These reports of expert committees are printed in the form in which they were presented to the Executive Board at its third session, held in Geneva from 21 February to 9 March 1949.

The observations and decisions of the Executive Board are recorded as footnotes and annexes.
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EXPERT COMMITTEE ON INTERNATIONAL EPIDEMIOLOGY AND QUARANTINE

REPORT ON THE FIRST SESSION

Held 15-20 November 1948, Palais des Nations, Geneva

Contents

1. Section on Quarantine
2. Consultation of specialized expert bodies on pestilential and other communicable diseases
3. Expenditure of funds allocated by OIHP for epidemiological research and field work in 1949
4. Principles to govern WHO sanitary regulations

Annex

The Executive Board, at its third session, "(1) noted the report on the first session of the Expert Committee on International Epidemiology and Quarantine and authorized its publication; (2) recommended generally the series of principles intended to guide in the drafting of the proposed WHO sanitary regulations and decided that, after consultation with ICAO on the economic and transport implications, these medical principles, along with the comments of members of the Board [Off. Rec. World Hlth Org. 17, 42], and those of ICAO and of the Inter-Governmental Maritime Consultative Organization, should be referred to the Second Health Assembly for its consideration in the formulation of general principles; and (3) after hearing a statement by Dr. Gaud, approved the programme proposed for the expenditure of the sixteen million French francs made available by the Office International d'Hygiène Publique and requested the Director-General to decide on the allocation of this sum, in consultation with the Chairman of the Permanent Committee of OIHP." Off. Rec. World Hlth Org. 17, 14.

Dr. G. D. Hemmes, Inspector of Public Health, Utrecht, Netherlands
Dr. Melville Mackenzie, Principal Medical Officer, Ministry of Health, London, United Kingdom
Dr. C. Mani, Deputy Director-General of Health Services, Government of India, New Delhi, India
Dr. M. Nazif Bey, Under-Secretary of State for Quarantine, Ministry of Public Health, Cairo, Egypt
Dr. G. H. de Paula Souza, Professor and Director, Faculty of Hygiene and Public Health, University of São Paulo, Brazil
Dr. W. W. Yung, Chief Medical Officer, Ministry of Health, Nanking, China

Ex Officio Members

Dr. M. Gaud, Rapporteur of the Joint OIHP/WHO Study-Groups; Directeur de l'Office International d'Hygiène Publique, Paris, France
Dr. A. M. Macchiavello, representing the Director of the Pan American Sanitary Bureau
Dr. M. T. Morgan, Président du Comité permanent, Office International d'Hygiène Publique, Paris, France
Dr. F. E. de Tavel, representing the International Civil Aviation Organization

Secretariat

Dr. Y. M. Biraud, Director, Division of Epidemiology, WHO, Secretary of the committee
Dr. G. Stuart, Chief, Sanitary Conventions and Quarantine Section, WHO
Dr. R. Gautier, Assistant Director-General, WHO, attended several of the meetings.

The committee elected as Chairman Dr. M. T. Morgan, and as Vice-Chairmen Dr. A. R. Dujarric de la Rivière and Dr. G. L. Dunnahoo. The committee took cognizance of its terms of reference, as defined by decision of the Assembly and the Executive Board, as heir of the WHO.IC

1 Off. Rec. World Hlth Org. 13, 303, 306; 14, 12
Expert Committees on Quarantine and on International Epidemic Control. The committee is entrusted with:

1. interpretation and administration of existing sanitary conventions;
2. the revision, in the form of WHO sanitary regulations, of these conventions;
3. the task of furnishing technical advice to WHO on the international control of epidemics.

The provisional agenda referred to the findings and recommendations of the joint OIHP/WHO study-groups which met in Paris from 5 to 19 October 1948, as well as to problems relating to quarantine measures which had been addressed to the Secretariat during recent months.

Most important among the items on the agenda was the preparation of WHO sanitary regulations, the directing principles of which were to be established for submission to the Executive Board and the Second World Health Assembly.

1. Section on Quarantine

The committee appointed as members of its Section on Quarantine Dr. Dunnahoo, Dr. Gear, Dr. Mackenzie, Dr. Nazif Bey and Dr. Yung, together with Dr. Morgan as ex officio member.

The committee decided to delegate to this section the powers entrusted to the committee by the Executive Board, as regards the interpretation and administration of the existing sanitary conventions.

The committee agreed that, according to the type of infringement of existing sanitary conventions, cases would be dealt with:

1. by the Secretariat acting on its own initiative and keeping a look-out for such infringements;
2. by correspondence between the Secretariat and the members of the committee's Section on Quarantine;
3. by the Section on Quarantine in session; or
4. by the committee itself in plenary session.

The Section on Quarantine met on 18 November 1948.

2. Consultation of Specialized Expert Bodies on Pestilential and Other Communicable Diseases

Dr. Gaud, Rapporteur, summarized the discussions and recommendations made during their October 1948 sessions by the study-groups formed jointly by the Office International d'Hygiené Publique and WHO. The committee noted the reports on plague and rickettsioses, cholera, smallpox, and trachoma.

3. Expenditure of Funds allocated by OIHP for Epidemiological Research and Field Work in 1949

The committee recognized the value of the work of the joint study-groups and recommended that the studies undertaken by their members should be continued.

The committee felt that there was no need to convene in the near future the study-groups dealing with plague, typhus, smallpox and trachoma.

2.1 Cholera

It recommended that the study-group on cholera should be convened again in 1949 to advise on field work, on the factors of endemicity and on methods of control of cholera, and that a member of the Expert Committee on Biological Standardization should be co-opted for that meeting.

2.2 Plague

As regards plague, the committee noted that the World Health Assembly had decided to set up a special expert committee on that subject which could continue and develop the researches undertaken by the study-group on plague.

2.3 Smallpox

As regards smallpox, the committee requested that it be informed of the results of the studies now being undertaken on the initiative of the study-group on smallpox on the optimum time for primary vaccination and revaccinations (see page 23).

2.4 Yellow Fever

The committee decided to obtain the views of the members of the WHO Yellow-Fever Panel on the epidemiology of the disease as it occurred in South America and Africa, together with advice as to proper definition of "infected" and "endemic" areas and measures applicable to them. These subjects should be considered by the panel when convened on the occasion of the next session of the expert committee.

2.5 Poliomyelitis

The committee agreed that, while recent developments in the knowledge of the epidemiology of poliomyelitis and their possible bearing on preventing an extension of the disease from one country to another should not be lost sight of, no sanitary measures at frontiers were at present applicable.

3. Expenditure of Funds allocated by OIHP for Epidemiological Research and Field Work in 1949

The committee was informed that the Office International d'Hygiené Publique had allocated a sum of 16 million French francs for epidemiological research and field work to be carried out in 1949. At the request of the Executive Board,
the committee considered the best use to be made of these funds.

Several members strongly pressed for their being expended wholly on anticholera work, while one member insisted that, in any event, they should be applied to epidemiological problems of international significance. Finally, it was decided that:

(i) top priority should be given to the studies and field work recommended by the study-group on cholera (see page 24);

(ii) the recommendations made by the study-group on plague (see page 18), particularly that of demonstration of eradication methods against plague in a suitable area, should be implemented. In addition, it would be desirable to undertake further research on:

- treatment of pneumonic plague by streptomycin and other antibiotics;
- application of rodenticides for the deratization of ships;
- methods of disinfestation of rice and other cereals, whether in bags or in bulk;

(iii) work should be undertaken on schistosomiasis as contemplated by the World Health Assembly;

(iv) studies on rickettsioses should be continued;

(v) studies should be undertaken on filariases, particularly onchocerciasis.

It was also agreed that assistance in the implementation of the above programme should be rendered by the allocation of any WHO funds available for the purpose.

The committee recommended that in any programme of field demonstrations of plague-control methods, full use should be made of the centre now being set up by the Pan American Sanitary Bureau and the Government of Peru for the training of plague-control personnel. Such training should be considered in the WHO programme for training health personnel.

4. Principles to Govern WHO Sanitary Regulations

The committee agreed on the necessity for laying down basic principles on which WHO sanitary regulations should be established.

4.1 Procedure

The committee entrusted Dr. Dujarric de la Rivière with the task of writing a preamble to, and a commentary on, these principles. It was the desire of the committee that this memorandum be submitted by correspondence to the members for amendments and observations, and the text incorporating such amendments submitted to the Executive Board and, if approved, to the World Health Assembly. The approval of these principles by the Assembly would make it possible for the Secretariat to draw up the actual draft text of WHO regulations. This draft text would be discussed by the committee at a later session. The text, as modified by the committee, would be submitted to governments prior to its adoption by the World Health Assembly.

4.2 General principles

The committee agreed that WHO regulations would be needed until the true object of international epidemic control, i.e., the eradication of the pestilential diseases, had been achieved.

The committee agreed on the desirability of the text of WHO regulations having a preamble showing the respective responsibilities of governments and of WHO in the international control of epidemic diseases.

The preamble should outline the essential principles on which the actual articles of the regulations had been based, and in particular emphasize that:

(i) accurate and rapid notifications were the basis of effective measures against the international spread of disease and of the withdrawal of restrictions on international traffic as soon as danger of infection had ceased;

(ii) each country should develop its internal resistance to disease, rather than rely on measures taken at its frontiers. (For instance, proper sanitation, country-wide immunization, freedom from insect vectors, would effectively prevent epidemics of cholera, smallpox, typhus fever, etc., should such infections be introduced through evasion of the frontier quarantine control);

(iii) measures taken at frontiers should be the minimum compatible with the existing sanitary situation. Excessive measures not only entailed undue interference with traffic and severe economic consequences but might, by their very excess, lead to deliberate evasion of the sanitary control and thereby defeat their object.

The committee emphasized the principle that the measures to be specified in the WHO sanitary regulations should not be exceeded by health administrations. It would therefore be necessary to specify the maximum measures applicable in exceptional as well as in normal circumstances.

9 This memorandum, together with the comments and observations of the Expert Committee on Epidemiology and Quarantine, was submitted to the third session of the Executive Board. For the memorandum, as revised in accordance with the amendments proposed by the Board, see Annex I, page 12.
4.3 Epidemiological notifications and information

The committee re-affirmed the principles laid down by the Expert Committee on International Epidemic Control as regards notifications.10

It stressed particularly the need for national health-administrations to send notifications of the most urgent nature by identically worded telegrams simultaneously to the nearest WHO regional epidemiological information station and to the WHO Headquarters. In notifications of this nature the place of occurrence must be named if it had a sea- or airport. Notifications to adjacent countries should be encouraged. Notification by an infected country to diplomatic missions at its capital was regarded as of secondary importance unless warranted by local conditions.

Telegraphic notifications of an urgent nature should be made "immediately", as indicated in Article 1 of the 1926/1944 Convention, and in any case within 24 hours of the information reaching the national health-administration concerned. Notification of development in an epidemic situation should be addressed by countries to WHO at least once a week and more frequently if necessary. Epidemiological notifications, whether to or by WHO, should be made not only when infection occurred but also when danger of infection had ceased.

The committee agreed that the increased speed of traffic necessitated an increased speed for notifications and for world distribution of epidemiological information. The committee accordingly approved the proposal made by the Secretariat to initiate, on an experimental basis, a daily radio-telegraphic broadcast of an epidemiological bulletin by WHO at Geneva, thus extending a system which had proved its practical value in the zone served by the Singapore Epidemiological Station. The radio bulletin would include information about pestilential diseases in sea- and airports, also new quarantine and immunization requirements. The bulletins, consisting of 200 to 300 words, would be broadcast on long-wave to cover Europe, and on short-wave, in three beams, to cover the other continents. National health-administrations would give instructions to the telegraphic authorities in their countries to pick up the bulletins and distribute them by multiple-address telegrams to selected port and sanitary authorities. This would ensure cheap, rapid and effective dissemination of the epidemiological information collected.

The establishment of this new system of broadcast need not await the coming-into-force of the new regulations, but could be applied forthwith as an experimental measure, concurrently with the system of notifications now in force.

4.4 Criteria for the applicability of sanitary measures

4.4.1 Definition of "local areas" ("circonscriptions") as a basis for notifications and measures.

The committee agreed that notifications should be made in respect of distinct local sanitary or administrative units—whichever were the smaller—which could be described as "local areas" according to the definition contained in Article 8 of the 1903 Sanitary Convention.11

The lists of administrative districts of the various countries which were to be included in the new epidemiological code (Codepid) now being prepared by the WHO Secretariat, and the grid maps for localization of infection within provinces and districts, would undoubtedly facilitate the identification of infected local areas as defined above.

The committee agreed that measures should be taken solely against arrivals from "defined" infected local areas. It was only when no definition of the infected area was available that restrictive measures should be applied against the whole national territory.

4.4.2 Adaptation of measures to degree of infection.

Considering Article 10 of the 1926/1944 Convention, the committee agreed that measures should not be taken against sea- or airports in which imported cases only had occurred.

The committee agreed that the following degrees of infection should be recognized in the WHO regulations:

1. an initial case;
2. a "foyer";
3. an epidemic.

A "foyer" is characterized by the occurrence of secondary cases around an initial case. An epidemic is characterized by an extension and/or multiplication of the "foyer".

The committee agreed that international sanitary measures permissible against an infected local area should depend upon the degree of infection and upon the efficacy of the control measures applied to the outbreak by the health authorities of the infected country. Such efficacy could be judged objectively only on the basis of prompt and accurate notification from the infected local area as to the number and distribution of cases, showing the development or regression of the outbreak.

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10 Document WHO, IC/Epid/8 Rev. 1, restricted document

11 The words "local area" denote a well-defined area, such as a province, a government, a district, a department, a canton, an island, a commune, a town, a quarter of a town, a village, a port, a polder, an agglomeration, etc., whatever may be the extent and population of such areas.
4.4.3 Cessation of danger of infection. The committee agreed that measures should not be taken against an infected area or country longer than the danger of transmission persisted.

The committee agreed that the health administration of a country could notify WHO of the cessation of danger of infection, in a local area previously infected by one of the pestilential diseases, when:

(a) preventive measures had been carried out intensively, without interruption, and successfully, for the prevention of the spread and the recurrence of the infection, and

(b) in addition, a period of x days had elapsed, counted from the date of isolation, death or recovery of the last case.

The committee agreed that the period mentioned in paragraph (a) above should be based on the period of incubation of the disease, plus a period of security, intended to cover possible delay in diagnosing a case and the lag between the recognition and notification of the said cases. (The security period might, for instance, be equal to twice the period of incubation.)

Cessation of danger of infection could be notified only at the end of an epidemic in an area normally free from infection, but not in an area where the disease remained endemic and where, in consequence, danger of infection persisted.

The committee noted that the Health Assembly had already decided that WHO experts could act as arbitrators after a visit on the spot. Such arbitration could take place if a country complained that another country continued to impose restrictive measures against it and therefore invited WHO to send an expert observer to the area in question. It was believed that infected countries would realize the advantages to be gained from the presence of such an observer: it would help greatly in allaying unfounded fears concerning the epidemic situation, thus preventing excessive measures from being taken by other countries and enabling WHO to announce, without unnecessary delay, the cessation of danger of infection. Observers could, according to circumstances, derive either from the WHO Headquarters, or from its regional offices.

The committee agreed, however, that no mention of observers should be included in WHO sanitary regulations.

The committee stressed that at present only moral pressure could be applied to persuade countries to give up sanitary measures exceeding the provisions of the sanitary conventions, but suggested that such cases might be brought formally to the attention of the World Health Assembly.

4.4.4 Adaptation of measures to the degree of susceptibility of countries to infection. It was pointed out that countries could reduce, or even suppress, measures against the importation of certain diseases when their territory was not "infectible" owing to absence of insect vectors, immunization of the entire population, etc.

The committee agreed that national health administrations should develop their state of defence against epidemic diseases rather than rely on restrictive measures at their borders or on measures taken by other countries.

4.5 Measures applicable to both maritime and air traffic

4.5.1 Health and sanitary conditions in ports. The committee agreed on the principle that no measures were required on the departure of a ship or aircraft from a healthy port.

Governments should, however (as indicated in Article 14 of the 1926/1944 Convention and in Article 5 of the 1933/1944 Convention), maintain a proper sanitary service in and around ports concerned in international traffic.

Information about such sanitary services should be sent yearly to WHO.

4.5.2 Ship and aircraft declarations of health. The committee agreed on the desirability of maintaining the declaration of health for ships and for aircraft. As regards the latter, it further agreed that such declaration could well be embodied in a more comprehensive declaration, to be submitted by the commander of the aircraft to the various authorities of the port of arrival, such as the general declaration advocated by ICAO.

4.6 Measures applicable to travellers

4.6.1 Personal declaration of origin and health. Use of the above declaration by countries should be optional in the case of aircraft passengers but, if employed, it must conform to the model to be incorporated in WHO sanitary regulations. Most members expressed considerable doubts as to the effectiveness and practical value of the declaration.

It was emphasized, moreover, that in no circumstances should countries demand a similar declaration from ships' passengers.

4.6.2 Immunization and immunization certificate requirements. The committee noted that there had developed, since the last war, a widespread tendency on the part of health administrations to require from travellers certificates of immunization, irrespective of the value of such immunizations for the protection of the countries reached by the travellers or for that of the travellers themselves.

The committee was aware of the many disadvantages inherent in the compulsory production of immunization certificates and considered that the serious obstruction to free and rapid travel caused by such requirement was out of
EXPERT COMMITTEE ON INTERNATIONAL EPIDEMIOLOGY AND QUARANTINE

proportion to the protection likely to be afforded to the country of arrival.

The committee, in full agreement with the opinion expressed by the experts of the study-group on plague and typhus, decided that certificates of immunization against plague and against typhus should not be required from travellers, even if coming from areas infected with those diseases.

The committee shared the opinion expressed by the study-group on cholera that inoculation against the disease, while of value to the individual for his protection in an infected area, had comparatively little value as a quarantine measure to prevent the entry of the disease into a cholera-free country.  It accordingly agreed that WHO regulations should not oblige countries ordinarily to require incoming travellers to submit to inoculation against cholera or to produce anticholera inoculation certificates. Regulations should, however, make it permissible for them to require such certificates from travellers coming from infected local areas.

The committee noted that, in the opinion of experts, there were reasons to believe that immunity induced by cholera inoculation lasted at least six months, and that there were experimental indications that even greater protection might be expected from Sokhey’s cholera vaccine now in the course of field trial.

4.6.3 Measures applicable to "migrants". The committee agreed that WHO sanitary regulations should cover all types of travellers, including migrants, but that additional sanitary measures concerning migrants might be taken by the receiving countries.

4.6.4 Measures applicable to pilgrims. With reference to the report of the Sub-Committee for the Revision of the Pilgrimage Clauses of the International Sanitary Conventions, which met in Alexandria in April 1947, and to the meeting and resolutions of the Health Committee of the Pan Arab Regional Bureau in January 1948, the committee noted that the First World Health Assembly had resolved to instruct the Expert Committee on International Epidemiology and Quarantine to combine the existing International Sanitary Conventions into a single body of regulations covering the needs of all travellers. No special regulations would then be required for pilgrimage. The committee accordingly agreed to distribute, among the chapters of the future sanitary regulations, the articles or paragraphs required to deal with pilgrims, without devoting a separate chapter to the pilgrimage as such; the index to the regulations would give easy access to the various articles bearing on pilgrimages and similar mass movements. Once the text of the regulations was actually drafted, the committee would be in a position to judge whether the above-mentioned procedure was technically satisfactory.

4.6.5 Measures relating to merchandise and baggage. After a study of the report of the study-group on plague, the committee agreed that merchandise coming from an infected area should not be subjected to sanitary measures unless exposed to infection and suspected of being contaminated by infectious material or of harbouring reservoirs or vectors of disease. It further agreed that, with regard to cholera, contamination had to be of recent date to constitute a danger.

The committee considered that further study should be made to determine whether a special chapter of WHO sanitary regulations should eventually be drafted to cover measures, applicable to merchandise, for the prevention of non-pestilential diseases such as anthrax, psittacosis, etc.

Veterinary authorities should be consulted to decide whether WHO regulations should cover the sanitary requirements of transport of live animals capable of harbouring or transmitting diseases communicable to man (rabies, psittacosis, brucellosis, tuberculosis, Q fever, etc.). The committee felt that it could not recommend restrictions to be placed on the transport of live, inoculated, experimental animals, or on infective scientific material. Countries should decide on adequate measures for their own defence, having regard to the needs of science.

The committee agreed that the personal baggage of travellers should not be subjected to sanitary measures, unless the traveller himself was suffering from one of the pestilential diseases or infected with vectors of such diseases.

No sanitary measures should be applied to mail (letters and printed matter). The same exemption should normally be extended to parcel post, provided it did not contain articles likely to be contaminated, such articles to be specified in the case of each epidemic disease.

4.7 Measures applicable to maritime traffic

4.7.1 Abolition of bills of health and consular visas. The committee emphasized the desirability of abolishing bills of health, and consular visas on such bills, in view of the improvement in international epidemiological intelligence services.

4.7.2 Periodic sanitary inspection of ships. The committee agreed that inspection of ships and

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consequent deratization had proved their value and that the principle of such periodic inspection should be retained in the WHO regulations. It should not, however, be limited to a search for rats, but be extended to include inspection for insect infestation and inspection of the general sanitary conditions of the ship.

The certificate issued as the result of such action should be called "Deratization and Disinsectization Certificate". By "disinsectization" is meant destruction of insect vectors of disease and domestic insect pests in the living quarters of crew and passengers and in the stores for their use. It does not include destruction of insects that might be infesting cereals and other foodstuffs in the hold, which would be the responsibility of the agricultural authorities.

The committee endorsed the established practice of the inspection being carried out every six months, one month of grace being granted when necessary to enable a ship to reach its own port where it would be unloaded before fumigation.

The committee agreed that inspection, deratization and disinsectization could be carried out effectively only on ships with empty holds and that exemption certificates should not be issued, save after examination of ships with empty holds.

It decided to refer the matter of disinsectization of ships (including small sailing craft) to the Expert Committee on Insecticides for guidance as to the methods to be indicated in WHO regulations as regards routine periodic disinsectization and disinsectization to avoid transmission from one continent to another of the insect vectors of yellow fever and of malaria.

The committee stressed the importance of ratproofing of ships, particularly during their construction.

4.8 Measures applicable to air traffic

4.8.1 Principles regarding airports. The committee decided that each airport should constitute a "local area" (circonscription) as under Article 8 of the 1933/1944 Convention.

All ports, including airports, open to international traffic should possess adequate sanitary equipment, personnel and organization (such as required of ports under Article 14 of the 1946/1944 Convention). All airports open to international traffic should therefore be "sanitary aerodromes".

The committee agreed that each international airport:

"shall, in areas where yellow fever exists, maintain its Aedes aegypti index at zero, and

"should, in areas where yellow fever does not exist, but in which there may be conditions which permit of its development, maintain its index of Aedes aegypti at zero for self protection and in order to prevent the transportation of these mosquitos to non-infested areas."

The committee decided to ask the members of the Yellow-Fever Panel whether, in their opinion, international airports should be equipped with mosquito-proof buildings for crew, passengers and ground staff, pending the reduction of their Aedes aegypti index to zero and until this level could be effectively maintained.

It further expressed the desire that the Yellow-Fever Panel be convened to attend the committee's next session for a full discussion of these and other subjects relating to the international control of yellow fever.

4.8.2 Transit passengers at airports. The committee agreed that no restrictive sanitary measures or immunization requirements were to be applied to passengers in transit at an airport, provided they were not suffering from a communicable disease and did not leave the precincts of the airport. For the application of the above principle, a traveller would not be considered to leave the precincts of the airport if transported, under the supervision of health authorities, from one airport to another, in the vicinity of the same city.

With one dissenting member, the committee agreed that a traveller having passed in transit through an airport constituting a healthy "local area" must not be submitted to sanitary restrictions on account of the prevalence of a pestilential disease in the city served by the said airport.

4.8.3 Disinsectization of aircraft. The committee noted that the Secretariat had collected from governments and competent organizations material concerning disinsectization methods now in use, and that, on the basis of this material, proposals for standard methods and standard insecticides were to be submitted to the Expert Committee on Insecticides, and eventually to itself.

The committee decided that the method(s) and insecticide(s) to be used for the disinsectization of aircraft engaged in international traffic should be prescribed in WHO regulations. It further agreed that, pending the entry-into-force of these regulations, the methods and insecticides selected by the competent expert committees of WHO should, after approval by the Executive Board, be recommended to governments for their adoption.

The committee recommended a periodic inspection of aircraft, similar to that recommended for ships, and covering insect and rat infestation and general sanitary conditions. Such inspection should entail the issue of a corresponding certificate.
4.9 Measures applicable to land traffic

The committee, after noting the importance of land traffic in the transmission of diseases, and also the difficulties involved in drafting regulations actually applicable to the various forms of such traffic, decided to enunciate the general principle that sanitary measures to be applied to land traffic should, mutatis mutandis, not exceed those laid down for air or sea traffic.

Annex 1

REMARKS ON THE PRINCIPLES WHICH SHOULD SERVE AS A GUIDE IN THE DRAWING-UP OF WHO SANITARY REGULATIONS TO REPLACE THE EXISTING INTERNATIONAL SANITARY CONVENTIONS

by Dr. A. R. Dujarric de la Rivière,
Sous-Directeur de l'Institut Pasteur, Paris

1. Preamble

1.1.1 Article 2(k) of the Constitution of the World Health Organization confers on that body authority to "propose conventions, agreements and regulations, and make recommendations with respect to international health matters".

1.1.2 To give effect to Article 2(k), mentioned above, the First World Health Assembly decided upon the creation of an Expert Committee on International Epidemiology and Quarantine entrusted, inter alia, with the task of preparing international sanitary regulations to replace the international sanitary conventions now in force.

1.2.1 The international sanitary conventions established between 1903 and 1944 have proved their worth in practice. They still constitute a sound basis which should, to an appreciable extent, be taken into account in the drawing-up of international sanitary regulations.

1.2.2 The new international sanitary regulations, based on newer knowledge in epidemiology and prophylaxis, will aim at ensuring the maximum security against international transmission of diseases with the minimum interference with world traffic.

1.2.3 These regulations, by their strictly technical aims, structure and application, will enable matters which hitherto had been dealt with in part at the diplomatic level to be dealt with at the health-administration level.

1.2.4 These regulations will be characterized by their unicity and their universality. The general principles on which they will be based, and which will be submitted to the World Health Assembly at its next session, will apply equally to all forms of international transport.

1.2.5 Once the general principles inspiring the regulations have been approved by the Assembly, the committee will prepare a series of regulations dealing with special subjects. The regular revision of the latter will enable them easily to be adapted to the progress of science.

The Executive Board noted this memorandum together with the proposed amendments and comments, and agreed to recommend the principles laid down therein as a basis for the promulgation of new sanitary regulations to replace existing conventions. For comments of the Board, see Off. Rec. World Hlth Org. 17, 42.

1.3.1 As far as possible, the concept of defensive control of epidemics by which former conventions have been inspired must be replaced by an active concept which would enable outbreaks of epidemic diseases to be suppressed at their origin and attention to be turned to the elimination of these diseases in their zones of permanent endemicy.

1.3.2 Each country must moreover develop its internal resistance to disease rather than rely solely on defensive measures taken at its frontiers.

1.4.1 The measures specified in the WHO regulations should not be exceeded by national health-administrations.

1.4.2 Cases of violation of the regulations, if not settled through ordinary channels, might be brought formally to the attention of the World Health Assembly.

1.5 This policy of attack will yield results only after prolonged efforts. Until these aims are achieved it is therefore necessary to maintain the sanitary organization which has up to now rendered it possible to limit the extension of the major epidemic diseases throughout the world, this organization being, however, adapted to advances in sanitary science.

2. Considerations Relative to the Application of the Principles

2.1 Preliminary note

2.1.1 The general principles considered by the Expert Committee on International Epidemiology and Quarantine at its November 1948 session (see page 7) correspond to a great extent to Chapters I and II of the General Provisions of the International Sanitary Convention of 1926, revised in 1944, with the exception of the measures peculiar to each of the quarantine diseases which form the subject of Section IV of Chapter II.

They correspond also to the first and second parts of the International Sanitary Convention for Aerial Navigation of 1933, revised in 1944.

2.1.2 For purposes of simplification and clarity of the text, these general principles could be grouped under four headings:

2.1.2.1 Definitions. It would in fact appear indispensable, in order to avoid any ambiguity as to the meaning of the texts, that the essential technical terms should be precisely defined.
2.1.2.2 Appearance and cessation of epidemic danger. This Chapter should deal with the international measures to be taken by the infected countries, particularly as regards notifications:

(i) at the outbreak of an epidemic
(ii) during the epidemic
(iii) after the cessation of the epidemic.

2.1.2.3 Measures against the extension and propagation of epidemic diseases

2.1.2.3.1 Permanent sanitary organization
(a) of countries
(b) of ports and airports
(c) of ships and aircraft and other vehicles used in international transport: trains, motor-buses.

2.1.2.3.2 Measures to be taken in the infected countries against
(a) the extension of the epidemic
(b) measures to be taken at ports, airports, railway stations, etc.

2.1.2.3.3 Measures to be taken on arrival
(a) maximum measures
(b) notification of measures taken.

2.1.2.3.4 Measures to be taken as regards passengers in transit.

2.1.2.3.5 Measures to be taken as regards baggage and merchandise.

2.1.2.4 Sanitary documents
(i) Bills of health and consular visas
(ii) Declarations of health
(iii) Immunization certificates.

2.1.3 Migrations and movements of population.

The Expert Committee on International Epidemiology and Quarantine, having examined the question of migrants (emigrants and immigrants) considered that these categories of travellers should be subjected to all normal sanitary regulations. However, it appeared to the committee that, since the measures applying to emigrants and immigrants are adapted to economic and social conditions, it was for the receiving countries to establish, jointly with the country of origin, and in agreement with WHO, the appropriate regulations.

2.1.4 Special consideration should be given to the problems raised by migrations due to exceptional circumstances (refugee movements and transfers of population) as well as by migrations of seasonal workers.

2.1.5 The committee noted that the First World Health Assembly had resolved to instruct the Expert Committee on International Epidemiology and Quarantine to combine the existing international sanitary conventions into a single body of regulations covering the needs of all travellers. No special regulations would then be required for pilgrimage. The committee accordingly agreed to distribute, amongst the chapters of the future sanitary regulations, the articles or paragraphs required to deal with pilgrims, without devoting a separate chapter to the pilgrimage as such.

2.1.6 Sanitary measures to be applied to land traffic should, mutatis mutandis, not exceed those laid down for air or sea traffic, except by special agreement of neighbouring countries which in some cases may develop technical co-operative sanitary administrations in the frontier areas.

2.1.7 Measures should be taken solely against arrivals from defined infected local areas. It is only when no definition of the infected area is available that restrictive measures should be applied against larger areas of the same territory.

2.1.8 International sanitary measures permissible against an infected local area should depend upon the degree of infection, and upon the efficacy of the control measures applied to the outbreak by the local authorities of the infected country. Such efficacy can be judged objectively only on the basis of prompt and accurate notification from the infected local area as to the number and distribution of cases, showing the development or regression of the outbreak.

2.2 Definitions

Experience has shown that among the definitions adopted in the International Sanitary Conventions of 1926/1944 and 1933/1944, there are some which should be modified.

2.2.1 Local area (Circonscription). The term "local area" designates a well-defined part of a territory, whatever be its size and population, which possesses locally a responsible administrative and technical organization, as well as the material means necessary for the execution of the measures prescribed by the international sanitary regulations.

A sea- or airport can be considered as constituting a "local area" if it fulfils the conditions necessary for the application of the international sanitary regulations.

2.2.2 Epidemiological terms.

International sanitary legislation provides for measures which are variable according to the intensity and characteristics of the epidemic.

2.2.2.1 The "first case" of a disease should be considered as the first non-imported case of that disease diagnosed by clinical examination and, as far as possible, confirmed by laboratory methods.

2.2.2.2 An epidemic "feyor" is characterized by the appearance of secondary cases around the initial case.

2.2.2.3 An "epidemic" is constituted by the extension and multiplication of the "feyors".

Exponential regression of the outbreak.

Experience has shown that among the definitions adopted in the International Sanitary Conventions of 1926/1944 and 1933/1944, there are some which should be modified.

The epidemiological definitions proposed were examined by the Expert Committee on International Epidemiology and Quarantine at its November 1945 session. It ordered that the list of these definitions may be complete, it seems that the following terms should also be defined: infection and immunity; contacts; susceptibles; fumigation; incubation period; susceptibility or receptiveness to a disease.

Naturally, the definition already indicated in the conventions in force, and which do not call for any mention, would be maintained.

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2.2.3.4 The term "endemic" indicates the permanent existence of a disease in a given territory.

2.2.3.5 The term "infective" denotes that the territory is liable to infection (the population being susceptible or the country containing potential vectors of the infection).

2.3 Notifications

2.3.1.1 Speed of notification of epidemic diseases is one of the essential elements of the efficacy of preventive measures.

2.3.1.2 Telegraphic notifications of an urgent nature which, in accordance with the conventions in force, must be made by the national authorities "immediately", must be made within 24 hours following receipt by them of the information.

2.3.1.3 The most adequate technical means shall be employed for their transmission to the health authorities of the countries concerned.

2.3.1.4 It is necessary to recall that notifications of are of real value only if every government is itself informed in time of the cases of epidemic diseases which have occurred on its own territory.

2.3.2.1 Whereas the existing conventions provide that notifications shall be sent to governments through the diplomatic or consular authorities, it is necessary that WHO shall henceforth be the receiving agent for all epidemiological information. In turn, it should diffuse this information to all central health authorities of the countries concerned.

2.3.2.2 Such action on the part of WHO applies equally to its regional organizations. Neighbouring countries may in addition continue to exchange directly the epidemiological information of immediate interest to them.

2.3.3 Epidemiological notifications include not only the declaration of first cases of epidemic diseases, but also weekly information during the epidemic, and date of cessation of the danger of infection.

2.4 Declaration of the cessation of an epidemic

2.4.1 when, after isolation, death or recovery of the last case identified, a period of time shall have elapsed equal to twice the incubation period of the disease and, in any case, exceeding the time necessary for the diagnosis, reporting and notification of the cases;

2.4.2 when, in the local area, all measures of prophylaxis, including isolation, have been taken and maintained to prevent the possible extension or recurrence of the epidemic.

2.5 Permanent sanitary organisation

2.5.1 Sanitary defence of countries. A country will be all the more in a position to ensure its security against epidemic diseases from abroad if it possesses an efficient internal sanitary organization.

2.5.2 Organisation of sea- and airports. All sea- and airports open to international traffic must be provided with sanitary services possessing qualified personnel and permanent equipment constantly available enabling them to carry out the measures prescribed in the international sanitary regulations.

Every year, the Member States of the World Health Organization shall send to the Organization a statement concerning the condition of the sanitary equipment of their sea- and airports.

Every airport open to international traffic must constitute a "local area" and be a "sanitary airport".

2.5.3 Sanitary inspection of ships and aircraft. Experience has shown it to be necessary for sanitary inspection of ships to be carried out every six months and for a deratization or deratization exemption certificate to be subsequently issued to the ship by the competent authority in accordance with the conditions laid down in Article 28 of the International Sanitary Convention of 1926/1944.

In addition to special measures taken with a view to the prevention of certain diseases, similar measures of inspection and, where necessary, of disinsectization, shall be applicable to aircraft engaged in international traffic.

The international sanitary regulations may, after the question has been studied by the Expert Committee on Insecticides, specify the products and methods to be employed for the disinsectization of aircraft engaged in international traffic and liable to transport insect vectors of epidemic diseases, and for the disinsectization of ships similarly engaged and liable, if such should be found practicable by that committee.

2.6 Measures on arrival

2.6.1 No sanitary measures need be taken in respect of arrivals from ports in which only imported cases of an epidemic disease have occurred.

2.6.2 Measures taken against arrivals from an infected local area or country shall not be maintained after the danger of infection has ceased to exist.

2.6.3 Health administrations must regard the sanitary measures laid down in the international regulations as constituting a maximum which must never be exceeded.

2.6.4 On the other hand, territories which are not liable to infection by a certain disease, either

28 The Expert Committee on International Epidemiology and Quarantine approved initiation by the WHO Secretariat, on a trial basis, of daily radio-telegraphic broadcasting of a bulletin containing information relating to pestilential diseases.

The existing conventions provide for notification of the cessation of danger of infection from an area. However, it does not specify the criteria for determining when the danger can be considered to be at an end.

Moreover, the Expert Committee on International Epidemiology and Quarantine was of opinion that the important responsibility of this declaration should be left to governments. It was considered, however, desirable that, in particularly important cases, governments should take the decision after consultation with one or more WHO experts, whom they would request to visit the place of occurrence.

In accordance with the same principles, railway and road stations used by international traffic should be provided with a sanitary organization adapted to the current needs of prophylaxis.

As far as possible, ships should be deratized and ships disinsectized, as far as possible, when they come from endemic or epidemic areas.
on account of the absence of vectors of the disease, or on account of the immunization of the inhabitants of the country, will be free to reduce or abolish the measures provided for against the introduction of the disease.

2.7 Measures to be taken as regards passengers in transit

2.7.1 In order to facilitate international travel, sanitary measures applicable to passengers in transit shall be reduced to the indispensable minimum.

2.7.2 No special local sanitary measures, nor any vaccination or immunization requirement, is applicable to passengers in transit, i.e., passengers on board a healthy ship from which they do not disembark or passengers on a healthy aircraft who do not leave the precincts of the airport.

2.7.3 However, if the traveller is obliged to change from one airport to another in the vicinity of the same town, transport shall be effected by the transport company, under the control of the health authorities. He will not, therefore, be submitted to any special sanitary measure.

2.8 Sanitary measures concerning the transport of merchandise and baggage

2.8.1 Merchandise. Regulations concerning the transport of merchandise shall avoid any hindrance to commercial traffic that is not justified by absolute necessity.

Merchandise, whatever its nature, must not be considered as constituting a danger unless it has been contaminated by virulent material or serves as a vehicle for the vectors of disease.

Apart from special measures that may be imposed on arrivals from infected areas, merchandise in transit must neither be prevented from entering a country, nor held up at land or sea frontiers.

Sanitary measures to be taken with regard to merchandise must take account not only of the danger of propagation of pestilential diseases, but also of that of the transmission of serious communicable infections.

Special regulations, drawn up in collaboration with competent veterinary authorities, shall lay down the conditions to be fulfilled for the transport of live animals who may carry disease-producing organisms or transmit serious infectious diseases to man.

2.8.2 Baggage. By baggage is meant the personal effects of travellers.

In cases where the traveller is considered to be neither ill nor suspect, no measure may be taken in respect of his baggage.

If, on the contrary, the traveller is found to be ill, or if he carries vectors capable of transmitting infectious diseases, his baggage may be the object of the measures of disinfection or disinsectization deemed necessary in each case.

2.8.3 Mail. No sanitary measures shall be applied to paper mail, correspondence, printed matter, books and newspapers.

Post parcels may be subjected to restrictions if they contain articles to which restrictions are applicable as "merchandise".

2.9 Sanitary documents

2.9.1 Bills of health and consular visas. As expressly stated in the International Sanitary Convention of 1944, bills of health and consular visas thereon must be abolished.

2.9.2 Declaration of health. The use of the "Declaration of Health" for ships and aircraft must be maintained. On the other hand, the sanitary regulations shall not make obligatory, for passengers of ships and aircraft, the "Personal Declaration of Origin and Health". However, each country may, if it so desires, require that this declaration be furnished by aircraft passengers for information purposes.

2.9.3 Vaccination certificates. In quarantine practice, vaccinations and inoculations are not primarily intended to protect the traveller; their object is to prevent the importation into a territory of communicable diseases.

2.9.3.1 In order that this role may be efficiently fulfilled and in order to enable sanitary measures to be lightened or even abolised, the technique and material used must give assurance of the effectiveness of vaccines and inoculations.

2.9.3.2 Under these conditions, the international sanitary regulations shall not make inoculation against plague and typhus compulsory for travellers.

2.9.3.3 However, every country will remain free to grant to the bearers of valid certificates such exemption from sanitary measures as it may consider desirable, for instance, the placing of the traveller under surveillance instead of under observation.

2.9.3.4 Certificates of vaccination and inoculation, to be taken into consideration, must be drawn up in accordance with the models established by the international sanitary regulations.

29 This declaration may be included in a "General Declaration", as proposed by the International Civil Aviation Organization.

30 The Expert Committee on International Epidemiology and Quarantine noted that there had developed since the last war a widespread tendency on the part of health administrations to require from travellers certificates of immunization, irrespective of the value of such immunizations for the protection of the countries reached by the travellers or for that of the travellers themselves.

The committee was aware of the many disadvantages inherent in the compulsory production of immunization certificates and considered that the serious obstruction to free and rapid travel caused by such requirement was often out of proportion to the protection likely to be afforded to the country of arrival.
The Section on Quarantine of the Expert Committee on International Epidemiology and Quarantine met at the Palais des Nations, Geneva, 18 November 1948.

Members
Dr. G. L. Dunnahoo
Dr. H. S. Gear
Dr. Melville Mackenzie
Dr. M. Nazif Bey
Dr. W. W. Yung

Also present
Dr. C. Mani
Dr. M. T. Morgan, Chairman of the Expert Committee on International Epidemiology and Quarantine

Secretariat
Dr. G. Stuart, Chief, Sanitary Conventions and Quarantine Section, WHO

The section elected as Chairman, Dr. G. L. Dunnahoo.

Terms of Reference
Interpretation and application of the existing international sanitary conventions.

1. Complaints by Government of India

Complaints by the Government of India against the Governments of Iraq and Iran on account of measures taken in excess of the sanitary conventions:

1.1 The Government of Iraq requires from passengers from India:
1.1.1 cholera inoculation certificates recognized as valid for three months only, instead of six months;
1.1.2 isolation, in quarantine, of passengers holding valid cholera inoculation certificates.

1.2 The Government of Iran requires from passengers from India:
1.2.1 plague inoculation certificates;
1.2.2 isolation, in quarantine, of passengers holding valid cholera inoculation certificates.

As regards Iraq, the section observed that both in respect of 1.1.1 and 1.1.2 the measures were in excess of the provisions of the 1926 and 1933 Sanitary Conventions, to which Iraq is party. The section thereupon requested the Secretariat to draw the attention of the Iraqi authorities to these points and also to stress the importance of taking measures only against infected local areas. Moreover it should be emphasized that, in the opinion of the WHO expert committees concerned, the production of certificates of vaccination against cholera was, for quarantine purposes, of comparatively little value and, in any case, this requirement should be restricted to travellers arriving from infected local areas, in which case the possession of such certificates would limit sanitary restrictions to surveillance only.

As regards Iran, the section requested the Secretariat to represent to the authorities there that, in the opinion of WHO, antiplague vaccination has no place as a quarantine measure in the international control of the disease. Moreover, the reasons justifying Iran's imposition of isolation, in quarantine, on travellers in possession of valid inoculation certificates against cholera should be ascertained. Iran should further be informed of the opinion of the expert committees on the value of cholera vaccination for quarantine purposes, on the lines indicated in the preceding paragraph.

2. Complaint by Government of India

Complaint by the Government of India regarding the insanitary condition of the Iranian quarantine station at Zahidan.

The section noted that the Secretariat had already been in communication on the subject
with the Iranian Health Authorities and that the latter had the matter under consideration. It was suggested that the Secretariat draw up a schedule indicating minimum sanitary requirements for an international airfield.

3. Request by Netherlands Health Administration

Request by the Netherlands Health Administration that new requirements of the Chinese Authorities in respect of immunization certificates against yellow fever, typhus and smallpox should be brought to the attention of the expert committee. The section noted that Dr. Yung (China), one of its members, would investigate and report on the matter on his return to Nanking—the Netherlands Health Authorities to be informed accordingly.

4. Fumigation of Ships with Loaded Holds

This matter arose out of a question by the Government of India as to whether, under Article 28 of the 1926/1944 International Sanitary Convention, it is compulsory to fumigate a laden vessel not in possession of a valid deratization or deratization exemption certificate.

Onus lay on the ship's master to see that the certificate of deratization was not out of date or likely to become out of date during the voyage. Article 25 of the Convention deals with the compulsory deratization of ships in exceptional circumstances, but in ordinary cases ships, the bona fides of which was recognized, should be permitted to proceed, on an undertaking being given that they would be inspected and, if necessary, deratized at the port where all their cargo would be discharged. It was agreed that deratization exemption certificates should not be issued to ships with loaded holds.

5. Period of Validity of Certificates of Immunization against Smallpox, Cholera and Yellow Fever

Such periods had been laid down in the texts of the 1944 Sanitary Conventions, but in view of the relatively small number of countries parties to these Conventions, the section requested the Secretariat, by means of circular letters, to bring to the notice of all national health-authorities the periods of validity prescribed and to urge that, with a view to avoiding confusion and administrative difficulties, no departure from such periods be made.

6. Authentication of Certificates

The section agreed that at present no opinion other than that expressed by the WHO Interim Commission Expert Committee on Quarantine in October 1947 could be given. That opinion is contained in the report on its first session, under the heading "International Certificates of Inoculation and Vaccination."

7. Time Required for the Development of Effective Immunity after Inoculation with Yellow Fever Vaccine

The section took note of the memorandum prepared on this subject by the Secretariat and agreed with the conclusion reached therein, as to the probable need, at present, for a compromise period of 12 days as regards those countries unable to accept the overall period of 20 days laid down in the 1944 Conventions. The section requested the Secretariat to get in touch with those governments which did not accept the 20-day period and ask whether, on the basis of the scientific work summarized in the memorandum, they would be willing to agree to a 12-day period, pending the final revision of the existing conventions.

8. Request by Belgian Health Authorities

Request by the Belgian Health Authorities for WHO opinion on the propriety of erecting, in the Belgian Congo, a private and a military aerodrome outside the 400 metre building-free zone around the perimeter of a sanitary aerodrome located in that territory and on the lines of international traffic.

The section were of opinion that there was no objection, provided that the relevant provisions of the conventions were observed. These aerodromes are not, however, to be considered as sanitary aerodromes inasmuch as they are outside the 400 metres building-free zone.

9. Other Items

The following items were judged by the section to be outside their terms of reference, but were referred by the section to the Expert Committee on International Epidemiology and Quarantine for consideration:

1. Amendment of Article 15 of the 1926/1944 Convention;
2. Amendment of Article 9 of the 1944 Convention for Aerial Navigation—Personal Declaration of Origin and Health to be completed by members of the crew as well as by passengers;
3. Introduction of provisions in Article 17 of the 1926/1944 Convention for regulating the export of merchandise;
4. Amendment of Article 10 of the 1926/1944 Convention; in paragraph 2, should the occurrence of a first case of cholera as telegraphically notified under Article 1 entail the application of measures prescribed under Section 12?

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2 On 23 January 1949 the Iranian Ministry of Health informed the WHO Secretariat that the necessary steps were being taken to remove any possible grounds for those complaints as well as to modernize all the important quarantine stations in Iran.

8 Off. Rec. World Hltlz Org. 8, 28
4 Document WHO/YF/1, unpublished working document
JOINT OIHP/WHO STUDY-GROUP ON PLAGUE

SUMMARY REPORT ON THE SECOND SESSION

Held 5-8 October 1948, Office International d'Hygiène Publique, Paris

The Joint OIHP/WHO Study-Group on Plague met at the Office International d'Hygiène Publique, Paris, from 5 to 8 October 1948; the following were present:

Members

Dr. E. J. Y. Aujaleu, Directeur de l'Hygiène sociale, Ministère de la Santé publique et de la Population, Paris, France
Dr. G. Blanc, Directeur de l'Institut Pasteur du Maroc, Casablanca, Morocco
Dr. P. C. C. Garnham, Reader in Medical Parasitology, London School of Hygiene and Tropical Medicine, London, United Kingdom
Dr. A. M. Macchiavello, US Public Health Service; Consulting Epidemiologist, Pan American Sanitary Bureau, Lima, Peru

Also present

Dr. A. R. Dujarric de la Rivière, Sous-Directeur de l'Institut Pasteur, Paris, France
Médecin-Général Inspecteur M. A. Vaucel, Directeur du Service de Santé colonial, Ministère de la France d'Outre-Mer, Paris, France

Secretariat

OIHP:
Dr. M. Gaud, Directeur de l'Office International d'Hygiène Publique, Paris, France

WHO:
Dr. Y. M. Biraud, Director, Division of Epidemiology, WHO
Dr. W. M. Bonne, Director, Division of Planning, WHO
Dr. M. M. Sidky, Medical Officer, Division of Epidemiology, WHO
Dr. G. Stuart, Chief, Sanitary Conventions and Quarantine Section, WHO

Absent

Major-General Sir Sahib Singh Sokhey, Director, Haffkine Institute, Bombay, India.

1. The study-group, after taking cognizance of the observations made by the Expert Committee on International Epidemic Control 1 on the report of its first session, 2 considered the following:

2. Plague

2.1 Enzootic Plague

2.1.1 Determination of the enzootic and endemic plague areas throughout the world. The study-group noted the documentary material collected covering the whole world and, more particularly, French Indo-China and Iran.

This documentation, completed in greater detail by members of the study-group, outside experts, national administrations and the WHO Secretariat, would be considered by the group at a future session.

In view of the existing uncertainty regarding the presence of plague among wild rodents in certain parts of the world, particularly in Africa, the study-group recommends that WHO constitute a team of investigators comprising an epidemiologist, a zoologist and an entomologist, in order that a delimitation of the plague enzootic zone might, with the concurrence of the health administrations concerned, be effected on the spot.

2.1.2 Definition of " Sylvatic Plague ". As epizootics of wild-rodent plague do not especially occur in forests, the study-group agreed that the term " Sylvatic Plague " should be replaced by that of " Plague of wild rodents " (so-called " Sylvatic Plague "). This is an infection of wild rodents and their ectoparasites, occurring independently of the plague infection of domestic rodents.

2.1.3 Relationship between wild-rodent plague and human plague. Apart from the danger of the individual getting into contact with infected wild rodents, transmission to human communities of wild-rodent plague would, in the opinion of the study-group, appear to be dependent, inter alia, on:

(a) the biology of the ectoparasites of wild rodents;
(b) the ability of such ectoparasites to infest and infect man;
(c) the possibility of access of wild rodents to human habitations and the peridomestic environment, and more particularly their infection of the domestic rodents;
(d) the density of human population.

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Thus wild-rodent plague spreads in human communities only when it has become domestic, and prophylaxis consists in protecting human habitations and the peridomestic environment from invasion by wild rodents capable of introducing infection.

2.1.4 Nomenclature of plague reservoirs and vectors. The study-group recommended the drawing-up, in accordance with a uniform and modern nomenclature, of a list containing the names of animals and their ectoparasites capable of acting as reservoirs and vectors of plague, and suggested that Dr. Macchiavello should be entrusted with this task.

2.2 Inter-human transmission of bubonic plague

The study-group agreed that the occurrence of human plague depends originally on transmission from man to rodents by their ectoparasites. It also agreed that the human flea, Pulex irritans, could be infected in nature and that experimentally it could acquire infection from man and transmit the infection to animals.

Further investigations are required to elucidate the epidemiological role of this parasite.

2.3 Treatment of plague

Further evidence was advanced of the favourable results obtained in the treatment of plague by sulfonamides and streptomycin.

2.4 Vaccination against plague

The study-group noted the favourable results obtained with live vaccine in the prophylaxis of human plague. It considered that in view of the short duration of the immunity conferred by antiplague vaccines and of the fact that rodents and not human beings were reservoirs of plague, vaccination could not be considered as a means of eradicating human plague and was of less importance than measures of control over rodents and ectoparasites.

2.5 Pulmonary plague—Propylaxis

2.5.1 In view of the fact that different clinical forms of plague were due to the same causal organism, the study-group agreed that the quarantine measures to be taken under international sanitary legislation against bubonic plague should be equally applicable to pneumonic plague, in respect of which, however, additional measures would be required.

2.5.2 Apart from notification, a focus of pneumonic plague with no tendency to spread or to form secondary foci does not entail any particular international action.

2.5.3 Only when an epidemic zone is formed, i.e. when an increasing number of cases has given rise to secondary foci geographically distinct, are international prophylactic measures indicated.

2.5.4 These measures should include, for contacts wishing to leave the zone, observation for a period of five days from the date of last exposure to infection.

2.5.5 The study-group recommended the prophylactic treatment of contacts with sulfonamides or streptomycin.

2.5.6 It also recommended that, when occasion arose, a study should be undertaken of the question as to whether prophylactic treatment with these drugs is capable of shortening the period of observation of contacts.

2.6 Results obtained in the control of plague by insecticides and/or rodenticides

The study-group noted the following results obtained by Dr. Macchiavello in South America:

2.6.1 The combined application of DDT and sodium fluoracetate (ro80) suppressed both the epidemic and enzootic plague in villages and towns;

2.6.2 In rural areas it suppresses the epidemic but, except in very circumscribed areas, does not control the epizootic;

2.6.3 In areas where wild-rodent plague prevails, the application of DDT alone would, in order to be effective, require so large a quantity of the insecticide as to render the method impracticable.

2.6.4 Field experiments had shown that in the control of plague:

(1) DDT powder at 5% was superior to DDT solution;

(2) in an area where plague is seasonal, one application of DDT a year, prior to the expected seasonal rise, was sufficient; and

(3) sodium fluoracetate (ro80) was the present rodenticide of choice.

2.7 Plague-control training centre

2.7.1 The study-group noted that the use of the above methods was shortly to be taught to medical and sanitary personnel in a special training centre to be organized under the joint auspices of the Peruvian Government and the Pan American Sanitary Bureau.

2.7.2 It considered that the benefit of such training might be usefully extended to antiplague staff for other parts of the world, and suggests therefore that WHO grant a number of fellowships for this purpose.

2.8 Measures of protection for cities, air- and seaports

2.8.1 The study-group considered the following measures as appropriate for the protection of cities, air- and seaports:

(1) rat-proofing of buildings and out-buildings;

(2) application of 5%-10% DDT powder every six months or at intervals compatible with the
maintenance of an absolute flea index \(^1\) under 5;
(3) deratization with 1080 or another effective rodenticide after DDT spraying;
(4) protection of merchandise with 5%-10% DDT powder;
(5) application of 5%-10% DDT powder to vehicles, in case of epizootic recrudescence within an enzootic area.

2.8.2 Additional measures appropriate for airports include:
(1) the maintenance of a clean zone within a radius of 200 metres around the airport buildings and the ground used for the parking of aircraft;
(2) exclusion from the above area of buildings not rat-proofed;
(3) application of DDT to aircraft;
(4) application of DDT before loading, to merchandise coming from enzootic zones and which, in the judgment of health authorities, might contain infected fleas;
(5) inspection of aircraft in order to avoid transportation of rats.

2.8.3 In case of an epidemic in the enzootic zone: application of 5%-10% DDT powder to the personal effects and garments of the passengers coming from the infected zone.

3. Rickettsioses

3.1 Classification of rickettsioses

3.1.1 The study-group considered a series of classifications based on etiological agents, vectors and clinical symptoms, and was of the opinion that further study was desirable before a satisfactory classification could be obtained.

Dr. Macchiavello promised to submit a tentative classification and nomenclature of rickettsiae and rickettsioses for consideration at the next session of the study-group.

3.1.2 The study-group considered it desirable to establish a distinction between classical louse-borne typhus—to which alone apply the international measures under sanitary conventions—and the other rickettsioses.

3.2 Differential diagnosis of rickettsioses

3.2.1 The history of “Congolese fever” (fièvre rouge congolaise) was given as an illustration of the multiplicity of rickettsial diseases under the same name in the various parts of Africa and need for their proper epidemiological and laboratory differentiation.

\(^1\) This index is calculated on the basis of the estimated number of fleas and of rats in the zone under consideration. Enumeration of the rats is made in a sample sector; that of the fleas on the captured rats and in the burrows.

3.2.2 In order to avoid confusion and redundant nomenclature, the study-group strongly emphasized the necessity of fulfilling the following criteria for diagnosis of a rickettsial disease in a particular locality:
(a) clinical observations,
(b) epidemiological observations,
(c) laboratory tests, including serological tests with standard antigens.

3.2.3 The study-group recommended the standardization by WHO of antigens corresponding to the various rickettsioses.

3.2.4 The study-group also suggested the desirability for WHO to entrust certain laboratories with the task of carrying out appropriate tests for the diagnosis of rickettsioses in various parts of the world, following standard methods.

3.2.5 The study-group decided to consider at a later session the question of possible transformation of the murine virus into the classical form, and vice versa.

3.3 Murine typhus in ports

In a preliminary discussion on the distribution of murine typhus in ports, attention was drawn to the special form observed on ships, between 1926 and 1938, in the French Mediterranean fleet. Contamination of food, either by rat urine or by the dried excreta of fleas in dust, was believed to be the origin of the human cases.

3.4 Q fever and its present extension

The study-group considered new facts recently come to light with regard to methods of transmission of Q fever and the geographical distribution of the disease, including the identification of atypical pneumonia, and “Balkan gripe”, as due to Rickettsia burneti.

After considering the recent progress in our knowledge of Q fever in its present forms, and the recent spread of the disease, the study-group recommended that this new knowledge be made available to the medical profession, and to health administrations, with a view to facilitating diagnosis and taking appropriate prophylactic measures.

Particular emphasis was laid on the importance of the role played by cattle, goats and sheep in transmitting the disease through their excreta and through milk.

3.5 Treatment of typhus and other rickettsioses

The study-group considered further evidence on results of treatment by chemical substances and antibiotics. The best results were obtained with \(\alpha\)-para-aminobenzoic acid and chloromycetin. These drugs proved effective in the case of classical typhus, and in other rickettsial diseases.
Chloromycetine gave excellent results in the treatment of scrub-typhus.

4. Sanitary Measures Appropriate for Merchandise in International Traffic

4.1 After reviewing the attitude taken to the problem by the successive international sanitary conferences, the study-group recommended that distinction be made with regard to the sanitary measures to be applied to mail, baggage accompanying travellers, and merchandise proper.

4.1.1 Mail. The study-group recommended that no change be made in international sanitary legislation concerning postal traffic which exempts mail from all restrictions (Article 19 of the 1926/1944 Convention).

4.1.2 Baggage accompanying travellers. It was agreed that sanitary measures applicable to such baggage should be conditioned by the origin and state of health of the traveller as well as by the measures already taken against the traveller.

4.1.3 Merchandise proper. The study-group recommended that merchandise can only be considered as dangerous if contaminated by infectious material or harbouring reservoirs or vectors of disease.

4.2 Further, the study-group recognized that four categories of merchandise should receive special consideration:

4.2.1 Rags and old clothing. Such should always be transported in closed bales; when coming from zones infected with typhus, plague and smallpox, however, they should be disinfected before being made into bales.

4.2.2 Vegetables, fruit and fish ordinarily consumed in the raw state.

4.2.3 Raw wool, untreated hides, hair, furs and feathers.

4.2.4 Sacks made of jute or similar fibre had been responsible for the plague infection of certain countries, and should be regarded as dangerous when imported from infected areas. It was suggested that sacks of this nature should be sprayed with DDT or with other insecticide with residual action.

4.3 Living animals capable of transmitting disease to man

The study-group recommended that WHO should study, if necessary in collaboration with veterinary authorities, the international aspects of transmission of animal diseases transmissible to man.

5. Modification of Article 15 of the 1926 Convention

The study-group called attention to the apparent contradiction contained in paragraphs 3 and 4 of Article 15 of the 1926 Convention (paragraphs 3 and 6 of the same Article in the 1944 Convention), and recommended the suppression of paragraph 3, which constitutes a dangerous loophole in the application of the Convention.

6. Measures Appropriate for the Protection of Isolated Communities

The study-group recommended that this question be the object of further study, with a view to enabling countries to take measures against the importation of communicable diseases (and of their vectors), other than those now covered by international sanitary legislation, into communities isolated and therefore particularly susceptible to infection.
The Joint OIHP/WHO Study-Group on Smallpox met at the Office International d'Hygiène Publique, Paris, on 18-19 October 1948; the following were present:

Members
Dr. E. T. Conybeare, Medical Officer, Ministry of Health, London, United Kingdom
Professor A. Lemierre, Membre de l'Académie de Médecine, Paris, France
Dr. R. E. Muckenfuss, Assistant Commissioner, City of New York Health Department, New York, USA
Dr. C. G. Pandit, Secretary, Indian Research Fund Association, New Delhi, India

Also present
Dr. A. R. Dujarric de la Rivière, Sous-Directeur de l'Institut Pasteur, Paris
Dr. A. M. Macchiavello, US Public Health Service, Consulting Epidemiologist, Pan American Sanitary Bureau, Lima, Peru

Secretariat
OIHP:
Dr. M. Gaud, Directeur de l'Office International d'Hygiène Publique, Paris, France

WHO:
Dr. Y. M. Biraud, Director, Division of Epidemiology, WHO
Dr. G. Stuart, Chief, Sanitary Conventions and Quarantine Section, WHO

The study-group considered the following points:

1. Characters of the Viruses of the Smallpox Group
1.1 The study-group noted that no morphological differences had been detected between the smallpox and the vaccinia viruses when examined by the electronic microscope.
1.2 Presumptive differentiation between both could be made morphologically by macroscopic examination of cultures of these viruses on the chorio-allantoic membranes of chick-embryos, usually three to four days after their inoculation.
1.3 The group noted that differentiation between the vaccinia and smallpox viruses could be made by reason of the fact that the virus of the former, but not of the latter, will propagate on the rabbit's skin.
1.4 The study-group recommended that investigation be made of possible differences between the variola major and alastrim types of smallpox virus by means of the electronic microscope and other methods.

2. Laboratory Methods for the Diagnosis of Smallpox
The study-group considered the following tests to be the most practical for the early diagnosis of smallpox:

2.1 In the vesicular stage
2.1.1 Detection of elementary bodies (Paschen). This test has the advantage of not requiring more than a microscope and stain, but calls for considerable technical experience; moreover it is of greatest service if clinical signs of smallpox are present, when it can contribute to the differential diagnosis between smallpox on the one hand, and chickenpox or secondary syphilis on the other.
2.1.2 Flocculation test.
2.1.3 Complement-fixation test. This test is to be carried out with specific antisera on the antigens obtained from lesions on the patients.
2.1.4 Neither the flocculation nor the complement-fixation test can differentiate between smallpox and vaccinia viruses. Differentiation requires culture on the chick-embryo membranes.

2.2 Tests applicable during the stage of crust formation
The flocculation, complement-fixation and egg membrane culture tests are all applicable at this stage.

1 The technique of van Rooyen & Illingworth (Brit. med. J. 1944, 2, 526) is satisfactory.
3. Contagiousness of Smallpox in the Pre-eruptive Stage

3.1 The study-group, having noted evidence in favour of persons having been infected by patients during the pre-eruptive stage, recommended that investigation be made to determine, if possible, the presence of the virus in the latter’s nasal, buccal and pharyngeal mucosa, as well as on the skin, prior to eruption.

3.2 The study-group noted, in an observation communicated by one of its members, that, within 12 hours of its formation, a papule contained the virus, which was easily obtained by a slight and invisible scratch of the lesion with a needle. This would suggest the possibility of the minor traumata due to scratching, or even to friction by clothing, causing liberation of the virus in the pre-vesicular stage.

4. Vaccination

4.1 The study-group considered the desirability of obtaining precise data on the duration of immunity after primary vaccination and revaccination, as a basis for determining the time after vaccination when revaccination is necessary.

4.2 The study-group considered also the opportunities offered by the French health authorities for extensive and intensive investigations to be made into the vaccinal and serological response of vaccinated and revaccinated infants, children and young adults.

4.3 The following suggestions were made for carrying out these investigations:

4.3.1 Study of the vaccinal response to annual revaccination, up to five years of age, of children primarily vaccinated within the first three months of life—care being exercised to have the vaccination and re-vaccinations made with the same technique and with vaccine of the same titre prepared by the same institute.

4.3.2 Study of the vaccinal response of a similar group of children, but whose primary vaccination had been performed between the third and the twelfth months of life. In this group, response to annual re-vaccination should be noted yearly up to school-age.

4.3.3 Study, where laboratory facilities exist and children vaccinated at various ages are available, of the vaccinal response to re-vaccination, in correlation with the serum antibody titre, such determination to be carried out immediately prior to, and one month after, the re-vaccination—choice of methods of titrating antibodies (complement-fixation, flocculation, haemo-agglutination) being left to the laboratory investigators.

4.4 The study-group, being aware that "potency test" of vaccines, obtained by takes of vaccinia dilutions in rabbits, afforded no direct proof of the vaccine’s efficacy in protecting human beings against smallpox, recommended that WHO take steps to have field trials done, wherever opportunity offered, to test the actual protective value of smallpox vaccine in the field, particularly when a new type of vaccine or a new method of vaccination was introduced.

4.5 Vaccination against smallpox and yellow fever

The study-group considered opinions advanced by certain of its members on the intervals which should be allowed to elapse between the administration to the same individual of smallpox vaccine and that of yellow-fever vaccine. It agreed that yellow-fever vaccine should be the first to be inoculated and that smallpox vaccine should not be administered until the 15th day thereafter. The reason for the order of administration and for the 15-day interval between the inoculations was the reduction to a minimum of the possibility of occurrence of post-vaccinal encephalitis. Should, for unavoidable reasons, smallpox vaccine be administered first, an interval of 21 days should elapse before yellow-fever vaccine is inoculated.

The above precaution did not appear necessary for African countries where encephalitis is non-existent and where some 17 million combined smallpox and yellow-fever vaccinations have been performed without ill-effect.
The Joint OIHP/WHO Study-Group on Cholera met at the Office International d’Hygiène Publique, Paris, from 13 to 15 October 1948; the following were present:

**Members**
- Dr. C. G. Pandit, Secretary, Indian Research Fund Association, New Delhi, India
- Sir Aly Tewfik Shousha, Pasha, Under-Secretary of State for Public Health, Ministry of Public Health, Cairo, Egypt
- Dr. P. Bruce White, National Institute for Medical Research (Medical Research Council), London, United Kingdom
- Dr. A. R. Dujarric de la Rivière, Sous-Directeur de l’Institut Pasteur, Paris, France
- Dr. A. M. Macchiavello, US Public Health Service; Consulting Epidemiologist, Pan American Sanitary Bureau, Lima, Peru
- Dr. O. Ouchterlony, State Bacteriological Laboratory, Stockholm, Sweden
- Médecin-Général Inspecteur M. A. Vaucel, Directeur du Service de Santé colonial, Ministère de la France d’Outre-Mer, Paris, France

**Also present**
- Dr. Y. M. Biraud, Director, Division of Epidemiology, WHO
- Dr. G. Stuart, Chief, Sanitary Conventions and Quarantine Section, WHO

The study-group considered the following items on its agenda:

1. **Determination of Cholera Endemic Zones throughout the World**
   1.1 **Geographical distribution**
   The study-group considered cholera prevalence in India, Thailand, Indo-China and China, the only countries in which the disease had recently been reported.

Note was taken that, while in certain areas, e.g., in Southern Indo-China, there seemed to be a continuous presence of the disease but with a small number of cases ("hypoendemicity"), cholera in much higher incidence prevailed uninterruptedly in Bengal. But even there cholera was not constantly present in every district.

**1.2 Fatality-rates**
The study-group noted the difference in fatality-rates between true endemic areas, where they were often as low as 7% to 10%, and non-endemic areas, where during epidemics they reached 50% and over.

**1.3 Definition of endemic areas**
The study-group agreed that an endemic area is one in which, over a number of years, there is practically continuous presence of clinical cholera with annual seasonal exacerbations of incidence.

**1.4 Criteria of endemcity**
In India, the following criteria have been suggested for the determination of endemic, non-endemic and intermediate areas:

1.4.1 **Percentage of months without cholera**
- endemic: less than 30%
- intermediate: 30% to 50%
- non-endemic: over 50%

1.4.2 **Mean length in months of intervals between prevalence of cholera**
- endemic: less than 2.5
- intermediate: 2.5 to 4
- non-endemic: over 4

**1.5 Rates of incidence**
On the basis of the above criteria, 80 out of 180 districts in Bengal were found to be truly "endemic", none in Madras province.

It was recommended that the WHO Secretariat establish world maps of recent cholera incidence and of cholera endemic areas, the essential criterion for the determination of endemcity being...
continuity of infection rather than number of persons affected.

2. Factors Governing Endemicity

2.1 The study-group considered that the factors governing endemicity should be investigated on the spot.

2.2 The study-group took note of researches carried out in India up to 1942 on the vibrios contained in "tanks" and in similar collections of water. There, Vibrio cholerae Koch was found only when clinical cases existed in the population using the tanks as their water supplies, but not during cholera-free periods.

2.3 The presence of salt and organic matter was essential to the survival of cholera vibrios; without salt, vibrios died within 24 hours. These findings suggested that survival of cholera vibrio in water was not a proved factor in the maintenance of cholera endemicity.

2.4 The study-group considered that further investigations should be carried out to determine whether the excretion of cholera vibrios from mild subclinical cases of cholera could constitute a link between two cholera outbreaks.

2.5 Several methods were suggested which might throw light on the possibility of man acting, during periods apparently cholera-free, as a reservoir of the infection.

2.5.1 It was suggested, on the basis of recent experience in Egypt, that in an endemic area a representative group of the population should be subjected to periodical rectal swabbing for at least one year, in order to detect carriers and establish a possible relation between the carrier state and mild diarrhoeal conditions.

2.5.2 It was also suggested that in selected areas, endemic and non-endemic alike, all persons dying without medical attendance and irrespective of the cause of death should, in order that the presence of Vibrio cholerae might be detected, be subjected to systematic rectal swabbing.

2.5.3 It was further suggested that teams of epidemiologists and bacteriologists, familiar with conditions in one endemic area, such as Bengal, should be given an opportunity to study an endemic area in another country, such as Southern China or Indo-China, and compare conditions in the two areas for the purpose of determining factors governing endemicity.

3. "S" and "R" Forms of Vibrio cholerae

3.1 The study-group considered the result of observations which confirmed the transformation of cholera vibrios from the "smooth" to the "rough" forms during the course of the disease. The appearance of the "rough" form, as from the fourth day, apparently corresponded to the development of antibodies in the patient's serum.

3.2 In view of the epidemiological importance that a reversion from the "R" into the "S" form would have if it occurred in nature, the study-group recommended that this question be further investigated.

4. Diagnosis of Cholera

4.1 The study-group considered the desirability, for international purposes, of attaining a standard procedure for the diagnosis of cholera.

4.2 The study-group agreed on the desirability of providing laboratories with standard preparations of the Inaba and Ogawa O antigens with a view to enabling them to prepare qualitatively identical agglutinating sera for diagnostic purposes, thus endorsing the decision taken by the WHO Expert Committee on Biological Standardization.

4.3 It further agreed that it was desirable to furnish with such antigens a general description of the method for their proper employment.

4.4 With a view to providing a standard method of diagnosis, the group recommended that a comparative study be made in India between the procedures used in Egyptian, Indian and other laboratories.

4.5 The study-group agreed that, for purposes of international quarantine, the presumptive diagnostic tests (Bandi's, copra antigens, etc.) could not suffice to diagnose cholera in areas where it is not usually present, and could not dispense with the use of a classical diagnostic method which might require 48 hours.

The group recommended a comparative study of the results obtained with Bandi's test and with the classical methods respectively.

4.6 The study-group recommended a comparative study of the Egyptian technique of the haemolytic test and of Greig's technique, using respectively the blood of goats and of sheep.

4.7 Collection and dispatch of diagnostic material to the laboratory

The study-group re-affirmed the value of buffer saline solution in screw-capped glass containers for dispatching suspected stools to distant laboratories for diagnosis.
Vibrios have been recovered from stools in such buffer solution over long periods.

5. Incubation Period

After reconsidering the incubation period of cholera, the study-group very strongly urged that further observations be made on this point in India, before a change could be suggested in the five days' duration now embodied in the international sanitary conventions.

6. Prophylaxis

6.1 Vaccination

6.1.1 The study-group was informed of the preliminary results obtained with Sokhey's cholera vaccine prepared with casein hydrolysate, which protected experimental animals more strongly than agar-grown vaccines, and noted with interest that this vaccine was to receive field trial in parallel with standard vaccines in areas where cholera epidemics were expected.

6.1.2 The study-group noted that serological response was much higher to a second injection of cholera vaccine than to the first, even when an interval of several months had elapsed between the two. Such had been the case in the vaccination campaigns in Egypt.

6.1.3 The study-group further noted that:
(a) since normal human serum (i.e., the serum of persons unvaccinated with cholera vaccine and not having suffered from cholera) has no appreciable agglutinative action on *Vibrio cholerae*, and
(b) since the serum of persons once inoculated with cholera vaccine does not seem frequently to show an agglutinative state above 1:50, the discovery of a definitely raised agglutination titre for this organism (say 1:250 - 1:2500 or more) in persons who have not been more than once vaccinated, offers strong presumptive evidence that such persons have suffered relatively recent choleraic disease and may allow a proper retrospective diagnosis to be made.

Even where there is a recent history of a relatively recent inoculation with cholera vaccine an agglutination titre above 1:500 must raise suspicion of previous infection.

6.1.4 The study-group recommended that this observation should be confirmed.

6.1.5 The study-group, after considering the studies made in Egypt on the reaction after, and response to, vaccination of infants from the first month to the fifth year of life, noted that the serological response to vaccination was definitely less in infants under two years than in older children. Although at all ages reaction to vaccination was negligible, the group decided to recommend that the inoculation of children under one year of age should not be required.

6.2 Sterilisation of cholera carriers by means of sulfonamides

The study-group recommended that the use of sulfaguanidine be tried in carriers, both convalescent and contact, with a view to ascertaining its action in shortening the period of vibrio excretion.

6.3 Bacteriological examination of convalescents and contact carriers in international quarantine

6.3.1 The study-group, on reconsidering their previous opinion in this respect, decided to recommend that, for purposes of international quarantine, convalescents and contact carriers be released from restrictive measures after three successive negative bacteriological examinations of their stools or rectal swabs, the second and third examinations being carried out on the fourth and seventh days after the first.

6.3.2 The study-group recommended that for the purpose of the above measures all passengers on board an infected ship or aircraft be considered as contacts.

7. Further International Action Recommended in Respect of Cholera

7.1 The study-group stressed the desirability of holding its next session in a country where cholera is endemic and where the knowledge and experience of local experts could be made readily available to the group.

7.2 In view of the very considerable number of problems awaiting investigation by its members, the group recommended that its next session should be held not earlier than the last quarter of 1949.

7.3 The study-group further recommended that WHO should make provision for the organization in 1949 of teams of cholera specialists and for their dispatch in 1950 to selected endemic areas, with a view to studying and demonstrating methods of cholera eradication in limited districts, on the basis of the results to be expected from the field studies recommended by the group for 1948/49 of the factors governing cholera endemcity.
The Joint OIHP/WHO Study-Group on Trachoma met at the Office International d'Hygiène Publique, Paris, on 9, 11 and 12 October 1948; the following were present:

**Members**

- Dr. G. Blanc, Directeur de l'Institut Pasteur du Maroc, Casablanca, Morocco
- Dr. A. M. Macchiavello, US Public Health Service; Consulting Epidemiologist, Pan American Sanitary Bureau, Lima, Peru
- Dr. C. G. Pandit, Secretary, Indian Research Fund Association, New Delhi, India
- Dr. Abdel Fattah El Tobgui, Ex-Assistant Director, Memorial Ophthalmic Laboratory, Giza; Professor of Ophthalmology, Fouad I University, Cairo, Egypt
- Dr. P. F. Toulant, Professeur de Clinique ophtalmologique à la Faculté de Médecine d'Alger, Algeria

**Also present**

- Sir Aly Tewfik Shousha, Pasha, Under-Secretary of State for Public Health, Ministry of Public Health, Cairo, Egypt
- Dr. A. R. Dujarric de la Rivière, Sous-Directeur de l'Institut Pasteur, Paris, France

**Secretariat**

- OIHP: Dr. M. Gaud, Directeur de l'Office International d'Hygiène Publique, Paris, France
- WHO: Dr. Y. M. Biraud, Director, Division of Epidemiology, WHO
- Dr. M. M. Sidky, Medical Officer, Division of Epidemiology, WHO
- Dr. G. Stuart, Chief, Sanitary Conventions and Quarantine Section, WHO

**1. Geographical Distribution of Trachoma**

1.1 The study-group, on the basis of studies by the League of Nations Health Organization and by members of the study-group, and of the material collected by the WHO Secretariat, noted that trachoma was present, in widely varying incidence, in nearly every country of the world; that it showed a high endemicity in several countries of Asia and in North Africa, and that it was also endemic in countries of Eastern Europe and in several of the American Republics. It was practically non-existent in Australasia.

1.2 The study-group recommended that WHO obtain from governments up-to-date information on the prevalence of trachoma throughout the world, based on returns established after examinations of schoolchildren, army recruits and samples of population, and on the percentage of trachoma cases to the total number of eye patients treated in ophthalmic hospitals and clinics.

It suggested that such a survey be repeated every ten years.

**2. Characteristics of Trachoma**

2.1 **Definition**

The study-group agreed to the following definition of trachoma—a slight modification of that originally proposed by MacCallan:

"Trachoma is a specific and communicable disease of the conjunctiva, and cornea, showing at certain stages intracellular inclusions (Prokazek bodies). It has a tendency to become chronic and leads to cicatricial lesions of the tissues affected."

2.2 **Evolution of trachoma**

2.2.1 After an initial stage, the disease, unless it undergoes spontaneous cure, passes through different stages, showing characteristic pathological changes.

2.2.2 It generally ends by the formation of cicatricial tissue; on the extent of corneal involvement depends the final degree of visual acuity, which may range from the nearly normal to total blindness.

2.2.3 The study-group was of the opinion that MacCallan’s classification of trachomatous stages should be followed.

2.3 **Clinical forms**

The study-group noted that a very large variety of clinical forms might be observed as a result of the frequent association of other eye conditions, e.g., acute forms of conjunctivitis caused by such organisms as Koch-Weeks, Morax-Axenfeld, gonococcus, etc.
The associated infections greatly affected the clinical picture as well as the prognosis and the infectivity of the disease.

3. Etiology

3.1 Determination of the causative organism

3.1.1 The study-group reviewed the historical development of researches on the etiology of trachoma, and recommends that further studies should be made in this respect.

3.1.2 The study-group recognized the filtrability, under certain conditions, of the causative agent of trachoma.

3.1.3 The study-group noted that the causative agent of trachoma has some specific characteristics which place it in a special group.

3.1.4 The germ recently isolated and cultivated on chick-embryo bore close relationship to the virus of lymphogranuloma inguinale.

3.1.5 In view of the importance of these findings, the study-group recommended that this work on the recently isolated agent be repeated for purposes of confirmation.

3.2 Modes of transmission

3.2.1 The study-group agreed that the most common mode of transmission of trachoma was contact infection through fingers, clothes, etc. The part played by flies appeared to be a minor one.

3.2.2 Acute conjunctivitis and mechanical irritation of conjunctiva and cornea by dust favoured the entry of the trachoma agent.

3.2.3 The discharge resulting from associated infections greatly increased the transmissibility of trachoma.

3.3 Susceptibility and immunity

In countries where trachoma is endemic the frequency of the apparent forms of the disease rises from birth to a maximum between 8 and 10 years of age and tends to decline thereafter; this curve parallels that of communicable diseases inducing immunity, including the immunity of tolerance.

In endemic areas the susceptibility of adults appears to be low. Such is not the case in trachoma-free areas.

3.4 Factors favouring transmission

Lack of personal hygiene, overcrowding and generally bad social conditions favour the spread of the disease.

4. Prophylaxis

4.1 Individual measures—Treatment

4.1.1 The study-group agreed that the treatment of cases was at present the fundamental method of prophylaxis.

4.1.2 Sulfonamides and certain antibiotics had proved capable of rapidly improving clinical manifestations of the disease and its associated infections, and thus of reducing considerably the danger of transmission.

4.1.3 The study-group recommended that investigations be made into the relative efficacy, optimum dosage and mode of administration, of these drugs at the various phases of the disease.

4.2 Collective measures

The group agreed on the necessity of extending, as far as possible, through the medium of stationary or mobile clinics antitrachomatous treatment to all patients, special attention being given to schoolchildren, in view of the particular frequency of the disease at school-age. Improvement in environmental hygiene, combined with appropriate educational instruction of the public, was conducive to reducing the prevalence of trachoma.

4.3 International prophylaxis of trachoma

4.3.1 The study-group, while considering that eradication of trachoma from its endemic foci was the ultimate objective of international control, agreed that pending such eradication, international sanitary legislation should include measures against the international spread of the disease.

4.3.2 The study-group stressed the desirability of sharply differentiating, in both international and national health legislations, between measures applicable to ordinary travellers and those applicable to immigrants.

4.3.3 It recommended that measures concerning ordinary travellers should not exceed surveillance of individuals showing on arrival an acute condition of the eye.

4.3.4 The study-group suggested that certificates, issued by specialized ophthalmic officers of national health-administrations, might facilitate the work of quarantine officers and reduce surveillance requirements in respect of individuals affected by eye conditions resembling trachoma but of a different nature.

4.3.5 The study-group considered that it was legitimate for health authorities of countries of immigration to have stricter requirements, both in regard to eye examinations and to control measures, applicable to immigrants.

5. Other International Action Recommended

The study-group recommended that WHO set up an expert committee on trachoma with a view to co-ordinating researches in trachoma and to making available the results obtained to health authorities and to the medical profession.
EXPERT COMMITTEE ON HABIT-FORMING DRUGS

REPORT ON THE FIRST SESSION

Held 24-29 January 1949, Palais des Nations, Geneva

Members

Dr. J. J. Bouquet, ex-Pharmacien des Hôpitaux et ex-Inspecteur des Pharmacies de Tunisie, Tunis
Dr. N. B. Eddy, Principal Pharmacologist, Division of Physiology, National Institutes of Health (US Public Health Service), Bethesda, Md., USA
Dr. J. R. Nicholls, Deputy Government Chemist, Government Laboratory, London, United Kingdom
Dr. P. O. Wolff, Buenos Aires, Argentina

Absent

Dr. H. P. Chu, Professor of Pharmacology, National Medical College, Shanghai, China

Secretary

Dr. R. Gautier, Assistant Director-General, WHO

Observers

Mr. L. F. Atzenwiler, Assistant-Secretary, Permanent Central Opium Board and Drug Supervisory Body, United Nations

Mr. A. E. Felkin, Secretary, Permanent Central Opium Board and Drug Supervisory Body, United Nations
Mr. V. Pastuhov, Chief of Section, Division of Narcotic Drugs, United Nations
Dr. H. Fischer, Professor of Pharmacology, University of Zürich, Switzerland, attended part of the session (25-26 January) in his capacity of member of the Permanent Central Opium Board and of the Drug Supervisory Body.

The agenda having been adopted, Dr. Eddy was elected Chairman, and Dr. Wolff Rapporteur.

1. Request from the French Government regarding "valbine"

The question whether the preparation "valbine" was to be exempted from the provisions of the 1925 Convention was discussed, special stress being laid on the content of dihydroxycodeinone hydrochloride, the possibility of recovering this alkaloid from the preparation, the presence of phenylethylmalonylurea, and whether the number of tablets contained in a tube was such that, taken simultaneously by an addict, they could maintain his state of addiction.

The following resolution was passed:

The committee,

Having considered a request from the French Government to have the preparation valbine exempted from the provisions of the 1925 Convention by application of its Article 8, IS OF THE OPINION that such exemption should not be granted in favour of valbine, and RECOMMENDS that this decision be notified to the Economic and Social Council of the United Nations for transmission to the French Government.

Composition of valbine:

Dihydroxycodeinone hydrochloride 1 mg.
Phenylethylmalonylurea ................. 3 cg.
Extractum piscidiae .................. 2 cg.
Extractum pruni Virginianae ........... 3 cg.
Extractum Crataegi ............... 5 cg.

--- 29 ---
2. Notifications by the Governments of the United States of America and of the United Kingdom concerning “metopon”

The committee considered the notifications from the Governments of the United States of America and of the United Kingdom as to the habit-forming properties of methyldihydromorphinone hydrochloride (metopon hydrochloride).

On the basis of the observations made in both countries mentioned above, the committee adopted the following resolution:

The committee,
Having considered notifications from the Governments of the United States of America and of the United Kingdom in regard to methyldihydromorphinone hydrochloride under Article II of the 1931 Convention,

is OF THE OPINION that methyldihydromorphinone and its salts are habit-forming drugs, and

RECOMMENDS that this opinion be notified to the Secretary-General of the United Nations under the provisions of Article II, paragraphs 3 and 5, of the 1931 Convention.

3. Notification Received from the Belgian Government Regarding Acetyldihydrocodeine hydrochloride (trade name: “acetylcodone”)

The committee considered a notification received from the Belgian Government with respect to acetyldihydrocodeine (C_{12}H_{11}O_{2}N (O.C.O. CH_{3}) HCl + H_{2}O).

The committee has no specific information on the habit-forming property of acetyldihydrocodeine, but is of the opinion that this substance is convertible to dihydrocodeine which, in turn, is convertible to dihydromorphine, a habit-forming drug. The statement with respect to conversion to a habit-forming drug applies equally to other esters of dihydrocodeine and their salts, and also to dihydrocodeine and its salts.

The committee
RECOMMENDS that the committee’s opinion that dihydrocodeine, its esters and their salts, are convertible to dihydromorphine, a habit-forming drug, should be communicated to the Secretary-General of the United Nations.

4. Protocol signed in Paris on 19 November 1948

The committee noted that this Protocol, although not having yet received the necessary number of final signatures, is expected to enter into force in the very near future. Therefore, for practical purposes, the committee decided to proceed as if this Protocol were actually in force.

5. 1-Methyl-4-phenyl-piperidine-4-carboxylic acid ethyl ester (the hydrochloride of which is known under the names of “dolantin”, “demerol”, “pethidine”, “piridosal”, etc.)

The committee was informed of the steps taken in May 1945 by the President of the Council of the League of Nations to have 1-methyl-4-phenyl-piperidine-4-carboxylic acid ethyl ester subjected to the measures of control provided in the 1925 Convention.

The committee considered, however, that the supervision thus exercised is not sufficient to ensure the international control of such a powerful habit-forming drug, and therefore adopted the following resolution:

The committee
IS OF THE OPINION that, by virtue of Article 1, paragraph 2, of the Protocol of 1948, 1-methyl-4-phenyl-piperidine-4-carboxylic acid ethyl ester and its salts should be considered as capable of producing addiction and should therefore fall under Article 1, paragraph 2, Group I of the 1931 Convention, and

RECOMMENDS that this opinion be notified to the Secretary-General of the United Nations.

6. Other Substances of the “Pethidine” Type

After having expressed its opinion on 1-methyl-4-phenyl-piperidine-4-carboxylic acid ethyl ester (item 5), the committee believed that the onus was upon it to consider also the many other substances of similar structure known at present, and to which reference is made in memoranda by Professor Fischer and Dr. Wolff.

From the evidence before it,

The committee
IS OF THE OPINION that, by virtue of Article 1, paragraph 2, of the Protocol of 1948, 1-methyl-4-phenyl-piperidine-4-carboxylic acid ethyl ester and its salts should be considered as capable of producing addiction and should therefore fall under Article 1, paragraph 2, Group I of the 1931 Convention, and

RECOMMENDS that this opinion be notified to the Secretary-General of the United Nations.

7. 6-Dimethylamino-4,4-diphenyl-3-heptanone and Substances of Similar Type

From the evidence before it,

The committee
IS OF THE OPINION that the following synthetic drugs:
6-dimethylamino-4,4-diphenyl-3-heptanone ("methadone","amidone",etc.)

a) UN document E/OB/3 Rev. 1
b) To be published in Bull. World Hlth Org. 1949, 2

See Annex 1, page 32
6-dimethylamino-5-methyl-4,4-diphenyl-3-hexanone (iso-methadone)
6-dimethylamino-4,4-diphenyl-3-heptanol
6 - dimethylamino - 4,4 - diphenyl - 3 - acetoxy - heptane
6-morpholino-4,4-diphenyl-3-heptanone (C.B.11) should definitely be considered as habit-forming, and should be noted for appropriate action when the Protocol of 19 November 1948 comes into force, and
RECOMMENDS that this opinion be notified to the Secretary-General of the United Nations.

8. Precautionary Measures with Regard to Synthetic Substances

The committee is of the opinion that other compounds of a structure similar to those referred to under item 6 (pethidine type) and item 7 (methadone type) must be under suspicion as to their having habit-forming properties until the contrary be proved. The committee considers that governments should watch these compounds with extreme care and should take appropriate action immediately on the discovery of the addicting properties of any one of them.

With reference to the experience already gained with some members of the pethidine and methadone groups,

The committee
RECOMMENDS that provision should be made in any new convention whereby substances of a particular chemical type, analogues of which have been proved to be habit-forming, could be placed under control until such time as they are shown not to be habit-forming.

9. Diacetylmorphine

The committee, having noted the views expressed by the Permanent Central Opium Board and the Drug Supervisory Body on the question of diacetylmorphine, considered the increase in the figures of consumption of this substance in some of the countries mentioned in the report of the Permanent Central Opium Board on statistics of narcotics for 1947. Reference was also made to Recommendation VI of the 1931 Convention which was based on the view expressed by the committee of experts of the conference for the limitation of the manufacture of narcotic drugs (1931), and which emphasized "the highly dangerous character of diacetylmorphine as a drug of addiction and the possibility in most, if not all, cases of replacing it by other drugs of a less dangerous character."

Having heard a statement by Professor Fischer with which it fully agreed, the committee expressed a feeling of alarm over the existing situation with regard to diacetylmorphine, and stressed the fact that there are 24 countries in which diacetylmorphine is not used at all. The committee is of the opinion that further information is urgently needed as to the reasons governing the present use of diacetylmorphine in some countries, particularly with regard to its possible dispensability. Such data might be secured through the good offices of the World Medical Association. In addition, direct inquiries might be undertaken by the sending of an expert to countries where the consumption of diacetylmorphine is high, in order to ascertain from local physicians and hospital and sickness insurance services the reasons for the prescribing of this drug. The following resolution was adopted:

The committee
RECOMMENDS that steps should be taken to secure information on the use or dispensability of diacetylmorphine in the various countries through the World Medical Association and by sending an expert to countries where the consumption of diacetylmorphine is high.

10. Other Synthetic Substances

10.1 3-hydroxy-N-methyl morphinan

The attention of the committee was drawn to the fact that German and Swiss chemists have produced by direct synthesis a compound known as 3-hydroxy-N-methyl morphinan, in which the structure of naturally occurring morphine alkaloid has been nearly attained. The new compound differs from morphine chemically only in the absence of the oxygen bridge and of the alcoholic hydroxyl in position 6. It has been shown in the laboratory to possess marked analgesic action, greater than that of morphine itself, and to exhibit many of the other characteristics of morphine action.

The synthesis of 3-hydroxy-N-methyl morphinan is difficult and at the moment probably not commercially feasible. Nevertheless, synthesis of related compounds is going forward and the committee is of the opinion that progress in this field must be watched very carefully.

10.2 Amphetamine

The committee heard a statement by Dr. Wolff on the widespread use of amphetamine and related substances and the consequences of their abuse which had already resulted in provision of certain national measures of control.

The committee, having considered the question of the widespread use of amphetamine and related substances, expressed concern in regard to the possible abuse resulting from these drugs. The

See Annex 1, page 32
UN document E/OB/4
See Annex 2, page 33.

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committee considered, however, that recommendations in regard to the international control of these substances were not appropriate at this stage.

11. Names of Drugs Subject to Control

Every drug which is subjected to control must be clearly described so that there is no doubt regarding its identity. New drugs may be introduced under registered trade names, and subsequently be given different registered trade names by other manufacturers. The committee has been impressed by the variety of names given to some of the drugs with which it has dealt in this report. To avoid ambiguity it has been necessary to give the full chemical name of these substances. The committee is of the opinion that there would be considerable advantage from both the administrative and the user's point of view if each of these substances, and any other subsequently controlled, could be given a recognized name by some authoritative body. Therefore,

The committee RECOMMENDS that a mechanism should be established whereby every habit-forming drug subject to international control can be given a single name to be used for all international purposes.

12. Memorandum from Dr. H. C. Connell

The committee noted the above memorandum on the advantages of calcium gelatinate as a vehicle for morphine and sedatives in general.

13. Monographs of the Expert Committee on the Unification of Pharmacopoeias on Habit-forming Drugs

At its second and third sessions, the Expert Committee on the Unification of Pharmacopoeias of the World Health Organization decided to consult with the Expert Committee on Habit-forming Drugs on all monographs relating to narcotic drugs, and to obtain the formal approval of this committee on such monographs. The Expert Committee on Habit-forming Drugs agreed that such monographs could be transmitted by correspondence to its members for their comments.

Annex 1

EVIDENCE ON THE ADDICTION POTENTIALITY OF COMPOUNDS OF THE DOLANTIN AND METHADONE TYPES

Note by Dr. N. B. Eddy

The Research Department of the US Public Health Service Hospital at Lexington, Ky., USA, has carried out tests on the addiction potentiality of new synthetic substances of the "demerol" and "methadone" types including the following, as yet unpublished:

1. 1-methyl-4-methyhydroxyphenyl-piperidine-4-carboxylic acid ethyl ester ("bemidone")

This substance is practically identical with demerol in the reactions which it produces and in the dosage required to produce euphoria in post-addicts or to suppress abstinence phenomena of an established morphine addiction. Its addiction potentiality then is considered to be very like that of demerol itself.

2. 1-methyl-4-methyhydroxyphenyl-4-propionyl-piperidine ("keto-bemidone")

In single dose, this substance produces intense euphoria in former morphine addicts. It readily suppresses abstinence phenomena of an established morphine addiction. The behaviour of men experimentally addicted to keto-bemidone is very similar to the behaviour of men addicted to morphine. Tolerance developed to sedative action, the effect on the electroencephalogram, the emetic effect and the effect on the thermal radiation pain threshold. Following abrupt withdrawal of keto-bemidone after administration for 42 to 60 days, an abstinence syndrome developed very rapidly (in less than 10 hours) which was so intense as to be regarded as potentially dangerous to life, and which declined rapidly.

The evidence is unequivocal that keto-bemidone produces a type of addiction which is very similar to addiction to the drugs of the morphine series and which is so great that the drug should not be used in clinical medicine unless it can be shown to possess great advantage over the potent analgesics already available.

This evidence has been presented to the Commissioner of Narcotics of the United States of America and to the manufacturers who hold the
The latter have as a result voluntarily suspended production of ketobiemone and plans for its marketing.

3. and 4. α, 1,3-dimethyl-4-phenyl-4-propionoxy-piperidine and β, 1,3-dimethyl-4-phenyl-4-propionoxy-piperidine (NU-1196 and NU-1779)

Both of these substances are more effective than demerol in the production of euphoria in post-addicts and in the suppression of abstinence of an established morphine addiction. The α-isomer is twice as effective, the β-isomer three or four times as effective as demerol in these respects. Both, then, are considered to have greater addiction potentiality than demerol.

5. 6-dimethylamino-4,4-diphenyl-3-heptanol

This substance has not produced euphoria in post-addicts in the doses administered (90 mg.-120 mg.), and has only very slight effect on the abstinence phenomena of an established morphine addiction. It also has very weak analgesic action. Its addiction potentiality appears to be low.

6. 6-dimethylamino-4,4-diphenyl-3-acetoxy-heptane

In this substance an hydroxyl group has been acetylated as in the change from morphine to heroin. In consequence, analogic action has been increased at least as much as in methadone. The compound produces marked euphoria in post-addicts and readily suppresses the abstinence phenomena of an established addiction. It is considered to have an addiction potentiality as great as or greater than methadone.

7. 6-morpholino-4,4-diphenyl-3-heptanone (C.B. 12)

Small doses (15 mg.-20 mg.) produce an intense but not long lasting euphoric reaction in post-addicts; larger doses cause a severe toxic circulatory reaction. Small doses markedly reduce the intensity of abstinence phenomena of morphine addicts, but these phenomena return to their former intensity in two hours. This compound is considered to have a strong addiction potentiality, as great, probably, as that of methadone.

Annex 2

DIAICYLPMORPHINE (Heroin)

Memorandum by Professor H. Fischer

The danger constituted by heroin is nowadays undisputed. Widespread heroin addiction in New York between 1912 and 1920, and the perilous years between 1920 and 1930 in Egypt (Russell Pasha) are cases in point. Because of few or inadequate control measures, heroin production flourished, and illicit trade in this product was exploited to a remarkable degree of efficiency by contraband dealers, even after the entry into force of the Conventions of 1925 and 1931. From that time onwards, the unlawful production of heroin grew by leaps and bounds in China, partly with the help of European chemists. Ever increasing imports of acetic anhydride were a clear indication of the proportions assumed in that country by heroin production, which amounted to dozens of tons per year.

The heroin-smoking habit introduced in China was a particularly pernicious form of heroin addiction (dragon brand, etc.). During this period, the production of diacetylmorphine oscillated between 10, 20 and 4 tons per year. It is a known fact that, at the time of the Japanese invasion (1933 to 1935), Japan made great efforts to supply Manchukuo and Jehol with narcotics, including not only opium for smoking purposes, but also heroin. During the second World War, Japan used heroin as a weapon in carrying out its genocidal policy in Manchukuo. You will no doubt recall the Mukden factory, whose production of diacetylmorphine reached 50 tons annually.

It would seem logical to ban completely the use of a poisonous drug which has wreaked such havoc throughout the world during the last 50 years. The Convention of 1931 was designed for this purpose, but only a few countries adhered to its stipulations. In this regard the United States has scrupulously carried out its obligations for the past 20 years. From a medical point of view, heroin should continue to be used only if its value as a drug can be proved; that is, if no other drug can fulfill the same purposes, and it should at least have definite therapeutic qualities. In my opinion, none of the aforementioned conditions is fulfilled by this drug.

As a matter of fact, heroin is generally considered as an extremely dangerous drug. Most doctors and hospitals refrain from using it, and would no doubt agree to its complete elimination throughout the world. In spite of this, we find ourselves today in the presence of a situation which is both anomalous and disquieting. In certain countries, doctors are prescribing heroin with ever increasing frequency, and in Finland, in particular, there is cause for alarm.

For doctors, the increased use of heroin in various countries is difficult to understand, as the opinion of the medical body throughout the world is unanimous as to the harmful nature of heroin, both from a medical and narcotic viewpoint.

Diacetylmorphine and its properties

Generally speaking, diacetylmorphine is more toxic than morphine, as the resultant analgesic effect is from four to eight times more powerful. Its sedative and paralytic effect on the respiratory system is much greater than that produced by morphine, as 0.007 g. of diacetylmorphine is sufficient to bring on respiratory paralysis. Diacetylmorphine is prescribed for the same specific purposes as morphine: for painful conditions, including those causing insomnia and, above all, for irritations of the respiratory tract, more particularly those encountered in pulmonary tuberculosis.
morphine would thereby be greatly facilitated, and desirable to have this problem elucidated as soon as possible. The Drug Supervisory Body would consider it most expedient to make the recommendation to the Permanent Central Opium Board as well as the Economic and Social Council on the work accomplished by the Board in 1948. There are five countries whose consumption of diacetylmorphine reached 2 kg. per million inhabitants and five other countries where over 5 kg. were consumed. In order of highest consumption, these countries are: Italy, New Zealand, Sweden, Australia, and Canada. One country (Finland) uses more than 25 kg. of diacetylmorphine per million inhabitants. In contrast, among the 74 countries and 96 colonies and territories mentioned, 25 countries and 27 territories have not made provision for diacetylmorphine in 1949.

The following are some of the countries not using diacetylmorphine: United States, Japan, Austria, Bulgaria, Hungary, Spain, Poland, Mexico, Brazil, and Egypt.

I heartily commend the WHO Expert Committee on Habit-forming Drugs for having included in its present programme of work the question of diacetylmorphine, which is a matter of serious concern to the Permanent Central Opium Board as well as to the Drug Supervisory Body. Neither the Permanent Central Opium Board nor the Drug Supervisory Body sees the necessity or even the utility of increasing the consumption of heroin in Finland, Italy and other countries, for reasons which have been put forward by doctors in those countries. If, in Finland, sickness insurance organizations encourage the use of heroin because doses are smaller than the corresponding morphine or codeine doses, and are consequently cheaper, a doctor who is aware of his responsibilities should not consider this fact as sufficient justification for administering heroin in such alarming proportions.

The Permanent Central Opium Board and the Drug Supervisory Body would consider it most desirable to have this problem elucidated as soon as possible by the WHO expert committee. The supervision of international trading in diacetylmorphine would thereby be facilitated, and the committees which are entrusted with this task could only profit from a serious study of this question.

As public-health problems are involved, the Opium Board and the Supervisory Body are agreed that the WHO expert committee should take care of this matter.

Available information proves beyond doubt that the use of diacetylmorphine for medical purposes cannot be solely considered as a sequel to the war.

If the WHO expert committee, after having thoroughly examined the problem of diacetylmorphine, were to arrive at the conclusion that, both from a medical point of view and from that of public health throughout the world, it would be advisable to eliminate completely diacetylmorphine, such a conclusion would be of the greatest importance for the aforementioned control bodies. If one considers that 25 States and 27 territories have already given up the use of diacetylmorphine for medical purposes, such a recommendation by the Permanent Central Opium Board and the Drug Supervisory Body would not seem too much to hope for. A recommendation on these lines had already been presented as Resolution VI of the Convention of 1931, the text of which is as follows:

"The Conference, recognizing the highly dangerous character of diacetylmorphine as a drug of addiction and the possibility in most, if not all, cases of replacing it by other drugs of a less dangerous character;

RECOMMENDS that each government should examine in conjunction with the medical profession the possibility of abolishing or restricting its use, and should communicate the results of such examination to the Secretary-General of the League of Nations."

If one takes into consideration the harm brought about in the world by diacetylmorphine since its appearance, and the thousands of heroin addicts who have fallen victims to the drug, the disappearance of diacetylmorphine from world markets could only be considered as a boon and a step in the right direction. Moreover, a complete ban on the production of diacetylmorphine would greatly facilitate the supervision of narcotics, as control bodies could rightly conclude that heroin discovered anywhere in the world could only be contraband, and even the possession of this dangerous product would constitute an infringement of conventions.

It would be most desirable that the WHO expert committee make a study of this question at this time, as a new convention—the future Opium Convention—is being drawn up and is on the point of being presented to the various supervisory bodies for narcotics, and to governments.

In order to attain the required goal—the complete abolition of heroin—a scientifically and psychologically planned propaganda campaign should be inaugurated to convince doctors and governments the world over that the complete abolition of diacetylmorphine is an urgent necessity in the struggle to curtail the use of drugs which are a menace to public health.

14 UN document E/OB/4
EXPERT COMMITTEE ON MATERNAL AND CHILD HEALTH

REPORT ON FIRST SESSION

Held 24-29 January 1949, Palais des Nations, Geneva

Contents
1. Maternal and child health activities during 1948
2. Requests from governments for information and assistance in maternal and child health
3. Health education
4. Relations with other organizations
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6. Development of programmes in maternal and child health
7. Staffing of the maternal and child health section
8. Programme for 1950
9. Other matters
10. Recommendations to the Executive Board
11. Recommendations to governments on establishment of administrative division in maternal and child health

Annexes

The Expert Committee on Maternal and Child Health held its first session in Geneva from 24 to 29 January 1949.

Members
Miss T. K. Adranvala, Chief Nursing Superintendent, Directorate General of Health Services, New Delhi, India
Dr. I. H. Alantar, Professor of Paediatrics, University of Istanbul, Turkey
Dr. Martha M. Eliot, Associate Chief, Children's Bureau, Federal Security Agency, Washington, D.C., USA

Dr. J. Švejcar, Professor of Paediatrics, Prague, Czechoslovakia
Dr. F. Gómez, Director, Children's Hospital, Mexico City, D.F., Mexico

Mme. Y. Feyerick-Nevejan, Directeur général de l'Oeuvre nationale de l'Enfance, Brussels, Belgium
Dr. Dorothy M. Taylor, Senior Medical Officer for Maternity and Child Welfare, Ministry of Health, London, United Kingdom
Dr. Marion Yang, Technical Adviser; Chief, Division of Maternal and Child Health, Ministry of Health, Nanking, China

Absent

Dr. Mme. Y. Feyerick-Nevejan, Directeur général de l'Oeuvre nationale de l'Enfance, Brussels, Belgium
Dr. Dorothy M. Taylor, Senior Medical Officer for Maternity and Child Welfare, Ministry of Health, London, United Kingdom
Dr. Marion Yang, Technical Adviser; Chief, Division of Maternal and Child Health, Ministry of Health, Nanking, China

Co-opted Members
Mlle. M. Duvillard, Directrice de l'Ecole d'Infirmières du Bon-Secours, Geneva, Switzerland
Dr. G. Fanconi, Professor of Paediatrics; Director, Children's Hospital, Zürich, Switzerland
Dr. Hanna Hirszfeld, Professor of Paediatrics, University of Wroclaw, Poland

Secretariat
Dr. Cicely Williams and Dr. E. Leppo, Maternal and Child Health Section of WHO.

The following were invited to discuss their particular subjects, and the committee had the benefit of their wide knowledge and experience:
Mrs. M. Fairchild, Chief, Women's and Young Workers' Section, International Labour Office
Mrs. A. Myrdal, Principal Director, Department of Social Affairs, United Nations

The session was opened by the Director-General of WHO, Dr. Brock Chisholm.
Dr. Martha Eliot was unanimously elected Chairman and Dr. Marion Yang, Vice-Chairman.

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The Constitution of WHO provides for the promotion of maternal and child health and welfare and for fostering the ability to live harmoniously in a changing total environment. For the first time in the history of international health, a committee of experts met to consider the whole question of maternal and child health.

The committee noted the programme for maternal and child health adopted by the First World Health Assembly and the resolutions of the Assembly establishing an expert committee and a section within the Secretariat to deal with these matters; and considered the full scope of the functions and the broad basis for the operation of a programme, appreciating that, as soon as possible, the work of the Secretariat should be expanded so as to embrace all implications of the work recommended by the Assembly. In this connexion, the committee agreed that the programme should cover the physical, mental and social aspects of maternity care and of the health and medical service for infants, preschool and school-age children.

The agenda submitted by the Secretariat was approved.

1. Maternal and Child Health Activities during 1948

The committee took note of the report on activities which had been submitted by the Secretariat.

2. Requests from Governments for Information and Assistance in Maternal and Child Health

On 12 August 1948, a letter was sent to governments requesting information on the development, organization and extent of the maternal and child health services, together with reports or statistical and other studies on the causes of, and the methods of reducing, maternal, infant and child morbidity and mortality, and also any materials on health education and record forms. The letter offered assistance to the governments concerned in the following ways:

(1) fellowships
(2) visiting consultants
(3) demonstration teams
(4) information on research, investigations, administrative practice, and materials for health education.

Of the 39 countries which have replied, 22 have asked for fellowships, 10 for expert advice, 8 for demonstration teams and 16 for various types of information in different categories.

The committee discussed the implication of these requests and, in assessing the needs of the different countries and the type of programme required, noted the great variety of demands for advice and assistance. Some of the countries have already supplied voluminous information and statistical, descriptive and educational material.

The committee agreed that, in order to encourage exchanges between governments on these subjects, a unit should be established within the maternal and child health section of WHO for the analysis and utilization of this information.

The committee noted that a programme of social welfare, including family, youth and child welfare, has been recommended by the Social Commission of the United Nations and approved by the General Assembly. This includes the development of an information and technical reference centre and a series of studies and reports on such subjects as youth guidance and the re-education of handicapped children.

The committee agreed that the maternal and child health section of WHO should consult with the United Nations Department of Social Affairs on the distribution of functions in these fields.

Methods for securing additional information to amplify that already received, and for analysing this information, might be considered by the Secretariat on the lines of the evaluation schedule devised by the American Public Health Association for the study and appraisal of community-health programmes, although it is realized that this schedule might not be applicable in all countries.

The committee noted that there is a widespread demand from many countries for information on various aspects of maternal and child health. This includes requests for:

(1) information on results of research, modern techniques, procedures and standards of care, and administrative practices;
(2) bibliographies on various subjects;
(3) monographs on various aspects of maternal and child health.

Many important articles and much information are contained in expensive periodicals, or in literature which is not available to many countries; and much of the voluminous literature is of significance in one country but not in another.

The committee, therefore, adopted the following resolution:

The Expert Committee on Maternal and Child Health recommends that a well-staffed and well-equipped information bureau, to provide for the necessary analysis of data and preparation of material, be established, as soon as possible, within the maternal and child health section.

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2 Article 2 (1) of the WHO Constitution
3 Off. Rec. World Hlth Org. 13, 300, 302
under the direction of a specialist in maternal and child health with adequate research and clerical assistance.

3. Health Education

The committee discussed the value of health education in the programme for maternal and child health. After reviewing various methods, e.g., through the use of posters, pamphlets, books, the Press, radio, health-plays, films, health exhibitions, and through the channels of schools, youth clubs, women's organizations, workers' guilds, marriage-guidance centres, colleges, etc., the committee adopted the following resolution:

The Expert Committee on Maternal and Child Health,

Recognizing the supreme importance of educating parents in the care of the child and the public in general in all matters pertaining to health,

RECOMMENDS

(1) that a health education service be developed in WHO to plan comprehensive programmes in this field through all modern media and to provide expert consultation to governments, with special emphasis on maternal and child health, including advice on training and employment of officers skilled in the techniques of popular health education;

(2) that the World Health Assembly recommend to governments that they develop such health education programmes in connexion with their health services.

4. Relations with Other Organizations

The committee considered information submitted by the Director-General on the relations of WHO with United Nations specialized agencies and non-governmental organizations in programmes relevant to maternal and child health, and heard statements by the representatives of ILO, the United Nations Department of Social Affairs, the International Union for Child Welfare, and by a WHO physician attached to UNICEF, on the activities of those organizations. The committee appreciated the need for, and the value of, active co-operation between these agencies and WHO in matters pertaining to maternal and child health.

4.1 Relations with UNICEF

The working relationship between WHO and UNICEF was explained by the WHO paediatrician assigned to the staff of UNICEF. The organization and activity of the Joint Committee on Health Policy, UNICEF/WHO, and of field operations, including the supply of food, clothing and equipment, and the joint health projects, were discussed.

4.1.1 Provision of milk for children and pregnant and lactating mothers. The committee discussed the activities of UNICEF in this field and confirmed that clean and safe quality milk should be made available to children and mothers in the following order of priority:

(1) Infants who cannot be breast-fed or who need supplementary feeds
(2) Children of pre-school age
(3) Pregnant and lactating mothers
(4) School-age children and adolescents.

The committee agreed that priority for dried milk supplies should be given to infants.

It is with satisfaction that the committee noted the activities of both FAO and UNICEF in the field of increased production of milk for children. The committee directed the attention of FAO and UNICEF to the great need today for establishing facilities for drying and/or pasteurizing fresh supplies of milk. Where these are not procurable, efforts through health education should be made to instruct mothers on the need for boiling all milk, especially for infants and children.

4.1.2 Co-operation with UNICEF. The committee considered documents submitted on school health services on dental health of children and pregnant mothers and on handicapped children, approved them in principle, and adopted the following resolution:

The Expert Committee on Maternal and Child Health,

Recognizing the great assistance that has been rendered to child health by UNICEF, and believing that such help can be greatly increased in the fields of maternal, infant, pre-school and school health, dental and immunization services, services for handicapped children, child guidance clinics, maternity and children's hospitals, schemes for the care of premature babies and for the training of personnel in those fields,

RECOMMENDS

(1) that the World Health Assembly authorize the Director-General of WHO to use his good offices to urge governments to provide proper attention to the care of the newborn and the mother and to take the necessary measures to ensure the health of the mother and child;

(2) that the World Health Assembly authorize the Director-General of WHO to request governments to ensure that a programme of health education for the newborn and the mother be developed and carried out by means of classified and translated documents, through radio, cinema, live health-plays, films, health-plays, health exhibitions, brochures and pamphlets, and similar means.

Documentation


5. Documents WHO/MCH/4 and WHO/MCH/6, unpublished working documents
RECOMMENDS that the Joint Committee on Health Policy, UNICEF/WHO, advise UNICEF to undertake the provision of supplies and equipment for the above services as part of its programme to promote child health generally, such provision being undertaken on the recommendation of maternal and child health specialists from WHO after discussion with countries requesting such assistance.

4.1.3 UNRRA grant. The committee expressed satisfaction in the fact that the Central Committee of UNRRA, at its meeting on 24 September 1948 had agreed that WHO might retain the million dollars subject to "the entire amount being used for programs or projects approved by the joint committee of WHO and UNICEF established to develop programs for children".

4.2 Relations with FAO

After considering relations with FAO, the committee adopted the following resolution:

The Expert Committee on Maternal and Child Health

Realizing the great importance of nutrition in the health of mothers and children, and also that knowledge of applied nutrition is best popularized in a community by means of a maternal and child health service,

RECOMMENDS

(1) that nutrition work sponsored by WHO and FAO should be integrated with other programmes, and in particular with maternal and child health programmes, so that the general health of the children can be assessed as well as their nutritional condition, and so that measures to improve the general health of the children can be advised;

(2) that WHO co-operate with FAO and other interested organizations in any programme for rural betterment.

4.3 United Nations Declaration of the Rights of the Child

The committee considered the revision of the Declaration of the Rights of the Child as approved at the second session of the Executive Board. After discussion, the committee recommended that the following clause be added at the end of the introductory paragraph:

"...not only to its own children but to those of every other nation, in peace and war:".

5. Co-operation with Other Sections of WHO

The committee realized the importance to children of active co-operation between the maternal and child health section and other sections of WHO engaged in programme planning and in operations. The committee welcomed the opportunity of hearing accounts of their activities, leading to discussion of the development of joint operations and expressed its appreciation of the help afforded by representatives of other sections and by the Director of Planning.

Members of the sections on tuberculosis, venereal diseases, malaria, and public-health administration attended meetings of the committee and outlined the programme of their respective activities, including co-operation in projects financed by UNICEF.

The committee adopted the following resolution:

Whereas the antimalaria and insect-control programmes have greatly contributed towards the lowering of infant and maternal mortality and morbidity;

Whereas the antituberculosis programme has been shown to be valuable in the prevention of mortality and morbidity from tuberculosis in infants and children, although the extent and relative importance of tuberculosis in many countries is still unassessed;

Whereas the programme of control of venereal diseases has likewise had a marked effect on the health of mothers and children, especially the programmes of diagnosis and penicillin treatment of prenatal and infantile syphilis such as are now going forward under joint WHO/UNICEF auspices;

Whereas the success of those programmes will depend on the level of environmental and domestic hygiene; and

Whereas it is certain that a strong and balanced programme of maternal and child health will make an essential and lasting contribution to the well-being of any community and is the prime method of effecting improvements in personal and domestic hygiene for the whole family,

The Expert Committee on Maternal and Child Health,

RECOMMENDS that the work in each of these above-mentioned fields should be accompanied by the development of a programme in maternal and child health including public-health nursing, so as to

(1) assess the position with regard to the overall needs of mothers and children;

(2) assess the relative importance of a maternal and child health programme within the overall health needs of the country;

(3) provide consultation with the govern-
ments on measures necessary to enlarge or institute maternal and child health activities;

4. provide for the establishment of maternal and child health services on a permanent and appropriate basis;

5. carry out, in the case of venereal diseases, systematic pre-marital and prenatal serodiagnosis, and penicillin treatment of syphilis in children and pregnant women.

5.1 Mental health

The paper submitted by the section on mental health was unanimously approved. The following recommendation was passed:

Recognizing the great importance of mental health in any programme for maternal and child care,

The Expert Committee on Maternal and Child Health RECOMMENDS that teaching in mental health should be incorporated into the curricula of the training of all grades of workers in maternal and child health, and that every WHO Fellow in the field of maternal and child health should have included in his programme some study of the psychiatric aspects of this field.

5.2 Public-health administration

A member of the section on public-health administration outlined the place of a maternal and child health programme in a public-health service. The training of various types of workers was discussed, and the committee recommended that further consideration should be given to the important part played by the “home maker” or “household help”.

5.3 Infant mortality studies

The committee heard with interest the proposals by the section on health statistics for the proposed study on infant mortality, and adopted the following resolution:

The Expert Committee on Maternal and Child Health NOTES with satisfaction the plans of the WHO section on health statistics and the Population Division and Statistical Office of the United Nations for the study on infant mortality to be carried out as a joint project and RECOMMENDS

1. that the maternal and child health section, in collaboration with the section on health statistics, develop plans for studies of the medical, economic and social causes of maternal and infant deaths, giving special attention to the causes and prevention of stillbirths and neonatal mortality and morbidity.

6. Development of Programmes in Maternal and Child Health

Throughout its deliberations, the committee was concerned with the need for long-term planning in developing the programmes by which the maternal and child health section could serve most effectively the needs of mothers and children. The committee reviewed the methods of giving assistance to governments proposed in the programme approved by the First Health Assembly, including visiting consultants, demonstration teams, provision of information, and schemes for the training of personnel.

To meet these needs and also to strengthen co-operation with other international agencies and with sections of WHO, the Expert Committee adopted the following resolution:

The Expert Committee on Maternal and Child Health RECOMMENDS that the staff be increased as soon as possible so as

1. to meet requests of governments for assistance,

2. to provide necessary consultation to countries receiving aid from UNICEF in the form of supplies and equipment, and

3. to extend and reinforce health services for mothers and children, including those of school age and handicapped children.

6.1 Demonstration teams

The committee discussed the operation of demonstration teams and adopted the following resolution:

Whereas certain countries have requested demonstration teams in maternal and child health, and

Whereas it is essential to ensure the effectiveness of such assistance,

The Expert Committee on Maternal and Child Health

10 With reference to the recommendation that the staff of the maternal and child health section should be increased, it was pointed out during the discussion in the Executive Board, that any action on such lines would depend on budgetary considerations.

11 The Executive Board believed that demonstration teams should be placed in areas which were prepared to set up basic public-health administrations.

See Annex 1, page 44
RECOMMENDS

(1) that, before the establishment of any such demonstrations, consultative visits should be undertaken by specialists in maternal and child health to ensure the participation of the government requesting the service and the ultimate effectiveness of the demonstration;

(2) that any such demonstrations should be incorporated into a general programme for the promotion of health, and should be placed in areas which have basic public-health administrations.

The committee concurs with the policy of WHO in providing for the establishment of fellowships in connexion with demonstration services.

6.2 Visiting consultants

With respect to the assignment of visiting consultants to meet the requirements of countries for general surveys of their public-health activities, the committee adopted the following resolution:

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RECOMMENDS that such requests be met, wherever possible, by the assignment of a team of consultants comprising a public-health officer, a specialist in maternal and child health, and a public-health nurse.

6.3 Research

The expert committee considered particularly that section of the programme adopted by the Health Assembly relating to research. Recognizing the great importance of research and of further investigations in maternal and child health, the committee made the following recommendations:

1. that an experienced worker, qualified to direct research in the broad field of child health and welfare, be appointed to the maternal and child health section of the WHO Secretariat as soon as possible to co-ordinate the work of research and investigation in maternal and child health from the sociological, psychological and anthropological, as well as from the physical, aspects, and to study the problems of research in these subjects on an international scale;

2. that WHO provide the necessary funds to facilitate such research programmes;

3. that the following subjects might be considered as appropriate examples for these research problems:

   (1) a worldwide study of the prevalence of protective immunization and the legislation that would be necessary in connexion with the principal communicable diseases of childhood;

   (2) investigation into the causes and prevention of neonatal and infant mortality and morbidity;

   (3) investigation into the causes and prevention of maternal mortality and morbidity;

   (4) investigation into the relationship between maternal and neonatal mortality and morbidity;

   (5) causes and prevention of miscarriage;

   (6) the influence of nutrition during pregnancy on foetal development;

   (7) a study of congenital abnormalities, with special emphasis on rubella and other virus diseases in the early months of pregnancy;

   (8) an international study of methods for the control of cross-infection in maternity and children’s hospitals;

   (9) investigation of the prevention of cerebral damage in newborn infants;

   (10) a worldwide study and investigation into rickets and other deficiency diseases of childhood;

   (11) a study of the increase in deaths from mechanical suffocation in infants and young children;

   (12) a study of the experience of different countries in the evaluation of the nutritional state of children, particularly those with retarded growth and development due to malnutrition;

   (13) a worldwide social and anthropological study of the effects of tradition, superstition, natural culture, customs and environment on the life and development of the child;

   (14) the influence of environmental and social conditions on the physical and mental health of children, with special reference to behaviour and emotional problems.

6.4 Development of maternal and child health in rural areas

The committee discussed this subject and decided to recommend that the attention of governments be drawn to the desirability of increasing maternal and child health services so as to make them more available to those living in rural areas. It is recognized that the improvement in rural amenities, including maternal and child health services, is a valuable means of increasing food production.

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RECOMMENDS that governments be advised to initiate and extend maternal and child health services in rural areas as a major undertaking in any health programme.

6.5 Handicapped children

In view of the concern of the First Health Assembly that special attention be given to rehabilitation of those injured as a result of the
war, the committee adopted the following resolution:

The Expert Committee on Maternal and Child Health 

RECOMMENDS

(1) that the Joint Committee on Health Policy, UNICEF/WHO, shall advise that UNICEF collaborate with WHO and other appropriate international agencies and organizations, including non-governmental organizations, in the investigation and the establishment of demonstration projects in the physical, mental and social care of handicapped children, with a view to developing improved methods of care and appropriate training facilities for the different types of personnel required for such care;

(2) that in the first instance, special provision should be made for the following categories: orphans and deserted children, maimed and delinquent children.

7. Staffing of the Maternal and Child Health Section

After consideration of the recommendations for the programme during 1949, together with the recommendations on co-operation with other sections of WHO and with UNICEF, the committee came to the conclusion that if these are to be fulfilled, additions to the staff of the maternal and child health section will be required.

The committee expressed the hope that further resources can be found, e.g., from the UNRRA fund, to enable additions to be made, with special reference to the following activities: the development of the information unit, the research programme and the provision of experts for programmes financed by UNICEF.

8. Programme for 1950

With respect to the programme for 1950, the committee made the following recommendations:

1. that the 1949 programme should be developed and substantially expanded in all aspects in 1950;

2. that, with respect to that part of the programme which covers assistance to governments, emphasis should be placed on:

(i) the various aspects of professional education of workers in maternal and child health;

(ii) health education of the public;

(iii) further implementation of the programmes for visiting consultants and for demonstration teams, especially in countries with an under-developed public-health programme;

(iv) development of mass immunization programmes;

(v) development of the suggested programme with regard to handicapped children; and

3. that there should be further development of the research programme.

9. Other Matters

9.1 International Paediatric Congress

The committee discussed the forthcoming meeting of the International Congress of Paediatrics to be held in Zürich from 24 to 29 July 1950, with an exhibition which will be on view from 20 July to 5 August.

The committee recommended that the maternal and child health section explore the possibility of funds being supplied through the Joint Committee on Health Policy, UNICEF/WHO, to provide financial assistance to enable paediatricians and other doctors to attend the congress who would otherwise be unable to do so.

The committee recommended that WHO participate in planning an exhibition to demonstrate a programme in maternal and child health, with particular regard to the part played by the public-health nurse and the midwife.

The committee further recommended that means should be explored of organizing courses for postgraduate study in various centres in connexion with the congress.

9.2 Immunization against communicable diseases of childhood

A series of proposals were considered by the committee and accepted in principle. The committee requested that these proposals be further discussed by the Joint Committee on Health Policy, UNICEF/WHO. The committee also adopted the following resolution:

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RECOMMEND that immunization procedures against communicable diseases of childhood be included as an integral part of routine infant, pre-school and school health services, and that primary immunization be carried out in early infancy; and further

RECOMMEND that governments be urged to introduce compulsory immunization for children against those infectious diseases, such as smallpox and diphtheria, which are prevalent in the community.

The Executive Board stipulated that the recommendation to the Joint Committee on Health Policy, UNICEF/WHO, given in this section, "should not imply that WHO would allocate funds to enable paediatricians and others to attend this congress".

For the comments of the Executive Board on this section, which was not accepted by the Board, see Annex 3, page 46.
in their respective countries and cause high morbidity and mortality amongst children.

9.3 Training of personnel

It was pointed out that each country presents its varying problems, of which the training of personnel is one of the most important. The following are some of the means by which the shortage of trained personnel can be met:

1. Fellowships for administrators and teachers of maternal and child health, doctors, nurses, midwives, etc.
2. Study courses abroad for administrators and teachers of maternal and child health, doctors, nurses, midwives, etc.
3. Regional conferences for medical and auxiliary workers, education, and social affairs personnel.
4. Advice and assistance in the teaching of social and clinical paediatrics and obstetrics in medical and nursing schools and in postgraduate refresher courses.
5. Advice and assistance in the establishment of training schools for nurses and of pre-vocational schools and for home helps.
6. Advice and assistance in the training and employment of indigenous and/or illiterate personnel.

9.4 Worldwide shortage of nurses, midwives and auxiliary nursing personnel

The expert committee recognized the very great contribution to the promotion of maternal and child health programmes made by effective nursing and midwifery services, and the present serious worldwide shortage of personnel to carry out these services. The committee invited the nursing members to prepare a paper on the subject to be included in the report and passed the following resolution:

The Expert Committee on Maternal and Child Health recommends that WHO should undertake to investigate:

(a) the causes of the shortage of all types of nursing and midwifery personnel;
(b) measures for stimulating recruitment;
(c) methods for reducing wastage of personnel during and after training;
(d) methods for improving the status of the nursing and midwifery professions and the stability of employment of such personnel;
(e) appoint additional nursing staff to supply consultative services to governments on request;
(f) assist in the development of schools for basic and public-health nursing and midwifery and for auxiliary personnel;
(g) recommend to governments that nursing personnel be included in the administrative staff of official health services;
(h) consult with the International Council of Nurses with respect to the above subjects and to standards of training, recruitment and employment of the above types of personnel.

9.5 Maternal and child health in underdeveloped countries

In underdeveloped and undeveloped countries the high rate of disease and death among children and mothers constitutes a heavy economic burden. The effect of the high incidence of disease in childhood results in an adult population of low physical and mental vigour. It is important that modern technical knowledge be applied in these areas to protect children before birth and during their years of development in order that they may be able to utilize effectively their opportunities for education and become productive citizens.

The effort to improve maternal and child health conditions in underdeveloped and undeveloped areas must be visualized on a long-range basis. The ultimate success depends upon the development of an indigenous specialized health service. While a programme based on this long-term view is under way, much of immediate value can be undertaken concurrently; while indigenous personnel is receiving professional training, programmes of practical training of nurses, sanitary inspectors, and technicians can be carried out under the direction of the international organization. At the same time demonstrations in a variety of special subjects affecting the health of mothers and children can be carried out in order to show the people and the government the results that can be obtained (for example, in the reduction of deaths and sickness.

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17 The Executive Board considered that recommendation (6) would have been better worded as follows: "Advice and assistance in training and employment of illiterate personnel under effective supervision in countries where literate personnel are not available." The Board considered that the word "indigenous" should not be used in WHO documents.
18 The Executive Board considered that the recommendation would be improved if item (5) became item (2).
19 Annex 4, page 45
among infants) by proper attention to public health. Demonstration of venereal-disease control can show rapid clinical and epidemiological results in early and late syphilis, particularly in terms of babies born alive and in sound health because the mothers have been given adequate treatment.

Demonstrations of an integrated maternal and child health service operating out of a hospital and reaching into the homes will establish the pattern towards which the government should strive. Such demonstrations will create a demand on the part of the people for continuation and expansion of services of this type. It is a matter of history that a demand for syphilitic treatment arose in many places as the population learnt that the "shots" made it possible for women to give birth to live babies.

The objective of WHO must be to develop a demand for improved services while at the same time demonstrating the optimum pattern of such services in the particular environment. WHO should challenge and stimulate the people and the government concerned without taking over from the government what is basically a national responsibility.

The committee took note of the paper on yaws and its treatment with penicillin by Dr. Thomas Turner, and considered it in relation to the programme for the control of skin diseases, particularly in underdeveloped countries.

The committee passed the following resolution:

Whereas from every point of view it is most desirable for maternal and child health services to be established and expanded in the underdeveloped countries,

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RECOMMENDS that WHO should give these programmes high priority.

10. Recommendations to the Executive Board

The committee adopted the following resolution:

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Considering the scope of the work of the expert committee and of the section on maternal and child health, and the necessity of having specialists as members of the committee who will be able to advise WHO on modern methods and techniques in their special subjects,

RECOMMENDS that the standing membership of the expert committee be increased to twelve, in order to permit appointment of several additional types of professional workers, including a paediatrician concerned with mental health, a professor of obstetrics, a school-health specialist and a medical social worker, and further

RECOMMENDS that a panel of corresponding members be appointed.

11. Recommendations to Governments on the Establishment of Administrative Divisions in Maternal and Child Health

The Expert Committee on Maternal and Child Health

Considers that the lack of an administrative division on maternal and child health in, or closely co-ordinated with, the national health-services is delaying the development of the maternal and child health programme in many countries;

Recognizes that in certain countries this function has been satisfactorily carried out by semi-governmental agencies financed and supervised by the government;

Notes that in many countries, however, where the health service for mothers and children is in the hands of voluntary agencies, the scope of services provided, and the co-ordination with the official health agencies, have been inadequate; and therefore

RECOMMENDS that governments should be urged to establish and finance an administrative division on maternal and child health, under the direction of a well-qualified and experienced specialist, where such a division is not already in existence, and

In view of the importance of financial and technical aid by the State for the development of adequate local maternal and child health services,

RECOMMENDS that governments promulgate the necessary legislation.
Several characteristics of the human infant make the phase of infancy and childhood a period of peculiar significance from the mental health point of view.

The infant is born, and remains for a long time in a state of extreme dependence, and yet is endowed with strong and primitive impulses or appetites which of itself it can do little to satisfy or divert. Secondly, it is, compared with a creature largely dependent on instinct, exceedingly plastic in that it early develops, under the impact of its environment, individually characteristic patterns of behaviour and feeling. The most potent "environmental" influence in this respect is the mother, or whoever, in her stead, deals with the needs which arise from the infant's impulse and appetites. Thirdly, the characteristic plasticity of infancy diminishes with the passage of time, and thus the fixed patterns of both normal and distorted adult patterns of behaviour and feeling are very markedly influenced by childhood experience.

In general, the child rearing methods of every society attempt to mould the infant in the direction of that society's conception of the "normal"; and, since this conception of normal varies from one society to another, one cannot consider one society's methods as "better" than those of another without regard for the kind of person they aim to shape. There are, therefore, no universal and complete rules for the upbringing of children from a mental health point of view. There are, however, two universal principles which were well stated by the International Preparatory Commission of the International Congress on Mental Health in 1948:

"On the one hand to adapt the stages of the educative process to the relevant phases of biological development and, on the other, at each stage to guard, as far as possible, against the introduction of experiences known to be harmful."

The educative process (in the social rather than the "scholastic" sense) begins at birth, and its chief agent is the mother. Maternal and child health workers are, in their turn, the most potent educators of the mother. It is essential therefore that they themselves should be much better equipped than many have been in the past with knowledge of the psychological aspects of the child's development and its implications for maternal behaviour.

At present, with few exceptions, they are not so equipped. The work of Gesell, for instance, or the knowledge of the "natural history" of the emotional development of the child, to quote a specific example, have not yet influenced the kind of advice which maternal and child health workers give to mothers on problems where such knowledge is of practical importance.

The second principle—that of protecting the child against psychologically harmful experiences—is of equal practical importance, especially since many practices in such matters as feeding, weaning, toilet training and other maternal roles, which have been recommended in the past on account of their convenience or supposed physiological soundness, are now known to be positively harmful from a psychological point of view; although the harm they do may not become manifest until adult life.

Such harm is done quite unwittingly by the maternal and child health workers who are forced by a mother's question to give advice on a subject for which their training has not fitted them. This does not mean that such matters are not inside their province; indeed the mother's question proves that they are. Maternal and child health workers, therefore, must now be equipped by their training to play as constructive a role in laying the foundations of good mental health as they have in the past proved their ability to do in the physical field.

This entails a recasting and expansion of much maternal and child health education and this in turn first requires the wide dissemination of knowledge of the attempts that have been made already along these lines in such centres as the Rochester Child Health Institute in the United States of America.

The survey of such work and the recommendations for its development elsewhere would be a fitting subject for action by WHO.
THE PRESENT SHORTAGE OF NURSES, MIDWIVES AND AUXILIARY NURSING PERSONNEL

The success of public-health services depends to a great extent on the efficiency of its nursing personnel, and therefore the present shortage of nurses is a matter of worldwide concern and has special bearing on child and maternal health. To make any improvements effective, it is essential that nursing personnel and nursing activities be placed under professional nursing leadership.

1. Training

To quote the findings of a working party organized by the United States National Nursing Council, defining the place of the graduate nurse in nursing and also in a larger society:

"It is the opinion of this group that in the latter half of the twentieth century the professional nurse will be one who recognizes and understands the fundamental (health) needs of a person, sick or well, and who knows how these needs can best be met. She will possess a body of scientific nursing knowledge which is based upon and keeps pace with general scientific advancement, and she will be able to apply this knowledge in meeting the nursing needs of a person and a community. She must possess that kind of discriminative judgment which will enable her to recognize those activities which fall within the area of professional nursing and those activities which have been identified with the fields of other non-professional groups. She must be able to assume expert leadership in at least four different ways: (1) in making her unique contribution to the preventive and remedial aspects of illness; (2) in improving those nursing skills already in existence and in developing new nursing skills; (3) in teaching and supervising other nurses and auxiliary workers; and (4) in co-operating with other professions in planning for positive health on community, state, national and international levels."

1.1 Education of professional nurses

While taking full cognizance of the need for adaptation to local conditions, it is advisable to recommend (a) that admission requirements to schools of nursing, as regards education, should be that the candidates have the highest standards of basic education current in the country; (b) that the course should prepare the individual for a professional career as well as to be a useful member of family and community life; (c) that the basic training of student nurses be generalized and broadened to include, in addition to the basic sciences and bedside home nursing, a knowledge of midwifery, an understanding of and an ability to carry out health education, and an awareness of mental and social needs and how they may be met.

Essential points to be stressed in the planning of nursing education programmes are the following:

(a) Integration of theory and practice through adequate clinical instruction
(b) Adequate time allotment for study and recreation
(c) Adequate residential and teaching facilities.

In countries where male nurses are employed to any considerable extent their training should include knowledge and experience in maternal and child health work to enable them to function adequately in this sphere.

1.2 Training of auxiliary nursing personnel

Although the activity of the auxiliary worker shall be limited in scope, within those limits the standard of nursing practice should be high. Therefore it is advisable that the training of such personnel should be the responsibility of professional nurses.

This personnel may be fitted into many fields to carry out specific tasks, such as:

(a) Assisting in bedside nursing in hospitals and homes
(b) Assisting public-health nurses in tuberculosis, venereal-disease, school health, immunization and child-welfare clinics
(c) Nursery nurses working in day-nurseries, children's homes, etc.

In sparsely populated areas, it may be advisable to formulate a programme for the training of a polyvalent nursing assistant.

The home-help or home-maker is a very valuable type of assistant, who should be trained to give efficient domestic help in homes when needed.

1.3 Training in home nursing

Experience of Red Cross courses in the United States has proved that the widespread teaching of home nursing, enabling a person to give simple nursing care in the home, is an effective measure for the protection of health. Such teaching should be
made universal because it not only spreads health education, but allows for a more economical use of professional nursing care.

2. Working Conditions

To maintain a stable nursing staff and to draw into nursing the best type of candidate, the following conditions require to be specially emphasized:

2.1 Administrative responsibilities

Nurses, at all levels, should be given opportunity to participate in the planning and administration of health and hospital services, and should be encouraged to share in the teaching programmes carried on therein.

2.2 Salaries and working hours

A 48-hour week for nursing personnel is desirable and should be aimed at in those countries where it is not yet enforced. Salaries should be on an equal basis with other full-time professional workers.

2.3 Living conditions

Where nursing personnel is required to live in institutions, there should be facilities for privacy, comfort, adequate diet and recreation.

2.4 Adequacy of working equipment

In the planning of hospitals and health centres, and in the ordering of equipment, due consideration should be given to provision of facilities which will contribute to carrying out a high standard of health care.

3. Nursing Activities

Recommended activities for WHO to undertake in the nursing field would include the following:

3.1 Nursing consultants

Nursing consultants can be used in the field for the purpose of advising governments on nursing matters and for participating in health surveys.

3.2 Demonstrations

1. Demonstration teams. The public-health nurse as a member of any field team will be especially valuable for the establishment of personal contacts with families, and for carrying out the health education of the public.

2. Demonstration schools. These schools may be set up for the purpose of demonstrating the best accepted methods of nursing education or for conducting an experiment in new methods of nursing education.

In some countries it may be advisable to demonstrate pre-nursing education by setting up a course to prepare future candidates for training as professional nurses.

Annex 3

\checkmark \hspace{1cm} COMMENTS OF THE EXECUTIVE BOARD ON COMPULSORY IMMUNIZATION 25

With regard to section 9.2 the Board agreed:

''(1) that the Director-General should be requested to approach governments directly for information as to their practices and views on immunization;

(2) that the memorandum attached to the Report of the Expert Committee on Maternal and Child Health, and entitled "The plan for an international programme of immunization against the principal communicable diseases of childhood", should be accepted as a working paper and should not be published [For views of the members of the Board on compulsory immunization, see page 47];

(3) that the following recommendations from the memorandum should be forwarded to the Health Assembly:

(a) It is recommended that an international conference of experts on immunization procedures should be convened as soon as the ground is properly prepared. This conference should bring together epidemiologists, paediatricians, heads of child-health services and experts responsible for the preparation of vaccines in state and other official laboratories and institutes. The conference should discuss the use of the newer techniques for producing more effective vaccines (e.g., pertussis vaccine) and plans for their widespread application in immunization programmes. The results of the conference should receive wide publicity in the professional and lay press.

(b) It is recommended that WHO should undertake a survey of the legislation regarding protective immunization, and of the work carried out in age-groups most susceptible. The information thus collected should help the World Health Assembly in framing recommendations to governments in this respect."
Mr. Goudsmit (alternate to Dr. van den Berg) suggested that the word "compulsory" in section 9.2 would be better omitted. On grounds of religion and the liberty of the individual, objections might be raised to the introduction of compulsory immunization.

Dr. Mackenzie supported Mr. Goudsmit's view. The enforcement of compulsory immunization would be difficult.

The Chairman and Dr. Evang were in favour of advocating compulsory immunization. Dr. Evang felt that the Organization should thus give encouragement to public-health administrations.

The Chairman recalled that examination of the memorandum dealt with the question of immunization against the principal communicable diseases of childhood, had been deferred.

Dr. Mackenzie stressed the importance of the problem and the necessity for the conclusions reached in the memorandum to have an authoritative basis. He was not certain that the calling of an international conference at the present stage would be the best method of achieving that end. He suggested that the Secretariat might be instructed to collect information from governments as to their views on all aspects of the question: administrative problems had to be taken into account, as well as the purely technical and laboratory aspects of the matter. In the meantime, the document should not be published.

He was doubtful of the value of compulsory immunization. Furthermore, to make a law that could not be carried out was always of doubtful value, and many difficulties would be encountered in regard to compulsory immunization. He referred to the anxiety caused in Great Britain by the idea of compulsory immunization for smallpox, on account of a number of cases of post-vaccinal encephalitis which had occurred.

Dr. Dujarric de la Rivière paid a tribute to the memorandum, which was of great value and was obviously the result of careful study.

The question of immunization, in its various aspects, was one that still gave rise to considerable divergences of opinion between different countries. Accordingly, he agreed with Dr. Mackenzie's view. There was need for close collaboration on the part of those engaged in maternal and child health work, members of the Expert Committee on Biological Standardization and those engaged in the preparation of vaccines.

Dr. Wickremesinghe proposed that the draft resolution in section 9.2 of the report of the expert committee should be accepted, with two minor alterations: (1) the word "communicable" should be substituted for "infectious"; (2) the word "widely" should be inserted before "prevalent".

He was of opinion that a wrong conception of democratic principles was being applied to the question of compulsory immunization. He was convinced of the necessity for WHO to advocate to governments of so-called backward countries the initiation of legal measures to protect children against communicable diseases. In his own country, compulsory immunization for certain diseases had met with great success. He therefore strongly supported the proposed resolution.

Dr. Evang, while wholeheartedly supporting the viewpoint of Dr. Wickremesinghe, felt that his proposal and that of Dr. Mackenzie were not contradictory. Information from governments could be collected within a certain time-limit and a conference called thereafter.

He reminded the Board that there was another organization occupied with questions of health relating to children. It was possible that, if WHO did not take action in regard to the matter in question, such action might be taken elsewhere.

Dr. Brutel de la Rivière (alternate to Dr. van den Berg) recommended that more attention should be paid to the conclusions of the expert committee, as set forth in the memorandum. The expert committee did not recommend compulsory immunization; it suggested that a survey in regard to the question should be undertaken. It would be more prudent to accept that recommendation, as sufficient information regarding the legislation already in force in various countries and the results of that legislation was not so far available.

In regard to the lack of funds for immunization programmes referred to in the memorandum, he recommended that, for the survey in question, information as to the attitude of insurance agencies regarding the financing of such programmes should be sought. It might be possible to remedy the present situation in regard to funds, if insurance agencies should consider it their duty to finance such programmes.

Dr. Bonne, Director, Division of Planning, recalled that the expert committee had discussed the series of proposals contained in the memorandum, and had accepted them in principle. The committee had also requested that the proposals should be further discussed by the Joint Committee on Health Policy, UNICEF/WHO.

The first part of that document was a working paper which had been placed before the expert committee, and the proposals in question had not been fully discussed.

Dr. Hyde felt the memorandum should continue to be considered as a working paper and should not be published in its present form. Many of the
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statements it contained were necessarily indecisive and as such should not be published by WHO. He was not certain that the present time was appropriate for recommending the holding of an international conference on the question, particularly as the expert committee had not made a similar recommendation to the Board.

In regard to a point raised by Dr. Mackenzie, Dr. Bonne stated that the request for proposals to be discussed by the Joint UNICEF/WHO Committee had been made in particular reference to proposal 3.1 and 3.2 in the memorandum. Funds would be needed to carry out those proposals: it had been hoped that the joint committee would place them before UNICEF, with a view to that body's furnishing the necessary funds.

Dr. Mackenzie considered that the joint committee was not the appropriate organ to bring such matters to the attention of UNICEF. He proposed that a request to provide funds for those purposes should be sent by the Executive Board of WHO to the Executive Board of UNICEF.

He also proposed that, prior to the calling of an international conference, the Secretariat should collect information from governments, with a view to preparing the ground in advance.

Dr. Dujarric de la Rivière felt that agreement might be reached on three points: (1) recognition of the value of the memorandum and appreciation to the Secretariat; (2) consideration of the memorandum purely as a working paper; (3) recognition of the necessity for collaboration between epidemiologists, paediatricians and all those occupied in the preparation of vaccines. The memorandum might then be adopted, provided those three points were accepted. It would be left to the Secretariat to decide on the most suitable time for calling the conference, after the documentation had been prepared.

Dr. Evang proposed that, in view of the urgency of the matter, the recommendations in paragraphs 3.1 and 4 of the memorandum #should be approved and sent as recommendations to the Second Health Assembly.

The Chairman stated that he, personally, shared Dr. Wickremesinghe's views and disagreed strongly with those of Dr. Mackenzie.

Dr. Gear requested that, in the report sent to the Health Assembly, the opposing views expressed in regard to compulsory immunization should be noted: those views represented the outlooks of different peoples on the subject.

Decision: It was agreed: (1) that the memorandum on immunization should be approved as a working paper; (2) that the recommendations in paragraphs 3.1 and 4 thereof should be approved and forwarded as recommendations to the Health Assembly; (3) that the Secretariat should be instructed to request governments to furnish information on the subject of immunization, all aspects of the matter to be included.

28 Recommendations 3 (a) and (b) under paragraph 9.2 of the comments of the Executive Board on the report of the Expert Committee (see page 40)