students.


Finally, the Committee discussed patterns of organization of university health services, whether as a separate department or attached to other departments of the university, or one not under its jurisdiction, and questions of staffing, financing and of building facilities.

2.7.3 **The recommendations**

(a) That, in the protection and promotion of the health of the university population, the control of the communicable diseases, nutrition aspects, and in particular psychiatric and psychosomatic disease, coinciding with the stress of learning and physical maturation, be given special attention, as also problems of the handicapped.

(b) That university health service, through health education, as well as medical examinations, demonstrate the contribution of well-organized health services to the protection of health, and, through research on the health aspects of problems of professional orientation, and the individual performance of students, their potential contribution to the promotion of efficiency.

(c) That the report be brought to the attention of all university and other higher education authorities and that where necessary assistance be provided to develop such services or to train personnel for them.

2.7.4 **Implications for the Organization's programme**

The report of the Committee is intended to guide institutions in developing university health services, and the Organization in its action on requests for assistance. The future will indicate whether there may be a need to assist in establishing a practical training programme in one of the university health services for teams of physicians and paramedical personnel from other institutions.

2.8 **Expert Committee on Rabies**

2.8.1 **Background information**

This expert committee is the fifth in a series of meetings on rabies and follows those held in 1950, 1953, 1956 and 1959 which reviewed periodically current developments in the epidemiology, prevention, control and treatment of rabies in man, and including aspects of pathogenesis and tissue culture of virus.

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2.8.2 The report

The purpose of this fifth meeting was to review the latest developments in rabies with special reference to those having a bearing on epidemiology and field control, therapy of exposed persons, methods of diagnoses and of preparation and standardization of vaccines and serum. Much of this work had been done as part of the WHO co-ordinated research programme.

The Committee reviewed recent advances in fundamental, as well as applied research on rabies and its pathogenesis, and discussed critically matters of practical importance such as diagnosis, vaccines, prevention of rabies in man, control of rabies in animals and wild-life rabies, and also the international aspects of rabies control including transfer of dogs and cats from one country to another. Exchange and dissemination of information on rabies and future research were considered while a tabulated guide to post-exposure treatment in man was included (as one of the appendices to the report).

The Committee made a series of observations on various aspects of control of rabies in animals, on methods of diagnosis, production and use of vaccines and serum, pre-exposure immunization of man, and post-exposure treatment, taking into due consideration recent developments such as the immunofluorescence techniques, tissue-culture methods, rabicidal effect of chemicals used in wound treatment, improved schedules of immunization and improved immunizing agents.

2.8.3 The recommendations

A number of specific recommendations for future research on properties of the virus, pathogenesis, immunization procedures, ecology and control have been made.

The Committee also examined the manuscript of the second edition of the manual entitled "Laboratory Techniques in Rabies" and recommended its early publication by WHO.

2 World Health Organization: Monograph Series, No. 23.
2.8.4 Implications for the Organization's programme

The report will be used mainly in providing technical advice to governments, rabies laboratories, field workers and health as well as veterinary administrators in dealing with the disease.

The recommendations on research will be the basis of WHO co-ordinated studies on rabies during the next few years.

A quicker exchange of information on rabies and a wider dissemination of matters concerning the latest techniques are planned.

2.9 Expert Committee on Onchocerciasis

2.9.1 Background information

The first expert committee meeting on onchocerciasis,\(^1\) which was convened in Mexico in 1953 discussed the symptomatology and pathology of the disease, emphasizing the differences between African and American onchocerciasis. It reviewed the epidemiology aspects and proposed a standardization of epidemiological services. It made comments on the relative merits of methods for parasite control and those for vector control and included suggestions for further research. In addition, two African conferences on onchocerciasis were convened in Leopoldville and in Brazzaville, in 1954 and 1961 respectively. A number of WHO scientific advisory groups considered the clinical entomological and control aspects.

2.9.2 The report\(^2\)

This second meeting was convened to provide guidance on the methods of approach to the epidemiological investigation and the control of onchocerciasis in the light of recent developments.

The Committee analysed the geographic distribution of the infection and of the vector species, and suggested that surveys be undertaken to demarcate existing foci and establish indices of endemicity levels and the extent of morbidity. For

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this purpose it proposed standardized field epidemiological, parasitological and clinical methods and techniques, as well as recording systems to facilitate comparisons of data from epidemiological surveys. It also recommended that maps be prepared, showing endemic areas and vector distribution, to be correlated with maps of population densities, watercourses and different vegetation zones, to facilitate the spotting of potential transmission areas.

The influence of environmental factors on the biology, behaviour and ecology of the *Simulium* vector was reviewed, including the role of dam construction, hydro-electric and irrigation schemes, in creating new breeding sites that engineering modifications could prevent. The Committee also reviewed the host vectors in the transmission of the disease. It was of the opinion that the main single factor influencing the extent of human exposure to *Onchocerca volvulus* is the infective biting density of the *Simulium* vectors in the areas concerned, that is, the number of infective volvulus larvae to which the population is exposed in unit time. The Committee also discussed the effect of repeated prolonged exposure and of biological factors, such as the genetic aspects, age, race, nutrition and concurrent disease.

It discussed the eye complications of onchocerciasis, noting that, in western and equatorial Africa, about 50 per cent. of the people are infected and 30 per cent. of these have impaired vision, and about 4 per cent. to 10 per cent. are blind. There were conditions potentiating these complications which should be the object of longitudinal studies. The Committee stressed the public health and economic importance of the disease and its relationship to economic development.

The Committee, after reviewing past experience in the control of the disease, felt that certain basic entomological, parasitological and clinical data should be obtained before control measures were undertaken. It recommended methods for planning, conducting and assessing campaigns, as well as for meeting their staff requirements.

Concerning mass chemotherapy, it was necessary to reduce the side-effects of the most effective available microfilaricide, namely, diethylcarbamazine, and to ascertain the optimum dosage schedule for Mel W., a drug which is still at an experimental stage.
but has proved to be lethal to the adult worms. It may then be possible to treat populations with it and with diethylcarbamazine, hoping thereby to interrupt transmission in two to three years by eliminating permanently the filarial reservoir in the human population.

Campaigns based on the simultaneous or successive utilization of both vector control and mass chemotherapy ought to be tried in suitable areas and extended if found successful.

2.9.3 The recommendations

The Committee recommended:

(a) that the Organization collect epidemiological information and redistribute it in the form of grid maps showing the distribution of the disease and its effects;

(b) that WHO give assistance to well-designed pilot control projects and foster international co-ordination and co-operation in surveys and control campaigns;

(c) a number of research activities that have an important bearing on the control of the disease, being concerned with the biology and ecology of the vectors, insecticides, the epidemiology of the disease, its clinical, chemotherapy, immunological and helminthological aspects.

2.9.4 Implications for the Organization's programme

The above recommendations have a number of important implications for the WHO programme in this field. The Organization is exploring the possibility of convening a conference on the influence of economic development on parasitic diseases. A high priority will be accorded to pilot trial projects, the training of staff, epidemiological inquiries and suitable research activities.

International co-operation, particularly with FAO, where large-scale water resource projects are concerned, will be strengthened.
2.10  Expert Committee on Dependence-Producing Drugs

2.10.1  Background information

The present report is the fourteenth of a series of reports of expert committees which assists the Organization in the fulfilment of certain statutory functions, laid down in various international treaties on narcotics control, and especially in decisions on the need for and degree of international control applicable to certain types of drugs, as stipulated by those treaties. In addition, the committees give technical advice on special problems of drug dependence and drug abuse as a guidance for the Organization's advisory activities in relation to governments, as well as the various narcotic control organs of the United Nations.

2.10.2  The report

The Committee first considered the dependence liability of new drugs which had been the subject of notifications from governments, namely, Piritramide, Nicocodeine and Diphenoxylate preparations. It then reviewed briefly the work of international bodies concerned with narcotic drugs and suggested the desirability of a search for ways to minimize the delay and ensure a prompt action of governments on findings by WHO with respect to the need for international narcotics control.

The Committee was pleased to note the general acceptance of the term "drug abuse" which it went on to elaborate in terms of psychic dependence and physical dependence, noting the characteristics of types of drug dependence and commenting on the need to develop techniques for the detection and evaluation of these various types and on the relation of physical and psychic dependence to drug abuse.

With regard to the abuse and control of drugs not falling under the International Conventions, the Committee recommended that, to check the frequency of abuse of these sedatives and stimulants, the following measures be adopted: (a) availability on medical prescription only, as repeatedly recommended in earlier reports; (b) full accounting of all transactions from production to retail distribution; (c) licensing of all producers; (d) limitation of trade to authorized persons; (e) prohibition of non-authorized possession; and (f) establishment of an import-export authorization system.

2.10.3 The recommendations

The Committee formulated recommendations covering WHO action regarding international control measures for the substances notified by governments and subjects discussed in the United Nations Commission on Narcotic Drugs and the other United Nations organs for narcotics control, and also to the Single Convention on Narcotic Drugs, 1961, which came into force late in 1964.

It also recommended the establishment of national panels to advise on the various aspects of drug dependence and abuse.

2.10.4 Implications for the Organization's programme

The report will serve as a basis for decisions and recommendations by the Organization within the framework of international narcotics control treaties. It will also guide the Organization's policy in its work in the field of drug abuse, including its co-ordination with the other international organs concerned with narcotics control.

2.11 Expert Committee on Leprosy

2.11.1 Background information

The first Expert Committee on Leprosy held in Brazil, in 1952, reviewed the epidemiology, control, treatment, classification and histopathology of leprosy and made recommendations on leprosy control policy.

The second met in Geneva in 1959, and considered different aspects of the epidemiology, therapy, prophylaxis of leprosy and rehabilitation of disabled patients, and outlined a methodology for leprosy control. The Committee also made recommendations on the leprosy research programme of the Organization.

2.11.2 The report

The scope of the third meeting of the Committee was to review the experience gained in several years of intensive leprosy work and to consider ways of improving the methodology of leprosy control and expanding leprosy research.

With regard to leprosy control, after a review of current concepts of the epidemiology, diagnosis, classification and chemotherapy of leprosy, methods of control were discussed and the results obtained in control programmes analysed, and the difficulties encountered noted. An outline was given of the measures needed from the point of view of the planning, organization and evaluation of control programmes, and the training of personnel. The subject of rehabilitation was also fully considered.

With regard to research, progress during recent years was discussed and priorities established in the different subjects of leprology.

2.11.3 The recommendations

(a) The Committee felt that available resources should be concentrated on the detection, treatment and follow-up of infectious cases and the surveillance of their contacts, mainly children. It was suggested that projects have, as their objective, the regular treatment within about five years of at least 75 per cent of the estimated infectious cases in an operational area.

(b) Out-patients' treatment was to be preferred and "efforts at hospitalization should not be permitted to drain the budget and the efficiency of out-patient treatment centres which form the core of leprosy control". Patients discharged from sanatoria should be assimilated into the general population and encouraged not to congregate in special "villages". The separation of infants from infectious parents should be limited to special cases. There is no need for special institutions for children of leprosy patients.

(c) Concerning rehabilitation, the Committee recommended giving priority to the prevention of disabilities by simple methods that can be applied in the field but considered that funds for leprosy control should not be diverted for the provision of reconstructive surgery.

(d) In order to attract the assistance of experts in basic sciences, the Committee recommended that leprosy research be conducted in general centres of research and that governments and international organizations foster training and research in countries where leprosy is endemic.
2.11.4 **Implications for the Organization's programme**

The above recommendations will be taken into account in the planning of new projects and in the implementation of leprosy control programmes now in operation, which will be revised in order to re-adjust their objectives in accordance with the Committee's recommendations.

The recommendation under (c) meets the request made by the UNICEF Executive Board, which, deciding to review its policy on UNICEF aid to leprosy at its 1966 session, following a meeting of the Expert Committee on Leprosy, "hoped that it would be possible at that time to set down clear guide lines indicating the level of effectiveness below which a campaign ceased to represent a good use of resources".

2.12 **Expert Committee on the Use of Human Immunoglobulin**

2.12.1 **Background information**

A Study Group on Immunological and Haematological Surveys\(^1\) met in 1958 and considered the methodology of immunological and haematological surveys, while five scientific groups, convened by the Director-General in 1962,\(^2\) discussed various aspects of immunology requiring further research.

An expert committee was convened to review recent advances in the fundamental and applied aspects of human immunoglobulins. Immunoglobulin, commonly called human gamma-globulin, has been used for approximately 20 years for the prevention of measles and infectious hepatitis, but it is now employed in an increasing number of conditions for their treatment or prophylaxis. There is a need to replace various animal antisera to overcome hypersensitivity reactions to the heterologous preparations, especially now that the elucidation of the immuno-chemical structure of immunoglobulins has revealed aspects of importance concerning the purification of human immunoglobulin and its clinical use.


The Committee, therefore, was requested to suggest how the increasing demand for human plasma might be met, to review the procedures by which plasma is fractionated to yield immunoglobulin preparations, to recommend how these preparations should best be used in various diseases and to suggest areas for research in these fields.

2.12.2 The report

The confusion caused by the lack of agreement in terminology used in various countries motivated the Committee's proposed terminology which incorporates the nomenclature for human immunoglobulins previously published by WHO; in view of the increasingly evident heterogeneity of the serum globulins with antibody activity, the scientifically more accurate term "immunoglobulin" would replace the commonly used, but less accurate, term "gamma-globulins". The new terminology is open to appropriate modification to accommodate new advances.

The Committee briefly reviewed recent work on the immuno-chemistry of the immunoglobulins which has revealed the probable basic structure of antibody molecules, and the considerable degree of heterogeneity among these molecules.

The currently-used production techniques for the preparation of immunoglobulin concentrates were reviewed and promising new methods of fractionation were considered, while procedures designed to ensure that the final product cannot transmit hepatitis were assessed. The preparation of immunoglobulin concentrates containing IgM antibodies was suggested as an important area for research, since such antibodies may be of importance in immunity to certain bacterial diseases. The problem of the unsuitability for intravenous use of available immunoglobulin preparations, because of the reactions they provoke in a proportion of recipients, was discussed as well as procedures to overcome it.

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1 Document PA/246.65.

The problem of obtaining sufficient supplies of plasma to meet the demand for human immunoglobulin and of obtaining supplies of plasma from specially immunized donors to allow the preparation of immunoglobulins rich in particular antibodies was the subject of a number of recommendations.

The Committee considered several conditions in which human immunoglobulin is of established value and also its use in both rubella and hepatitis, following transfusion; diseases in which the evidence of its value is equivocal, and a number of conditions in which current research suggests it may prove of value, e.g. in the prevention of haemolytic disease of the newborn.

2.12.3 The recommendations

A number of recommendations was made by the Committee. The following may be considered to be of particular interest:

(a) Concentration on the need to develop methods whereby blood products can be made free from the risk of transmitting serum hepatitis; on fundamental studies on the specific separation and concentration of individual antibodies from human plasma; and on the value of human immunoglobulin in many conditions in serum hepatitis and protozoal and parasitic diseases.

(b) Also recommended were studies concerning the role of γM immunoglobulins in resistance to, and recovery from, bacterial infections.

2.12.4 Implications for the Organization's programme

This report will be of interest to immunologists and clinicians and to those responsible for developing methods of procuring and supplying human immunoglobulin preparations, as well as those planning research programmes concerned with certain aspects of immunology. The recommendation on specific separation and concentration of individual antibodies from human plasma is being implemented at the WHO International Reference Centre for Immunoglobulins in Lausanne.

2.13 Export Committee on Malaria

2.13.1 Background information

The Committee was convened in order to review and give advice on important aspects of malaria eradication programmes in connexion with the maintenance of achieved eradication, chemotherapy and the methodology to be used for the assessment
of the response of malaria to early attack measures. The first five reports of the Committee\(^1\) dealt with methods used in malaria control. The sixth report\(^2\) dealt with the feasibility of malaria eradication, the principles, planning and organization involved and the different techniques to be used in the different phases of the programme. The seventh report\(^3\) paid particular attention to the evaluation of eradication campaigns, the resistance to insecticide, chemotherapy and health education.

The eighth report\(^4\) reviewed the then current status of malaria eradication and concepts and formulae of pre-eradication programmes as an approach to malaria eradication programmes in developing countries. The ninth report\(^5\) dealt with the minimum requirements of rural public health services for the support of a malaria eradication programme, with criteria for assessing the prospect of success of malaria eradication programmes and with the preparation and implementation of the maintenance phase. In the tenth report,\(^6\) the Committee discussed the later stages of malaria eradication programmes, in particular, the question of problem areas and the prevention of reintroduction of malaria into an area from which it has been eradicated. It reviewed further the epidemiological criteria for the interruption of malaria transmission, for the start of consolidation phase and those for confirmation of achieved eradication and it recommended that a more specialized group study the problem of drug resistance of malaria parasites.


A Scientific Group on Resistance of Malaria Parasites to Drugs was therefore convened. It studied the differences in the response of species of malaria parasites to drugs, laid down criteria for assessing the resistance of malaria parasites to 4-amino-quinolines and proposed counter-measures to be applied when drug resistance was confirmed. The eleventh report made an appraisal of current entomological methods used in the three main phases of malaria eradication programmes, gave practical guide lines for the assessment of the effects of the insecticidal coverage on the vector population, and dealt with integration and co-ordination of entomology and epidemiology in the evaluation of malaria eradication programmes, as well as with the need for entomological research and for field trials of new insecticides.

2.13.2 The report

In this report, the Committee dealt in detail with two important questions: the early assessment of the response of malaria to early attack measures, in order to apply as soon as possible any remedial measure that might be required; and, secondly, the maintenance of achieved eradication and its technical organizational and administrative requirements.

In relation to the first, it reviewed, in the light of field experience, the epidemiological criteria already laid down in the tenth report, clarifying certain points and modifying others, particularly those concerned with the statistical aspect. Further field study of the validity of the standards in various epidemiological situations was recommended.

In relation to the maintenance of achieved eradication, the Committee defined the patterns for effective vigilance in relation to the vulnerability of previous malarious areas and their receptivity in terms of ecological or climatic factors favouring transmission. It further studied some organization and administrative aspects of such maintenance with regard to the re-orientation of the malaria eradication personnel in general health duties and the full use of the existing public health services.

3 Document PA/270.65
The Committee also reviewed the part played by chemotherapy in malaria eradication programmes and gave guidance on the best use of existing antimalaria drugs in different situations and in different phases of the programmes. The need for collecting further reliable information on the extent and distribution of resistance of malaria parasites to drugs was stressed and the Committee recommended more research by governments and WHO on the development of new antimalarials and further field trials on new compounds and new preparations.

2.13.3 The recommendations

The Committee recommended:

(a) careful assessment of each programme for ascertaining the organization needed for adequate vigilance; staff being adequately trained in advance and a detailed plan being prepared by the General Health and Malaria Services, at least one year before the expected end of the consolidation phase; while the epidemiological service is reinforced to ensure the proper technical direction and implementation of vigilance activities;

(b) that criteria be rigorously observed in each area proposed for transition to the maintenance phase and that the decision for the transition be taken by the highest relevant national authorities and that these ensure that the budget for the general health services be maintained at least at the level which included funds assigned to malaria eradication activities;

(c) that to shorten the attack phase, use be made of a combination of effective insecticidal coverage with mass drug administration either in single dose at the time of spraying, or as a medicated salt distribution;

(d) that the method of two-stage assessment of suspected resistance to 4-aminoquinolines be widely used and that any resistance so revealed be verified by the study of the relevant strain of malaria parasite in a human malaria reference centre, while instituting in the areas concerned immediate action aiming at eliminating the focus of resistant strain by the use of alternative adequate antimalaria drugs and by full use of insecticides to prevent its spread to other areas;
(e) that the standards for interruption of transmission be more generally used in appropriate programmes and that for the purpose WHO prepare and distribute a manual explaining their practical application and the requirements to ensure statistical confidence in them;

(f) that all existing and future units of the basic health services be regularly and adequately supplied with antimalaria drugs and that the medical and auxiliary staff of these units be fully acquainted with proper use of these drugs;

(g) research on new antimalarials and field trials of new compounds and new preparations be given every support and assistance by the government and by WHO;

(h) that a second scientific group on resistance of malaria parasites to drugs be convened by WHO at a proper time.

2.13.4 Implications for the Organization's programme

The collection of reliable information on the response of different species and strains of malaria parasites to drugs by use of standard field tests is proceeding through consultants, arrangement with institutes and WHO field staff. The information so far collected has already been published on a twice-yearly basis in the Weekly Epidemiological Record.

A programme of research on new antimalarials and field trials of new compounds is already in operation and provision has been made for its continuation.

Every opportunity will be taken by WHO field staff in collaboration with staff of the national malaria eradication services, to apply the statistical method to the objective assessment of the interruption of malaria transmission. This collaboration will also be sought in collecting data for the development of more comprehensive standards for the interruption of malaria transmission in various epidemiological conditions and under different methods of attack used.

Preparation of a manual by WHO on the practical application of the standards for assessing the early response of malaria to early attack measures will be undertaken.
Consideration will be given to the convening of a second technical meeting on the important matter of resistance of malaria parasites to drugs, at an appropriate date.

2.14 Expert Committee on Biological Standardization

2.14.1 Background information

The Eighteenth Expert Committee on Biological Standardization continued the work supervised by the 17 previous Expert Committees which have met since 1947 to consider international standards (IS) and international reference preparations (IRP) for a number of biological substances and certain international requirements for these. The Committee also considered a number of substances intended to be established as international reference reagents for the identification of micro-organisms.

2.14.2 The report

A number of pharmacological substances was considered, and the IS for Novobiocin and an IRP for each of the following: Paromomycin, Colistin, Tylosin, Hygromycin B, Cefalotin, Lincomycin and Erythropoietin, were established. In addition, IS and IRP are being established for angiotensins and renin, human growth hormone, human thyrotrophin, human pituitary gonadotrophins and human insulin, several enzymes and substrates concerned with blood coagulation and fibrinolysis, and a number of antibiotics including colistin methane sulfonate, gramicidin, rolitetracycline, rifamycin, semi-synthetic penicillins and cephalosporins, and the second IRP of procaine benzyl-penicillin in oil with aluminium monostearate. The progress of work on capreomycin, oxytetracycline (second IS), heparins of mucosal origin and lysine vasopressin, was reported.

Among immunological substances considered, the third IS for Old Tuberculin was established as well as one for Tetanus Toxoid (Adsorbed), Clostridium Botulinum (Type F) Antitoxin and Anti-Smallpox Serum. It is expected that one for anti-Rh (Anti-D) blood typing serum will soon be established. IRP were established for BCG

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1 Document PA/259.65.
Vaccine, Rabies Vaccine (second), Anti-Staphylococcal P-V Leucocidin Serum and of Rheumatoid Arthritis Serum. Stocks of the existing Opacity Reference Preparation were reported to have been exhausted, and this preparation was therefore replaced. The progress of experimental work on a number of vaccines and antibodies was reviewed.

The Committee also dealt with reference materials for diagnosis and identification of micro-organisms and established International Reference Reagents (IRR) for two type-specific antisera for the identification of the anti-tick-borne encephalitis group of viruses. A number of enterovirus reagents (about 25 serum types) had been put up at one of the international laboratories for biological standards in a freeze-dried form to ensure their long-term stability. Four of these had been tested after processing and were established as RR, to provide materials in WHO virus reference laboratories for comparison purposes, even many years hence. A number of Adenovirus antisera was also considered.

The Committee considered requirements for dried BCG vaccine and for measles vaccines. In addition, as recommended by a WHO expert group, the Committee revised the requirements, formulated a number of years previously, for Biological Substances No. 1 (General Requirements for Manufacturing Establishments and Control Laboratories), No. 2 (Requirements for Poliomyelitis Vaccine (Inactivated)), No. 7 (Requirements for Poliomyelitis Vaccine (Oral)), and No. 5 (Requirements for Smallpox Vaccine).

2.14.3 The recommendations

The Committee made a number of recommendations on the technical aspects of the work of biological standardization.

2.14.4 Implications for the Organization's programme

The considerations, comments and recommendations of the Committee are intended to guide the programme of WHO in biological standardization and the work which a number of collaborating international laboratories carry out with WHO effecting co-ordination at the international level.
2.15 Joint ILO/WHO Committee on the Health of Seafarers

2.15.1 Background information

Seafarers present special health problems calling for international attention. By their very profession they may easily become carriers of diseases from one country to another, and their mobility, the prolonged absence from places where curative services exist, the frequent changes of climate to which they are exposed, contribute to their vulnerability.

It is against this general background that a Joint ILO/WHO Committee on the Hygiene of Seafarers was established by a resolution of the First World Health Assembly and met for the first time in December 1949.\(^1\) The Committee reviewed and made a number of recommendations to WHO on: case-finding and treatment of communicable diseases with a high incidence among seafarers (particularly tuberculosis and venereal diseases); organization of employment and periodical medical examinations for people working at sea; problems of hospitalization and treatment on board ships and in ports. The Committee met a second time in April 1954,\(^2\) and, inter alia, considered the problem of providing medical advice by radio to ships at sea and gave detailed suggestions for the provision of medicine chests on board ships.

It met again in May 1961 and in its third report\(^3\) proposed to substitute the word "Health" for that of "Hygiene" in its title so as to become known as the Joint ILO/WHO Committee on the Health of Seafarers. The WHO Executive Board approved this new title in its resolution EB29.R10. In this same report the Committee, after reviewing the nature and extent of the health problems of seafarers and the extent of health services available to them, made a number of recommendations for widening the scale on which such services could be provided on shore and on board ship.

Attention was called to the urgent need for establishing an international scheme designed to provide medical advice to ships at sea.


2.15.2 The report

The Joint Committee, at its fourth meeting held in Geneva in 1965, adopted a detailed scheme for co-ordinated medical assistance to ships at sea which combines the provision for medical guides, medicine chests on board ships and medical advice by radio into a single system. Representatives of the Inter-Governmental Maritime Consultative Organization (IMCO) also attended the meeting.

2.15.5 The recommendations

The Committee recommended that:

(a) countries adopt the international model for ship's medical guide in toto or in part, according to their needs;

(b) consideration be given to the suggestions contained in the Medicine Chest tables for the institution of medicine chests on board ships or for reviewing the contents of those already existing;

(c) the suggestions for medical advice by radio be adopted by IMCO in toto as the Medical Section of the revised International Code of Signals as soon as possible;

(d) WHO take all necessary steps for the publication of the scheme and for making it available to all Member States;

(e) provision be made for periodic review of the scheme at reasonable intervals in collaboration with ILO and IMCO, as appropriate.

2.15.4 Implications for the Organization's programme

The attention of IMCO has been called to the recommendations of the Joint Committee, relevant to its activities.

Steps have been taken to publish the Co-ordinated Scheme for Medical Assistance to Ships at Sea which should be completed in the course of 1966. The attention of Member States will be drawn to this publication as soon as it becomes available for distribution.

1 Document PA/258.65.
3. **Other expert committees**

The attached Annex gives a list of the other expert committees which met in and after October 1965, and on which the Director-General will report at future sessions of the Executive Board.
ANNEX

Expert Committee on Insecticides (Chemistry and Specifications)  
Held in  
October 1965

Expert Committee on the Midwife in Maternity Care  
Held in  
October 1965

Expert Committee on Specifications for Pharmaceutical Preparations: Sub-Committee on Non-Proprietary Names  
Held in  
November 1965

Expert Committee on Health Statistics (Sampling methods in morbidity surveys and public health investigations)  
Held in  
November 1965

Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel (The Training and Preparation of Teachers for Medical Schools with Special Regard to the Needs of Developing Countries)  
Held in  
December 1965

Expert Committee on the Training of Laboratory Personnel (Technical Staff)  
Held in  
December 1965

Joint FAO/WHO Expert Committee on Food Additives (Specifications for the Identity and Purity and Toxicological Evaluation of some Preservatives, Antioxidants, Emulsifiers, Stabilizers, Bleaching and Maturing Agents, Acids and Bases)  
Held in  
December 1965