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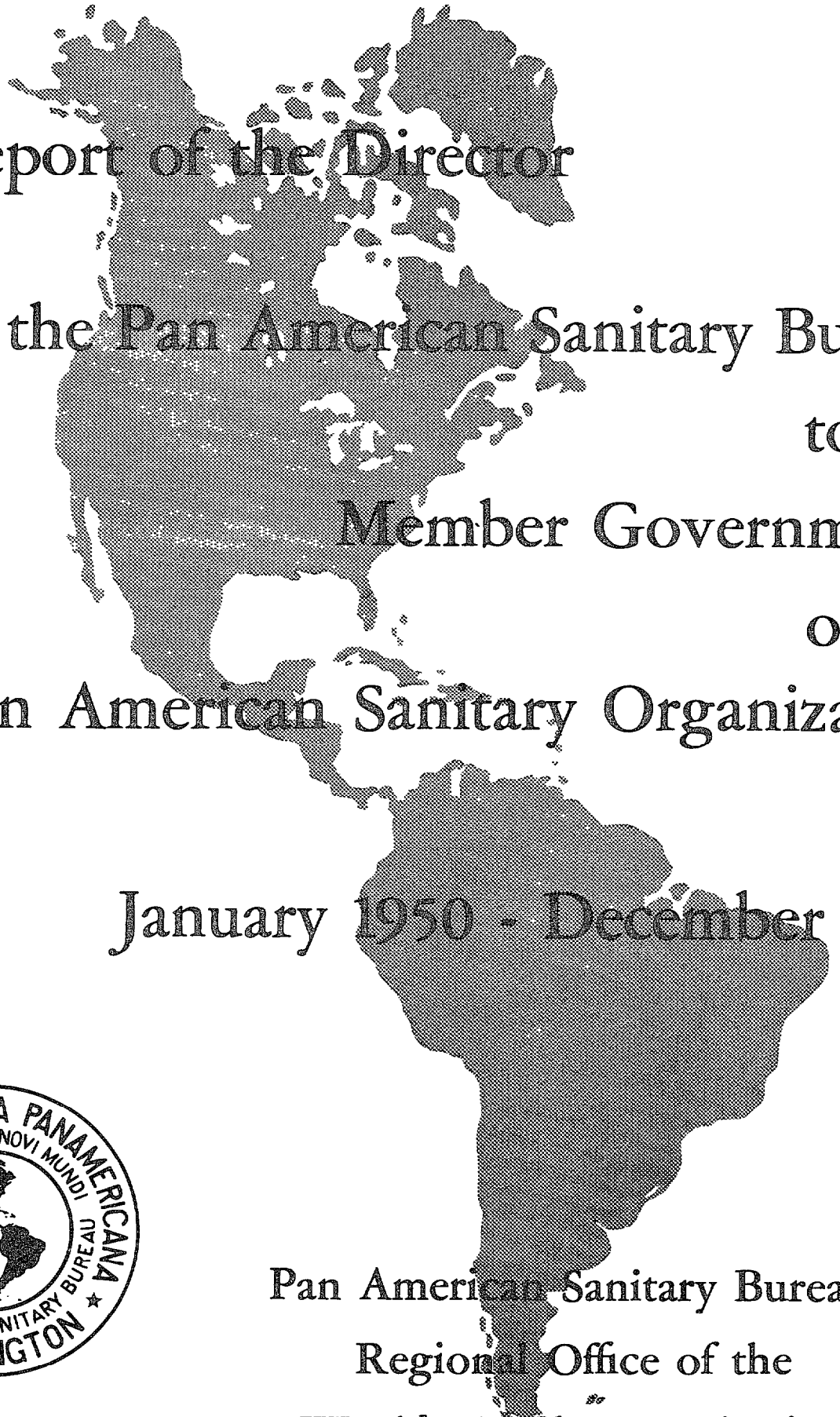
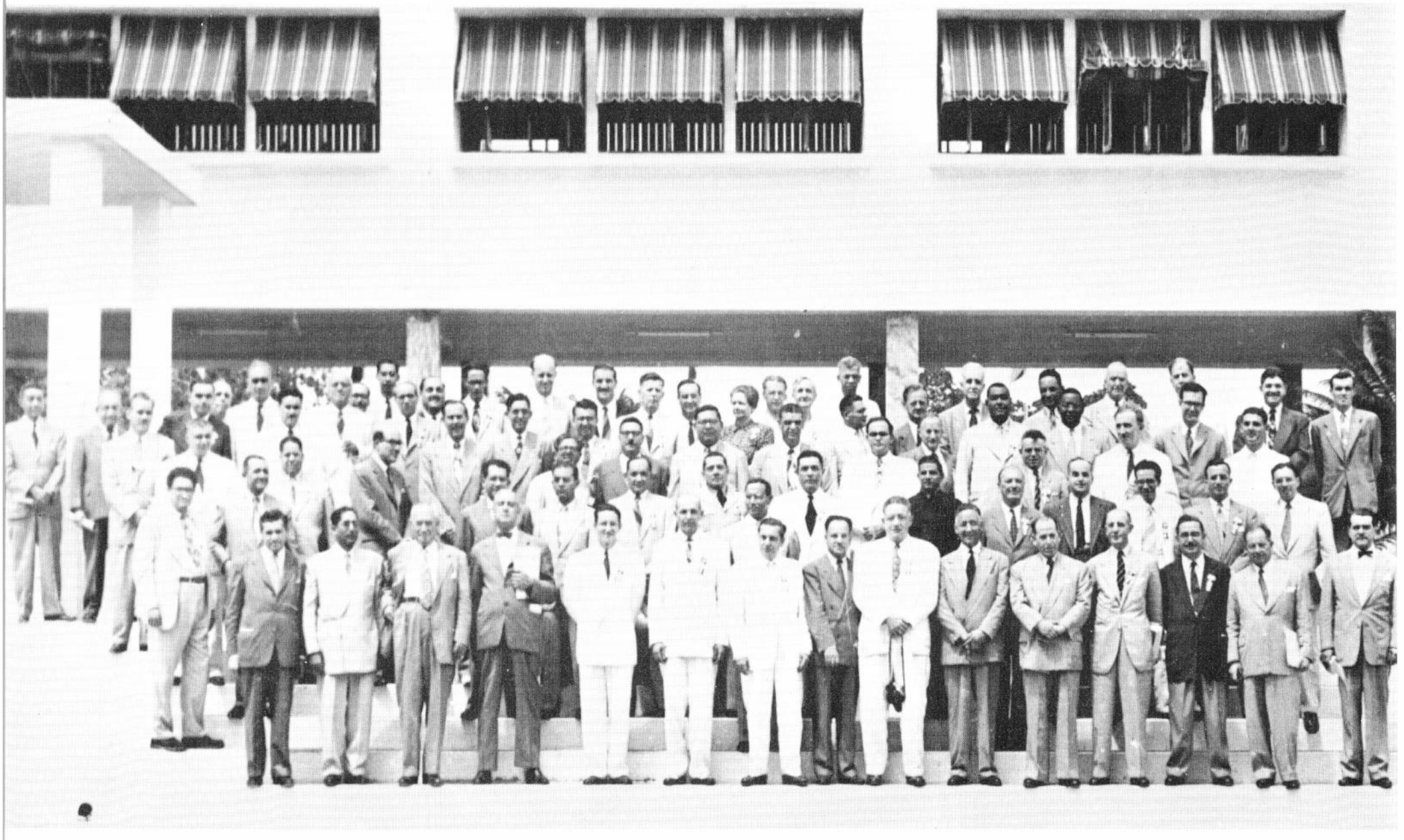


Report of the Director of the Pan American Sanitary Bureau to the Member Governments of the Pan American Sanitary Organization

January 1950 - December 1953

Pan American Sanitary Bureau
Regional Office of the
World Health Organization



Group Attending XIII Pan American Sanitary Conference, Ciudad Trujillo, Dominican Republic, 1950.

CSP14/5 (Eng.)
16 August 1954
ORIGINAL: ENGLISH

REPORT OF THE DIRECTOR

of the

PAN AMERICAN SANITARY BUREAU

to the

MEMBER GOVERNMENTS

of the

PAN AMERICAN SANITARY ORGANIZATION

January 1950 - December 1953

PAN AMERICAN SANITARY BUREAU

REGIONAL OFFICE

of the

WORLD HEALTH ORGANIZATION

ABBREVIATIONS

AIDIS	Inter-American Association of Sanitary Engineering
APHA	American Public Health Association
CCTA	Coordinating Committee on Technical Assistance (OAS)
CREFAL	Regional Center of Fundamental Education for Latin America
ECOSOC	Economic and Social Council (UN)
FAO	Food and Agriculture Organization
FOA	Foreign Operations Administration (USA)
IAAS	Inter-American Institute of Agricultural Sciences (OAS)
IA/ECOSOC	Inter-American Economic and Social Council
ICAO	International Civil Aviation Organization
IIAA	Institute of Inter-American Affairs (FOA-USA)
ILO	International Labour Organization
INCAP	Institute of Nutrition of Central America and Panama
MEIC	Medical Education Information Center
OAS	Organization of American States
OAS/TA	Technical Cooperation of the Organization of American States
PASB	Pan American Sanitary Bureau
PASO	Pan American Sanitary Organization
PAU	Pan American Union
TAB	Technical Assistance Board (UN)
TAC	Technical Assistance Committee (UN)
TCA	Technical Cooperation Administration (USA)
UN	United Nations
UN/TA	United Nations Technical Assistance Funds (Expanded Program for Economic Development)
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Fund
USPHS	United States Public Health Service
WHO	World Health Organization

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*In addition, two charts are included in the text, one on page 18, entitled "Channels of Government Funds through International Agencies," and the other on page 47, entitled "Area with Number of Cases of Jungle Yellow Fever, from Countries of the Americas by Political Division, by Year, 1946-1953".

To the Member States of the

Pan American Sanitary Organization

I have the honor to transmit herewith the progress report of the Organization covering the period between the Thirteenth (1950) and Fourteenth (1954) Pan American Sanitary Conferences.

Although the report is concerned with the four-year period, 1950 to 1953, inclusive reference to certain significant events of 1954 has been made in footnotes.

Respectfully yours,

Fred L. Soper

Fred L. Soper
Director
Pan American Sanitary Bureau

I INTRODUCTION

In the fifty-two-year history of the Pan American Sanitary Bureau, the four years 1950, 1951, 1952 and 1953 have been momentous. There have been successes and failures but the story is, in general, one of progress towards the objective of the Pan American Sanitary Organization.

In this report, the work of the Bureau has been treated as an entity and no attempt has been made to indicate whether funds used to finance various activities have been received directly by the Bureau from Member States or indirectly through other organizations. Precise details of receipt of funds can be found in the Annual Reports and special financial reports.

In compiling this Four-Year Report, an effort has been made to avoid the recording of information already contained in the Annual Reports. More attention has therefore been paid to general descriptions and trends rather than to the detailed activities in the various subjects.

At various places in the Report, reference has been made to the preceding four-year period as this serves to illustrate better the events of the last quadrennium. This is particularly true and incidentally more accurate where references to diseases have been made.

The subjects covered by this Report have been grouped in the manner found most convenient. The grouping does not indicate the internal administration of the Bureau which is described in Section VI.

The Bureau works only at the request of and in agreement with the governments of Member States, for the development of the governments' health organizations. This report on the work of the Bureau cannot cover the associated and far greater work of the national health departments. The work of the Bureau cannot be judged as an isolated operation but only in relation to the official health programs. The future of the health of the Americas rests on the full development of adequate health services in each country and not on any international agency.

II GENERAL REMARKS

In the last few years great changes have been seen throughout the Americas. In North, Central, and South America, remarkable progress has been made in almost all fields of human activity. The progress already achieved has stimulated the desire for even greater progress. Certainly, higher levels of production and better standards of living are in universal demand. Progress has not been confined to Member States but has been notable in the non-self-governing territories. Many of the territories have assumed greater responsibilities in self-government including health administration.

Economic development in the Americas has been accompanied by an increase in population which affects the world population picture. The rate of population increase is higher than that of any other large area of the world. Today the population of Latin America is almost the same as that of the United States and Canada and it is estimated that at the end of the century the Latin American population will approximate half a billion. These huge increments in population necessitate expansion of health services, especially in the tropics, and these services require an increased number of trained staff. If educational institutions are to provide adequate numbers of health workers in the coming decades, now is the time to plan for the expansions in educational institutions which will permit the training of greater numbers.

Most of the Bureau's work is accomplished by working with national health departments. Sometimes the administration of these departments can be improved by giving greater attention to the technical aspects of public health administration but all too often the administration of the health department is hampered by the general standards of public administration throughout government. The health department does not work alone. It is part of the large and complex machinery of government. For this part to work efficiently there must be comparable efficiency in other parts, especially those concerned with finances and education. It is not the responsibility of the Bureau to provide assistance in the wide field of public administration but neither can the Bureau ignore the difficulties facing many health departments nor fail to suggest that governments take advantage of the assistance available through other agencies for improving public administration.

General changes in the community outside the field of health administration influence disease patterns in the Americas and are reflected in the enormous variations in health statistics between Member countries and, indeed, between different regions of the same country. In the United States, for example, the tuberculosis death rate fell from 113.1 per 100,000 in 1920 to 12.6 in 1953. Differences within the United States are shown by the 1952 rate of 102.2 for Alaska compared with 5.4 for Idaho. In Latin America there are at least three countries for which the national rates still exceed 100 per 100,000. The death rates for malaria in some Central American countries still exceed this figure, whereas malaria as a significant cause of death has disappeared from the United States.

Among the general changes occurring in the United States in recent decades which have influenced the over-all health picture are great improvement in diet, reduction in hours of work, employment of mechanical power in most arduous tasks, the virtual elimination of certain infectious diseases and the discovery of effective therapeutic agents.

The great discrepancy between the standards of health possessed by peoples in various parts of the Hemisphere should be not only an incentive to the health workers in the less fortunate countries but also a challenge to those in the more healthy countries who are best able to assist their neighbors. It should, however, not be forgotten that the advances made in the more healthy countries have been due not only to improvements in public health services but also to raising the standards of living.

III WORLD HEALTH ORGANIZATION

Because of the special relationship between the Pan American Sanitary Organization and the World Health Organization, it is fitting that in this quadrennial report reference should be made to the major developments in WHO even though these changes concern all Members of WHO and not merely those located in the Western Hemisphere.

The basis of this special relationship between these Specialized Agencies of the inter-American system and the United Nations merits consideration. It is dependent on agreements between: (1) WHO and UN, 1948; (2) PASO and WHO, 1949; and (3) PASO and OAS, 1950. Ill-advised alterations to any of these agreements might make the present relationship of WHO and PASO untenable.

The United Nations Charter, under the terms of Article 109, is scheduled for review and possible revision in 1955. Representatives of certain governments have publicly suggested that in 1955 the Specialized Agencies, including the WHO, should be controlled to a greater extent by the United Nations. It is important that States, Members of the Pan American Sanitary Organization, give careful consideration to any proposed changes in the United Nations Charter as they might affect the collaboration of WHO and PASO at the technical level. The present arrangement, based on the Pan American Sanitary Code (Havana 1924), the Constitution of the Pan American Sanitary Organization (Buenos Aires 1947), the Constitution of the WHC (New York 1946), the WHO/PASO Agreement of 1949, and the OAS/PASO Agreement of 1950, permits close, cordial and effective collaboration with the health authorities of all countries in the Region. Any alteration in this arrangement would unavoidably be reflected in the administration of the Bureau and in the Bureau's ability to serve directly the national health authorities of the Americas.

With the ever closer ties between the Americas and other Continents, the World Health Organization becomes of increasing importance to the American States.

During the last four years WHO Membership has increased from 68 to 84; included are four Associate Members. Since the beginning of 1950, Cuba, Nicaragua and Panama have joined the Organization so that now all Members of PASO, with the exception of Colombia, are Members.

During the same period the Regular budget of WHO increased from $6,108,299 in 1950 to $8,112,605 in 1953, or by 33 percent*. In 1950 WHO received $1,410,996 from the UN Technical Assistance Funds; in 1953 the corresponding sum was $4,604,064.

Among the publications of WHO are two of great scientific importance. One series, the Technical Report Series, contains the reports of the Expert Committees. The published reports of these Committees are valuable as up-to-date summaries of expert knowledge and experience made available to medical and public health workers throughout the world. Of the more than a score of Expert Committee meetings in the past four years, five have been held in the Americas.

In 1950 the Joint FAO/WHO Expert Panel on Brucellosis met in Washington; in 1951 the Committee on Insecticides met in Savannah, Georgia. In 1952 the Expert Committee on Bilharziasis (schistosomiasis) met in San Juan, Puerto Rico, and the Expert Committee on Leprosy met in Rio de Janeiro. The Onchocerciasis Expert Committee met in Mexico City in 1953.

Brucellosis was not the only subject discussed jointly by WHO and other Specialized Agencies. FAO also assisted WHO in discussing nutrition while ILO joined WHO in considering occupational health. In addition, the UN/ILO/UNESCO/WHO jointly considered both the "physically handicapped child" and the "mentally subnormal child."

The other important publication is the WHO Bulletin. During the four years there have been 34 issues and, like the Technical Report Series, the accumulated volumes make a most useful addition to public health libraries.

In the period covered by this Report, there have been organizational developments in WHO; the Western Pacific Regional Office was established (1951), first at Hong Kong, later

*From 1950 to 1953 the budget of the PASO increased from $1,742,035 to $2,000,000 or, only by 15%.

at Manila, the European Regional Office in Geneva* (1951), and the African Regional Office in Geneva (1951) and later in Brazzaville (1952).

The greatest achievements of WHO have probably been accomplished through the regional offices in the development of field programs. Space does not permit the discussion in this Report of these programs other than that for the Americas.

The Americas have benefited both directly and indirectly from the general progress of WHO and the useful results anticipated from the PASO/WHO Agreement have been realized. Countries in this Hemisphere as in other parts of the world benefit from the technical services rendered by the Department of that name in the WHO Headquarters. The indirect benefits to the Americas are conferred by the health progress in other parts of the world as an improvement in any part is of value to the whole. The American Region has been able to assist other regions by the provision of expert personnel and also by receiving students for study in the Americas. A smaller number of experts have come into the American Region for employment by the Bureau and also a smaller number of students have proceeded from the Americas to other regions for study.

In 1953, following the retirement of Dr. Brock Chisholm of Canada as Director-General, his place was taken by Dr. M. G. Candau of Brazil, Assistant Director of the Bureau.

*The WHO Executive Board at its 14th Session in 1954 decided to move this office to Copenhagen.

IV OTHER ORGANIZATIONS

United Nations

The Bureau, as the Regional Office of the WHO for the Americas, is directly involved in the UN Expanded Program of Technical Assistance and in the activities of the United Nations Children's Fund.

UN Expanded Program for Technical Assistance

In the previous quadrennial report, reference was made to the United Nations Expanded Technical Assistance program. This program commenced following an Economic and Social Council resolution of August 1949 which received the approval of the General Assembly in December of the same year. Under this program it was planned that the United Nations would collect voluntary donations which would be used principally by the Specialized Agencies and also by the United Nations for programs related to economic development. Included among the Agencies was the World Health Organization, which took full advantage of this new source of funds. To administer the program, a committee entitled The Technical Assistance Board (TAB) was created, having as its members the Directors-General of the Specialized Agencies or their deputies. This Board reports to the Technical Assistance Committee (TAC), composed of members of the Economic and Social Council (ECOSOC). At first the Technical Assistance Board was served by an Executive Secretary but in 1952 an Executive Chairman was appointed and his agents, the Resident Technical Assistance Representatives which had been placed in a number of countries, were given greater control over the development of program plans. Twenty-two percent of fifty percent of the contributions made to the TA fund are allocated to WHO and such proportion of the remaining fifty percent as may be decided by the TAB. All projects are, however, subject to prior review and approval by the Board on the basis of recommendations made by the Executive Chairman. Initially more than $20 million were pledged for the period from July 1950 up to December 1951. For the year 1952 approximately $19 million were pledged and $22 million for 1953. Towards the end of each year representatives of the contributing countries meet and indicate the size of the contributions which will be made during the following year. At the commencement of the program ample funds were available to meet the requests being made for assistance. As more countries became aware of the assistance which could be obtained and as the processing of requests was expedited, the funds available proved insufficient. It should be noted that, contrary to the budgeting practices of both PASO and WHO, only near the end of any one year is it known what funds will probably be available during the following year. This proved to be an initial difficulty in taking advantage of these voluntary contributions. A greater disadvantage, however, was experienced when the number of requests became large and amounts contributed became less than had been anticipated. This meant that the Specialized Agencies were exposed to financial uncertainties and not only had to reduce their TA programs but were also placed in the difficult position of suspecting that even further reductions might need to be made. For the last two years, the Bureau has experienced these uncertainties and difficulties and reference has been made to them in both the 1952 and 1953 Annual Reports. At the end of 1953 no reorganization had been effected which would permit these voluntary contributions to be used in a more efficient manner by the Specialized Agencies although in order to stabilize the program initial work had been done on the establishment of a reserve fund and the imposition of restrictions regarding long-term obligations.

At the year end the situation was as follows. The WHO representative on TAB had urged acceptance by the other members of a system which would provide a guarantee that before project agreements were signed with governments the cash necessary for the completion of the project would be in the bank, in other words a "cash-in-hand" policy. A compromise between the conservative policy of the WHO representatives and the other members was finally agreed upon and a unanimous report was made to a TAC working party scheduled to meet early in 1954.

Another recommendation included at the suggestion of WHO was to the effect that within certain limits each Agency would be free to manage its own operations so as to achieve whatever further degree of financial security it considered necessary.

United Nations Children's Fund

UNICEF was established by the General Assembly of the United Nations in December 1946 under the terms of Article 55 of the United Nations Charter with the primary purpose of assisting needy children, particularly in war-devastated countries. Unlike WHO, UNICEF is neither a Specialized Agency nor an Organization; it is a Special Body and a Fund of the United Nations political organization.

During its first years, resources were devoted largely to meeting the emergency needs of children in Europe for food and clothing but in 1948 programs were commenced in other parts of the world, and the first allocation for Latin America was made in 1949. The considerable and increasing resources of the Fund are derived from voluntary contributions made either directly by governments or channeled through governments after fund-raising campaigns. From the beginning there has been a close association between UNICEF and WHO. In the Charter of UNICEF there is reference to the necessity of working with the Specialized Agencies and in particular with the World Health Organization. A Joint Health Policy Committee made up of representatives of WHO and UNICEF reviews UNICEF programs and makes recommendations to the Executive Boards of both UNICEF and WHO in regard to the health fields in which UNICEF should work.

Initially the Fund was established for a three-year period. At the end of that period its life was extended and in 1953 the General Assembly of the United Nations decided to prolong UNICEF's life indefinitely. At the same time the word "emergency" was omitted from the name of the Fund although the symbol UNICEF was retained. UNICEF neither makes fellowship awards nor does it employ technical staff. If technical staff and fellowships are required for those projects for which UNICEF is furnishing supplies, these are provided by WHO, in many cases from Technical Assistance funds.

When WHO experienced difficulties related to TA fund uncertainties, UNICEF undertook, with some reluctance, to meet the WHO costs of certain UNICEF-assisted projects. Over the last four years UNICEF has spent a large sum in meeting the costs of a number of programs in the Americas concerning BCG and maternal and child health projects. The number of health subjects in which UNICEF support may be given has been gradually increased, mainly as a result of recommendations made by the WHO/UNICEF Joint Committee on Health Policy. A recent inclusion on the list is environmental sanitation. These changes are very important to WHO since UNICEF support may be given to many of the WHO program priorities.

The basis of working arrangements in the Hemisphere is an agreement on procedures drawn up by the Director of the Bureau and the Director of the UNICEF Regional Office for Latin America. The Bureau Director gives technical approval to projects and by recent arrangement a Bureau physician has been placed in Lima, the site of the UNICEF Regional Office. It is anticipated that the placing of this Adviser in Lima will improve further the close liaison which exists between the Bureau and the Fund.

Organization of American States

The Directing Council (Buenos Aires 1947) authorized the negotiation of an agreement with the Pan American Union (PAU) for the maintenance of close relations between the two organizations. In May 1950 the Director of the Bureau and the Secretary General of the Organization of American States (OAS) formally signed such an agreement on behalf of the respective Directing Councils of the two organizations. In the spirit of this agreement, friendly and satisfactory relations with OAS have been maintained. Meetings of each have been attended by observers from the other organizations and there has been an exchange of information, reports and documents.

The Bureau has participated in the meetings of the Coordinating Committee on Technical Assistance (CCTA), composed of representatives of the PAU and of the six inter-American organizations developing projects in the Technical Assistance program of the Inter-American Economic and Social Council (IA/ECOSOC). Only two of these projects have been developed by the Bureau and only one has been in the field of human health. This project was a nursing seminar held in 1951 in Guatemala City. The other project, the Pan American Aftosa Center in Brazil, outside the regular field of interest of the Bureau, was undertaken at the request of the OAS with the special authorization of the XIII Conference, subject to the financing of the center with funds other than those of the Bureau.

In 1953, IA/ECOSOC approved the establishment of a Zoonosis Center for the Americas in its TA program. This proposal came to CCTA which requested the Bureau to present a project proposal for consideration. This procedure reversed that established for the development of health programs through presentation to and approval by the Directing Council of the PASO. To legalize the proposal, this item was included in the budget discussion at the regular PASO meetings (1954) for approval. This approval was given and the Zoonosis Center now awaits only the allocation of funds by CCTA.

The Bureau has also cooperated with OAS and UNESCO in the preparation of a series of booklets specially designed for adults who have recently become literate. A half dozen of these booklets are concerned with health subjects and it is believed they are serving a very useful purpose.

Institute of Inter-American Affairs

The United States bilateral Institute of Inter-American Affairs (IIAA) is a part of the larger agency recently known as TCA but now known as Foreign Operations Administration (FOA). Because of the large amount of health work it is doing in Latin America steps have been taken to coordinate activities and to avoid duplication. This is done principally in each of the countries receiving assistance from both the Bureau and the IIAA and the precise mechanism of cooperation is that elected by the government concerned. In some countries, there are coordination committees and in others cooperation results from informal discussions. In addition, since 1951 joint staff meetings have been held in Washington, D. C. At these there are present representatives of the USPHS as well as of IIAA and the Bureau. In these meetings there are discussions of programs in broad outlines and also any problems concerning inter-agency relationships which might arise from time to time.

The real cooperation, however, is to be found in the actual programs. There are many countries in which both the IIAA and the Bureau are assisting the governments and sometimes the assistance is being given to different aspects of the same subject, as for example the yaws eradication campaign in Haiti. In other countries examples will be found in the field of malaria control and Aëdes aegypti eradication. Cooperation is also illustrated by the attendance of Bureau and Institute staff members at international meetings arranged by the two agencies, as for example the Institute of Hospital Administrators held in Rio de Janeiro and the Health Education Seminar held in Mexico City.

Inter-American Association of Sanitary Engineering

The engineering staff of the Bureau played a central role in the creation of the Inter-American Association of Sanitary Engineering (AIDIS) and from the beginning served as the secretariat and as editors of its official journal. This activity continued through 1950 and 1951 but ceased early in 1952. During late 1952 and 1953 the Association, in agreement with the Bureau, transferred responsibility for the publication of the journal to the Mexican Section of the Association and established the secretariat in Brazil, the country chosen to be the site of the 1954 Inter-American Congress of Sanitary Engineering. An agreement was negotiated between the Bureau and the Association, under the terms of which the transfer of property and funds was effected and procedures were established for some continued financial support by the Bureau to the publication of the AIDIS journal. This contribution is gradually decreasing and it is believed that the journal will soon be self-supporting.

AIDIS is worthy of support and encouragement; included in its membership are most of the engineers and many other persons of the Americas most closely concerned with environmental sanitation problems and official programs for their solution.

The Bureau sponsored the Second Inter-American Congress of Sanitary Engineering, which took place in Mexico City in March 1950, the Third Congress, held in Buenos Aires in November 1952, and has agreed to sponsor the Fourth Congress scheduled to be held in São Paulo, Brazil, in July 1954.

W. K. Kellogg Foundation

The W. K. Kellogg Foundation was established for the purpose of promoting the health, happiness and well-being of mankind, especially of children, and its activities have been principally concerned with health and educational problems in rural areas. The satisfactory cooperation between the Bureau and the Kellogg Foundation has continued over the past four years. Examples of this are to be found in the fields of nutrition, dentistry and education. The Foundation provided $15,000 annually over a four-year period (1950-1953) to enable the Bureau to develop its staff in nutrition at a time when Bureau funds were inadequate. The continued interest of the Foundation in INCAP is referred to in Section VIII. The Foundation also made a grant (1953) to cover the cost of a dental consultant and a secretary for a two-year period to survey dental health program needs in Latin America.

The Foundation participated in the Third Regional Nursing Congress in Rio de Janeiro and is collaborating in the Medical Education Information Center (MEIC). The Foundation is also assisting the Bureau in the training of its staff: one staff member has been granted a fellowship for a public health course and another fellowship is under consideration.

A well-appreciated item of assistance from the Foundation was its loan towards the purchase of the Bureau property in Washington (see Section VI).

Rockefeller Foundation

Since 1913 the Rockefeller Foundation has been doing valuable public health work throughout the Americas and has been ready at all times to cooperate with the Bureau.

Rockefeller Foundation representatives have participated in the Medical Education Information Center (MEIC). In Peru, the Foundation and the Bureau worked together in assisting the Government with the Ica Health Center. Foundation representatives participated in the Nursing Curriculum Workshop in Peru in 1952, the Third Regional Nursing Congress in Rio de Janeiro in 1953 and the Inter-American Congress of Public Health, Havana, 1952. Of interest to the program of the Bureau is the work of the Foundation's Trinidad Laboratory on the epidemiology of virus diseases. For example, the examination of sera collected in 1953 revealed, for the first time in several decades, the presence of yellow fever in this important island. Like the Kellogg Foundation, the Rockefeller Foundation advanced money to the Bureau in order to permit the purchase of the present Washington office (see Section VI).

Special Cooperative Activities

There are a number of special health activities in which the Bureau has been associated with governments, health departments or particular institutions.

The Third International Institute of Hospital Administration was held in Rio de Janeiro in 1950 with the assistance of the Government of Brazil and the Bureau. The Rio de Janeiro Institute brought together for a 15-day period hundreds of hospital administrators from many countries. Papers presented covered all aspects of hospital administration and were later published by the Bureau in book form.

The Aftosa Center near Rio de Janeiro is a training and research center for the Americas, financed by both OAS/TA and the Ministry of Agriculture of Brazil and administered by the Bureau. The center began international training courses for foot-and-mouth disease

National Institutes of Health, Bethesda, Maryland, United States. (Clinical Center with Adjacent Buildings in the Foreground for Research in Radiation, Dental and Infectious Diseases.)

technicians in 1953 and has made important scientific contributions on adaptation of the aftosa virus to unusual hosts, as a step towards the development of better vaccines.

The Bureau's collaboration in the production of yellow fever vaccine and in providing special services for the diagnosis of yellow fever, in Brazil through the Oswaldo Cruz Institute and in Colombia through the Carlos Finlay Institute, for the benefit of all Member States, has been important in closing the gap resulting from the withdrawal of the Rockefeller Foundation from this important field. The National Yellow Fever Service of the Brazilian Ministry of Health has continued its previous collaboration with the Bureau in the program for the eradication of the Aëdes aegypti mosquito from the Americas.

In a variety of ways the United States Public Health Service and the National Institutes of Health have continued to assist the work of the Bureau. Special grants for the onchocerciasis project in Guatemala were continued up to 1953. Commencing in 1951, the USPHS also provided personnel for the development of schistosomiasis control methods in Brazil. In these arrangements, the Bureau meets the cost of personnel travel and subsistence, supplies and the provision of administrative services.

A unique type of international cooperation has been developed with the Institute of Nutrition of Central America and Panama (INCAP). The arrangements made permit work to be done which would be either difficult or impossible for each of the Member countries to do alone. The Member countries* are: Costa Rica, El Salvador, Guatemala, Honduras, and Panama. The Government of Guatemala provides the buildings while all of the Member countries make financial contributions. The W. K. Kellogg Foundation assists with the provision of equipment and fellowships, while the Bureau has assigned three staff members to the Institute, one of whom is the Director. Associated with the work of the Institute is a nutrition unit in each of the Member countries. During the last few years there has been a change in the administration as a result of the Protocol of Tegucigalpa, 1949, and the 1953 Basic Agreement. According to the Basic Agreement, the Bureau will continue to be responsible for INCAP administration "as well as for the coordination and execution of its programs and activities."

*In 1954 Nicaragua became a Member of INCAP.

V GOVERNING AUTHORITIES

The governing authorities of PASO have met regularly during the last four years. In 1950, the XIII Pan American Sanitary Conference was held, and in 1950, 1951, 1952 and 1953 there were respectively the IV, V, VI and VII Meetings of the Directing Council. During the same period the Executive Committee of the Directing Council had twelve meetings: the 10th to the 21st. Representation at the Directing Council and Executive Committee meetings is shown in Appendices I, II and III. Representatives of the Dominican Republic, Ecuador, Haiti and Panama were elected for the first time to the Executive Committee during this period, and Argentina, Chile, Brazil, Mexico and the United States were re-elected. The first Inter-American Congress of Public Health was held in 1952.

The XIII Pan American Sanitary Conference (Ciudad Trujillo 1950) was attended by representatives from all of the 21 American Republics, France, the Netherlands, and the United Kingdom. Numerous observers from Specialized Agencies, foundations and professional associations were also present. The Director of the Bureau was reappointed for another four-year period and the Directing Council was authorized to approve the annual program and budget for the second year after each of its meetings. The Council in 1951, 1952 and 1953 did not however take this action. The Conference recommended that Member States facilitate international health work through special offices in the Health Ministries dealing with international organizations. The need for coordination of international health activities was reviewed and general recommendations made. The Directing Council in 1953 discussed this problem again and stated its conviction that international public health programs in the Americas should be concentrated in PASO which had been created specifically for that purpose.

The Conference considered the fundamental principles of Pan American health and the need for strengthening public health training facilities in Latin America. The Conference also recommended to Member States the employment of public health personnel in national health departments on a full-time basis. The Conference considered Draft WHO Regulations, which provided for the abrogation of the Pan American Sanitary Code (Havana 1924), as a measure to facilitate the unification of sanitary regulations throughout the world. Since the Code is the basic treaty, ratified by all 21 of the American Republics, under which the Conference and the Bureau operate, the Conference authorized the Director to negotiate with the WHO some other procedure which would be suitable. The solution of this problem was found in the abrogation of certain technical articles of the Code. This was done by the Code signatories with a protocol, signed at Havana in 1952.

The XIII Conference also adopted resolutions concerning important diseases, such as smallpox, to the eradication of which it accorded a high priority. The Directing Council in 1952 voted a sum of $75,000 for a smallpox eradication program and recommended appropriations in future years for the continuation of the work. Other resolutions concerned the choosing of a permanent site for the headquarters of the Bureau and arrangements for the celebration of the Fiftieth Anniversary of the founding of the Bureau. The 1950 Conference decided that the permanent headquarters of the Bureau should be in the United States and with the aid of non-interest bearing loans from the Rockefeller Foundation and the W. K. Kellogg Foundation, in 1951 an interim headquarters was purchased in Washington. A subcommittee of the Executive Committee rendered valued services in assisting the Director with the arrangements for the purchase and the alterations to the buildings. The importance of this acquisition of more suitable buildings cannot be over-emphasized.

The first Inter-American Congress of Public Health, held in Havana in 1952, not only celebrated the Fiftieth Birthday of the Bureau but also paid tribute to the memory of Carlos J. Finlay for his outstanding contribution to knowledge of the mosquito transmission of yellow fever. The Government of Cuba, with the cooperation of the Bureau, organized the Conference, which was attended by approximately 250 people. Among these were the representatives of many governments and institutions. The topics considered by the Congress were the organization and integration of public health services, rural sanitation and progress in the treatment and control of diseases. There were symposia on yellow fever, public health education, zoonoses, tuberculosis and maternal and child health. Roundtable discussions on

Finlay Institute, Havana, Cuba.

bilharziasis, onchocerciasis, Chagas disease and malaria were also held. The Congress was a fitting celebration of the anniversary and a suitable tribute to Carlos Finlay. Subsequently, the scientific papers presented at the Congress and other reports were published by the Government of Cuba in a book entitled "Memoria del Primer Congreso Interamericano de Higiene."

At the 1951 Meeting of the Directing Council a number of important resolutions were passed; some were concerned with the administration of the Bureau. Financial and staff regulations similar to the corresponding regulations of WHO were adopted to facilitate the internal administration.

The Directing Council in 1951 established the conditions for the participation, under Article 2 of the Constitution of the PASO, of representatives of non-self-governing territories in meetings of the governing authorities of PASO. The Council also authorized the Director to negotiate suitable payments on behalf of the territories concerned. Payment for French territories began for the year 1950, for Netherlands territories for the year 1951 and for United Kingdom territories for 1953. With the solution of this participation problem, the major difficulties of implementing the PASO/WHO Agreement were satisfactorily resolved. Through this action, the territories, which have not yet attained independence, are able to participate at meetings of PASO with full rights for the discussion of all technical matters.

The Directing Council (1950) recommended that the XIII Conference consider revision of the Constitution. The Conference referred the matter to the Executive Committee and the Directing Council, with the result that careful studies have been made by a special committee. All Member States have had the opportunity of participating in the meetings of this Committee. The results of these studies will be considered by the XIV Conference (1954).

In 1951 after discussion of a suggestion made by the WHO Executive Board, the holding of technical discussions during Directing Council meetings was approved. In this connection it may be mentioned that the XIII Conference had already decided to discontinue the practice of holding periodic meetings of national directors of health. This decision was made in view of the fact that the Constitution provided for annual meetings of the Council and regular meetings of the Conference, and also because the Bureau is charged with the duty of assuring an adequate dissemination of information regarding public health. The holding of technical discussions thus filled any gap which might have remained following the discontinuation of the meetings of national health directors.

The XIII Pan American Sanitary Conference (1950) took note of Article 105 of the OAS Charter and authorized the Director to negotiate agreements with Member States regarding privileges and immunities. Subsequently, agreements were negotiated with the Governments of Argentina (1951), Brazil (1951), Costa Rica (1952), Guatemala (1951), Mexico (1952) and Panama (1952). These agreements cover the inviolability of Bureau offices and archives, mail privileges, customs exemption and other matters related to the operation of an international office. These agreements are important in the routine day-to-day work of the Bureau and facilitate the movement of Bureau staff from station to station. The agreements with Argentina, Brazil, Guatemala and Mexico cover the operation of Zone Offices.

The United Nations 1947 Convention on the Privileges and Immunities of the Specialized Agencies, Annex VIII of which is concerned specifically with WHO, has been acceded to by the following Members: Chile, 1951; Ecuador, 1953; Guatemala, 1951 and Haiti, 1952; and by the Netherlands, 1948 and the United Kingdom, 1949. By the terms of this Convention, travel is facilitated and the courtesies normally accorded to diplomatic missions are extended to staff members.

The United States is not a party to the Convention for the Specialized Agencies but the PASB and WHO enjoy the essential privileges, with the exception of exemption of income tax payment on staff salaries, under existing legislation, Public Law 291 of the 79th Congress, 1945.

The Bureau, as the Regional Office of WHO, has negotiated agreements with governments to cover the operation of projects financed from both WHO Regular and UN/TA funds. These agreements should be distinguished from project agreements which are concerned with details of individual projects. The Member States with which basic agreements have been signed and the funds, with the expenditure of which the agreements are concerned, are shown in Table 1 below.

The agreement signed with Colombia in October 1951 was exceptional in that Colombia had not at that time, nor has it since, joined WHO. The agreement stated simply that the terms of the previous agreement covering the Expanded Program of Technical Assistance would also apply to WHO projects financed from Regular funds.

TABLE 1

Types of Basic Agreements Signed by PASO Members with the Dates of Second Signature

Member	Program Fund Concerned	Organizations which Negotiated Agreements	Date of Second Signature
Bolivia	WHO & TA	WHO	October 1951
Brazil	WHO & TA	WHO	February 1954
Chile	WHO & TA	WHO	November 1952
Colombia	WHO TA	WHO UN	October 1951 November 1950
Costa Rica	WHO & TA	WHO	June 1952
Cuba	TA	UN	June 1952
Dominican Republic	WHO & TA	WHO	October 1952
Ecuador	WHO & TA	WHO	October 1951
El Salvador	WHO TA	WHO UN	August 1950 February 1951
Guatemala	WHO & TA	WHO	December 1951
Haiti	WHO TA	WHO UN	June 1950 January 1952
Honduras	WHO TA	WHO UN	April 1951 December 1952
Nicaragua	WHO TA	WHO UN	January 1951 December 1952
Panama	WHO & TA	WHO	November 1951
Paraguay	WHO	WHO	March 1951
Peru	WHO	WHO	November 1950
Uruguay	WHO & TA	WHO	January 1952
Venezuela	WHO	WHO	April 1951

VI ADMINISTRATION

International Administration

During the period under review the complexities normally to be found in the work of an international organization have been exaggerated to an unusual degree. The Bureau is associated with a number of organizations which during this period were undertaking a greater volume of work and at the same time undergoing constant changes as a result of internal administrative developments.

Because of the special PASO/WHO relationship, the Bureau administered activities financed by the WHO Regular budget and those financed by UN Technical Assistance funds. Through the same relationship, the Bureau has also been concerned with the work of UNICEF. Because of the relationship between the Bureau and the Organization of American States, the Bureau has also been concerned with OAS Technical Assistance funds. For the administration of INCAP there have been special arrangements and different arrangements again to handle special grants. The major relationships and the rather complicated channelling of funds is shown in the chart on the following page.

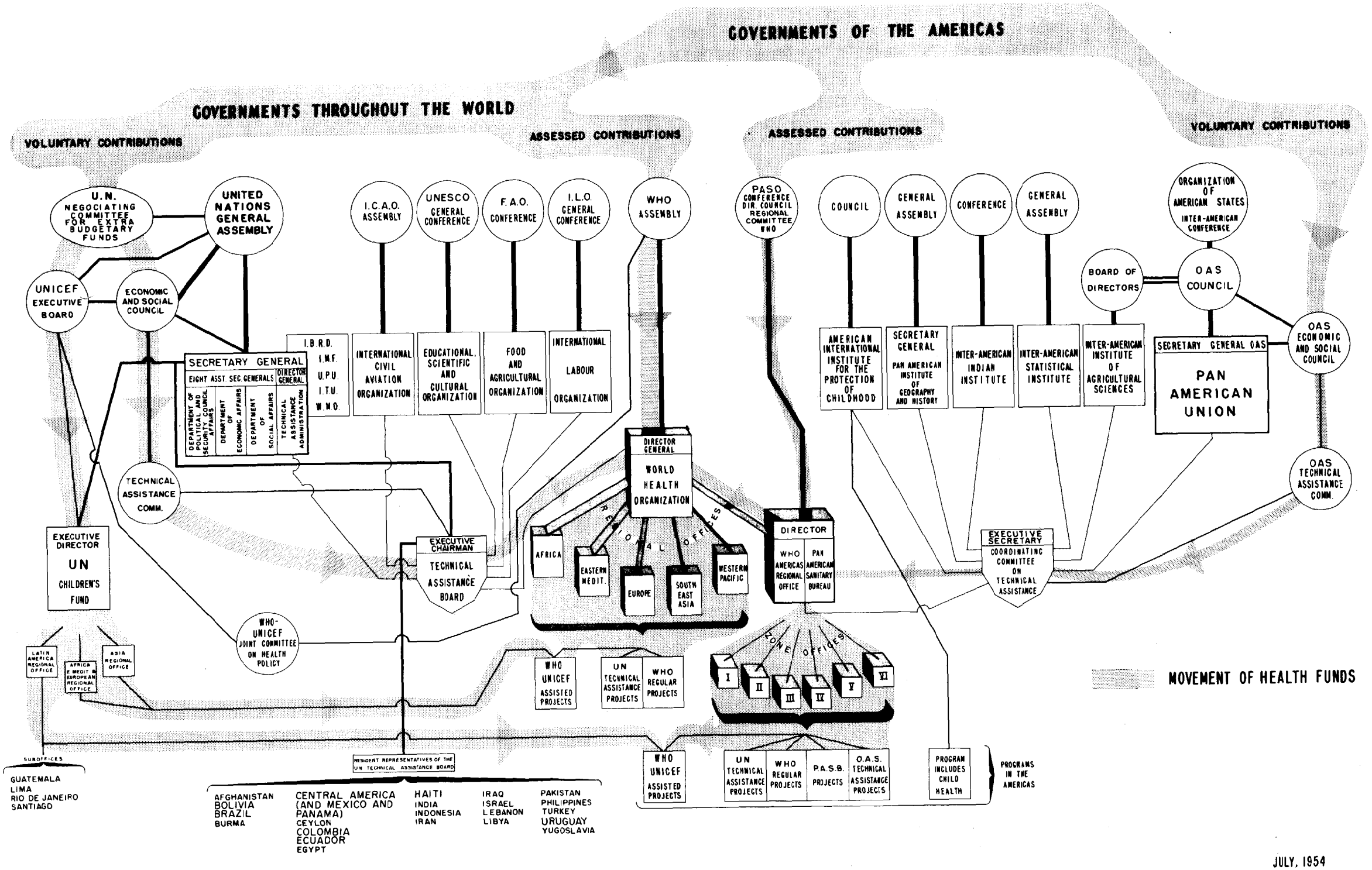
Many of the organizations with which the Bureau has been associated were formed immediately prior to the four-year period now under review. With only a few years' experience to draw on, many administrative changes were made and many of the organizations became interested in new fields of work. During the four-year period, there has been an increase in the amount of funds available to WHO under its Regular budget and wide variation and considerable uncertainty in the UN Technical Assistance funds available for projects. The Technical Assistance funds of the OAS administered by the Bureau also became available during this period. Similarly, during this period, the budget of UNICEF has grown considerably. The rules and regulations of these associated organizations have all been a little different. Reference has already been made to the Bureau's adoption of both staff and financial regulations similar to those of WHO and of UN. The time schedules of budget preparation for PASO and WHO have been different by a year while the UNICEF budget schedule is similar to that of PASO. To a lesser extent, the Bureau has been faced with difficulties attendant on the utilization of different currencies. There have been differences again according to the type of fund concerned in the arrangements made locally for the accommodation of staff and the payment of subsistence allowances. During this period of constant change involving both expansion and contraction, the Bureau has been developing a staff which at the beginning of the four-year period contained only a small nucleus of people experienced in international health organization work.

In addition to all of these rather exceptional features, there have been what might be described as the normal difficulties associated with international work. These difficulties derive from the diversity of languages spoken in different countries, the different cultural patterns, the different forms of government, the different forms of public administration and the widely different disease patterns with which Bureau personnel have been confronted. Training personnel to carry out duties in such a complex field was not something which could be done immediately. Progress has however been made. Administrative methods have also been devised to cope with the myriad problems facing the Bureau during this period and in summary it may be said that during this period of marked growth and experimentation a good basis has been developed for continued development and expansion.

Organizational Developments, 1950-1953

In 1950, the Bureau operated through the Headquarters Office (Washington), two Zone Offices (Guatemala City and Lima) and three Field Offices (El Paso, Kingston and Rio de Janeiro). This partial decentralization was awkward but unavoidable in the transitional period. In 1951, Zone Offices were organized in Buenos Aires and Rio de Janeiro and in 1952, the last of these was formally established in Mexico City. The decentralization of planning and operations to Zone and Field Offices has permitted

CHANNELS OF GOVERNMENT FUNDS THROUGH INTERNATIONAL ORGANIZATIONS



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modifications at Headquarters, especially in the Divisions of Public Health and Administration, which were previously loaded down with both supervision and detailed administration from a distance. Even the Division of Education and Training has profited, however, with the Zone Offices assuming the responsibility of developing the fellowship programs within individual countries.

In 1950 the Headquarters Office comprised the Office of the Director and the Divisions of Public Health, of Education, Training and General Technical Services and of Medical Administrative Services. At the end of 1953, the structure was essentially the same but with two of the Divisions renamed, the Division of Education and Training and the Division of Administration. (See Appendices IV and V.) An essential organizational development was the creation early in 1952 of the Office of Coordination. This Office is the responsible central clearing house for information on all stages of field projects with which the Bureau is associated, regardless of the source of funds for their financing.

The Division of Public Health, which until 1950 carried much of the administrative work connected with field projects, has been relieved of these through the transfer of administrative functions to the Division of Administration and to the Zone Offices. Public Health now has three branches, Health Promotion, Environmental Sanitation and Communicable Diseases, replacing the previous dozen special sections. This permits of greater flexibility and economy.

With these changes in the Headquarters Office, there were concomitant changes in the Zone Offices. The Zone Offices are in many respects miniature copies of what the Headquarters Office was prior to decentralization. The routine administration of the zone projects is the responsibility of the Zone Officer who reports directly to the Bureau Director. The technical supervision of existing projects and discussions concerning the preparation of new projects are carried out between the governments concerned and the Zone Office. The relationship between Headquarters Division Chiefs and the Zone Officers is to a large extent advisory or, and particularly in the case of the Division of Administration, one of providing services to the Zone Offices.

The Division of Education and Training, which in 1950 functioned only as the Fellowships and Technical Training Service, was formally organized in 1952 with two branches, Fellowships and Professional Education.

The Division of Administration in 1950 took over the responsibility for budget organization, fiscal management, personnel matters, property management and procurement. Later the sectional structure of the Division was strengthened by the creation of two branches, one for Budget and Finance, the other for Administrative Management and Personnel.

The procedure for the preparation and submission of the Bureau's annual budget has been improved in the period 1950 to 1953. In 1950 the budgetary procedure called for the preparation by the Director of an initial draft budget for submission to the spring session of the Executive Committee. This draft budget, as modified by the Executive Committee, was then prepared for the Directing Council. Since 1952 the draft of the Director has been submitted to the Directing Council together with comments and suggestions of the Executive Committee. This modification eliminates the costly and laborious work of preparation of a second budget document. Present budgets give full information on all anticipated funds and projects in which the Bureau participates.

The budget of WHO for the Americas, as for other regions, is prepared and discussed by the Directing Council during the year preceding its consideration by the World Health Assembly. Thus the WHO budget must be prepared for presentation to the Directing Council for consideration one year earlier than the PASO budget. Since 1951, an advance summary PASO budget has been prepared along with the WHO budget in the hope that the Council would take action on both the WHO and PASO budgets for the same year together, as authorized by the XIII Conference.

The failure of the PASO annual budgets to show appreciable growth since 1950 and their virtual stagnancy since 1951 can be seen from a study of Table 2* below.

*Figures for Regular WHO funds are included for information but Technical Assistance funds have been excluded since they are not available for the development of long-range programs.

TABLE 2

Comparative Statement of Annual Quotas, Quota Receipts, and Expenditures Together with WHO Expenditures, 1950-1953 and Quotas for 1954

Year	PAN AMERICAN SANITARY ORGANIZATION			WHO
	Quotas of Member States	Quota Collections	Expenditures	
1950	$1,742,035.00	$1,378,971.51	$1,541,823.61	$ 569,012.48
1951	$1,943,681.00	$1,748,627.50	$1,697,262.51	$ 643,372.47
1952	$1,943,681.00	$1,628,730.02	$1,749,738.41	$ 914,618.51
1953	$2,000,000.00	$1,743,701.62	$1,924,110.47	$1,001,136.71
1954	$2,000,000.00	----------	---------	$1,112,261.00

Not only has the budget failed to increase but the receipt of funds has been very irregular and delayed. For this reason, not until 1953 was it financially sound to bring expenditures up to the budget level of 1951. This expenditure in 1953 was not made possible by prompt payments of 1953 quotas but because quotas for previous years were received in that year. For so long as there is a delay in the payment of quotas, or worse, an absence of payment, it will be necessary to cut out of the program each year some of the activities previously approved by the Council in the belief that funds for them would be available. Although the delay in payments has created a very grave situation, there has however been a slight improvement recently.

The necessity of developing a reserve fund had been recognized as early as 1947. In 1950, the XIII Conference specifically authorized the addition of unexpended funds to the Working Capital Fund. In 1952 the estimated requirement for the beginning of the fiscal year was established at a level approximating 60 per cent of the annual budget.

In 1950, as in previous years, Bureau accounts were audited by a commercial firm. Since 1951, the PASO accounts have been audited by the External Auditor of WHO.

Prior to 1949, the staff rules and regulations of the PASB had followed closely those of the PAU. Since 1949, when the PASO/WHO Agreement became operative, the rules and regulations of WHO, with frequent revisions, have perforce been adopted with but few minor modifications. These WHO rules and regulations are similar to those of the United Nations.

Similarly, the WHO salary, allowances and leave plan was drafted in 1951. In this plan, all positions are classified either as being appropriate for international recruitment or for local staffing. For the first group, a uniform salary is applicable throughout the world for positions with the same degree of responsibility and with similar duties, regardless of the geographic post.

During 1950 the Bureau staff participated in the PAU Provident Fund and beginning in January 1951, became able to participate in the Pension Fund of the UN employees or the PASB Provident Fund.

The recruitment of competent men and women for international health programs remained a problem throughout the period under review. In 1953, the situation was aggravated by the increased demands from expanding national health programs for personnel and long delays inherent in the loyalty clearance of United States citizens imposed by their government.

At the end of 1953, the PASB/WHO had a staff of 400 persons, an increase of 28.7 per cent over the staff strength of 309 in April 1950. The peak high employment point in PASB/WHO history of 427, reached in December 1952, was 7 per cent greater than the 1953 figure. The December 1953 total of 400 staff members comprised 196 headquarters and 204

in the field. This ratio of 49 per cent in Washington to 51 per cent in the field represented a gradual shift from a 50-50 ratio in 1952 and the 52-48 ratio in 1950. Of the total of 400 employees in December 1953, 218 were on the payroll of the Bureau, 129 paid by WHO (65 Regular and 64 UN/TA) and 53 paid by other funds of whom 28 were on the Aftosa project and 25 on the INCAP project.

The composition of the staff of PASB/WHO on 31 December 1953, according to country of citizenship, was as shown in Table 3.

TABLE 3

Citizenship of Staff

Country	Number	Country	Number
*Argentina	14	Iceland	1
Bolivia	3	India	1
*Brazil	46	Italy	1
Canada	11	*Mexico	25
Chile	14	Netherlands	1
Colombia	16	New Zealand	1
Costa Rica	4	Nicaragua	2
Cuba	14	Norway	2
Czechoslovakia	1	Panama	4
Denmark	1	Paraguay	1
Dominican Republic	2	*Peru	22
Ecuador	7	Spain	7
El Salvador	4	United Kingdom and Dependencies	17
France	2	*United States	138
Greece	1	Uruguay	2
*Guatemala	30	Venezuela	1
Haiti	1	Stateless	1
Honduras	2		

*Major offices located in these countries

As the activities of the Bureau have expanded, the physical properties have increased and are now valued at over $500,000, the principal asset of course being the headquarters office which was purchased for $300,000. Improvements and adaptation to office use, together with appreciation of real estate values have considerably increased the value of these buildings.

An important administrative function of the Bureau is the procurement and shipment of supplies and equipment for field programs and for health services of Member Governments. As early as 1948, requests from Governments for information on costs and aid in purchasing showed the need for a procurement unit. This was installed in 1949. In addition to meeting regular requests, the Bureau has acted as official intermediary in the purchase and shipment abroad of radioactive isotopes. Following the outbreak of the Korean War, restrictions on the export of insecticides and other materials caused serious difficulties for many health programs. The Bureau was able to get a blanket export permit for health supplies and in 1951 and 1952 purchased large amounts of insecticides for shipment abroad.

In 1952 a unit was established in the Division of Administration specifically charged with the review of the organization and work methods of the Bureau. Although some work had been done previously on efficiency studies, the new unit provided a continuity of effort not before possible.

A systematic attempt was also made to record Bureau practices and procedures and by the end of 1953 this was being done for most of the major administrative activities. Division of responsibility and functional assignments were also reviewed so that the work program might best meet the requirements of the Bureau which by the end of 1953 seemed to have reached a high degree of stability. The more effective and economical operation of the Bureau was in great part brought about as a result of the teamwork of technical and administrative personnel.

Changes were introduced into the structure, procedure and practice of units of the Office of the Secretary General, the Division of Education and Training and in the Division of Administration. In the Administration Division continuing experimentation permitted the smooth transfer of responsibility to the Zone Offices and in spite of an expansion of activity a reduction in staff of 23 per cent.

Editorial Activities

The Bureau issues two periodical publications: the "Bulletin" of the Pan American Sanitary Bureau and the Spanish edition of the "Chronicle" of the World Health Organization. There are also three groups of publications: scientific, official and miscellaneous.

The monthly "Bulletin of the Pan American Sanitary Bureau" was published first in 1922. It reflects the policies of the governing bodies of the PASO relative to the program of the Bureau, as well as public health conditions throughout the Americas. It features original articles in Spanish, English, Portuguese or French, generally with a summary in a language other than that of the original paper. The "Bulletin" also publishes data on the progress of the Aëdes aegypti eradication campaign, replies to inquiries on public health matters, and contains abstracts of medical and public health literature, and general information. Since February 1949, the "Bulletin" has carried a special section on nursing, and sections on nutrition and on education and training were added in January 1951 and April 1954, respectively. The first supplement of the "Bulletin," which appeared in November 1953, was entitled "Scientific Publications of the Institute of Nutrition of Central America and Panama."

The WHO "Chronicle," issued monthly in Geneva in English and in French, with information from all parts of the world is published by the Bureau in Spanish. The Bureau is also responsible for the special group of publications which includes non-periodicals, such as proceedings and final acts of the meetings of PASO, and reports of other international meetings in which the Bureau participates or of meetings sponsored by the Bureau. There are also books and pamphlets (originals or translations), Spanish editions of a number of WHO Technical Report Series, and monographs. An example is the booklet, "The Control of Communicable Diseases in Man," prepared by the APHA and published with its authorization in Spanish and Portuguese by the Bureau. A reviewing committee of the APHA with members of the Bureau staff undertakes to keep this publication up to date, with revised editions appearing periodically.

Because of the increase in publications work, responsibility for distribution was transferred in January 1953 from the library to the editorial section and a special distribution unit established.

The editorial activities of the Bureau from 1 January 1950 to 31 December 1953, are summarized in Appendices VI & VII.

The Library

The Bureau library has a valuable and highly specialized collection of books, technical and medico-scientific pamphlets, as well as periodical publications and documents relating to its work. The broadened scope of the Bureau's programs and the additional activities being undertaken in the Americas are reflected in the material acquired by the library in its effort to coordinate the collection with the expanded activities of the Bureau.

A weekly list of new acquisitions is circulated to the headquarters staff and to the Zone Offices in order to keep them informed of new publications and to enable them to borrow any material of interest. In addition to providing direct assistance in the work of the Bureau and

Some Publications of the Bureau.

in replying to inquiries, the library is frequently asked to furnish comprehensive bibliographies on specific subjects. Another library function is to select and forward material in reply to requests for certain types of medical literature. The library also provides photostatic copies and microfilms of research material not available in Latin America. During the last four years, 5,879 photostatic copies and 2,076 microfilms were sent out. The library was charged with the distribution of Bureau publications until 1952 when this work was taken over by other sections of the Bureau.

Prior to shifting the Bureau to the new premises, the collection was reviewed and books, pamphlets and periodicals not germane to Bureau work were discarded. At the time of moving, the old collection comprised 2,970 books, of which 1,043 were discarded. This material was shared with other libraries in the Americas. The remaining 1,927 volumes were classified for systematic shelving. Of this number, 923 volumes have now been cataloged. The library also transmits catalog cards to the Zone Offices and to the WHO library and prepares a monthly list of acquisitions for the "Library" section of the Bulletin.

The activities of the library are summarized in Appendix VIII.

Public Information

The Objectives. — The Bureau prepares and disseminates, throughout the Americas, information on the work and objectives of the PASO and WHO. The Bureau has not engaged in intensive and expensive publicity drives but has, with a small staff and limited budget, made increasing use of governmental and nongovernmental agencies, taking full advantage of all available publicity media.

Other Organizations as Auxiliary Information Channels. — During the past four years, the UN cooperated closely with the Bureau in helping to disseminate Bureau information. In 1951 the UN Headquarters in New York started weekly Spanish broadcasts to Latin America, on the work of WHO. This program was discontinued in 1953 but the UN continued weekly broadcasts in which health information supplied by the Bureau is incorporated.

The UN Information Centers in this Hemisphere (Buenos Aires, Mexico, Rio de Janeiro, Santiago, Chile, and Washington) are most cooperative. They have taken over distribution of large quantities of Bureau news releases, the WHO Newsletter, WHO folders and other literature. They have been particularly helpful in distributing PASB/WHO literature on World Health Day (April 7) and on UN Day (October 24). During the last four years, there has been a considerable growth of national and local chapters of UN Associations, in Latin America as well as in Canada and the United States. These associations of public spirited citizens have given invaluable assistance to the work of the Bureau.

During 1953 the National Citizens Committee for WHO in the US was organized with headquarters in New York and an active local chapter in San Francisco. Keeping this Committee supplied with literature for distribution has already taxed the available resources to the limit. The Committee has now agreed to finance the cost of Newsletters, folders and other material as soon as its membership has reached one thousand.

It should be noted that during 1953, various chapters of the UN Associations in the United States indicated a willingness to finance PASB/WHO literature and posters for popular distribution.

In addition to the service rendered by these various organizations, schools, colleges, numerous civic organizations, churches, and professional groups in the field of public health have developed into useful channels for disseminating information among their members and to the general public.

Public Information Budget. — In 1950 and 1951 public information expenses had been met by the budget of either the Director's Office or General Services. In 1952, however, more precise cost accounting was introduced with a clearly defined budget for public information. In 1953 one per cent of the combined PASB/WHO budget was used for public information purposes. Most of the money was used for the processing and distribution of the WHO Newsletters.

WHO Newsletter. — Since 1950 the Spanish and Portuguese editions of the WHO Newsletter have been translated, printed and distributed by the Bureau. Reproduction of the English edition for distribution in the American Region has also been made in Washington

but, beginning January 1954, the English edition will be produced in Geneva and shipped in bulk to this office for distribution.

The Newsletter is a popular publication and its distribution in the four languages — English, Spanish, Portuguese and French — has grown steadily in this Region, increasing from 138,500 in 1950 to 224,600 in 1953. As this last figure represents the limit the Newsletter budget will permit, ways are being sought to increase distribution at the expense of organizations such as the National Citizens Committee for WHO. It has been impossible to comply with many requests for large bulk supplies from schools, institutions and civic groups.

Press Releases. — The distribution of press releases has gradually increased over the past four years from 106,820 copies in 1950 to 173,000 in 1953. Similarly the news release mailing list in Spanish has increased three-fold and in Portuguese, five-fold. In Latin America, distribution now includes practically all daily papers and radio stations, a number of specialized periodicals, national health departments and Bureau field offices. A small quantity of releases is also sent to the UN Information Centers at Mexico City, Rio de Janeiro, Buenos Aires and Santiago.

In the United States and Canada, the list is more restricted but is comprehensive and includes all leading newspapers, news agencies and a variety of other channels. Bureau releases, including those originating both in Washington and Geneva, are supplied to the UN Headquarters in New York where they are reissued to world press correspondents and are also used for UN broadcasts.

Exhibits. — There has been a noteworthy development in exhibits during the four-year period. The first major exhibit, shown at the Mid-Century White House Conference on Youth in December 1950, was constructed by an outside firm. Since then, exhibits have been designed and constructed in the Bureau.

In the last three years the Bureau has contributed major exhibits for the annual American Public Health Association meetings, the VI Meeting of the Directing Council of PASO and the First Inter-American Health Congress, both meeting in Havana in 1952, the Pediatrics Congress, Havana 1953, and the meeting in April 1953 in Washington which launched the organization of the National Citizens Committee for WHO. This latter exhibit has now been placed permanently in the main lobby of the UN Headquarters Building in New York where an average of three thousand people see it daily during conducted tours.

Portable exhibits received from WHO Headquarters have been distributed among the Zone Offices.

As the demand for exhibits has exceeded the budgetary limits, discussions have been held with various civic groups concerning the possibility of their meeting the cost of exhibits which this office would supply.

Photographs. — The Bureau maintains a photograph file, most of the contents of which have been supplied by WHO Headquarters and the UN. Photographs taken by an INCAP photographer are particularly good and much use is still being made of the picture story on the health work being done in Ecuador, El Salvador and Peru.

Broadcasts and Television. — There has been an irregular but considerable increase in the use of radio and television. The chief use of the latter has been for telecasting news. Many broadcasts have been made in connection with World Health Day and UN Day. Information about WHO is included in the weekly UN broadcasts, made in some thirty languages over short-wave for rebroadcasting over national and local stations. The UN reports that during the last two years it has been receiving more mail concerning WHO from Latin America as a result of these broadcasts than from all of its other programs referring to the Specialized Agencies. This is an important indication of public interest in the field of health. The UN is supplied with large quantities of WHO literature for their routine replies and the more difficult queries are passed on to the Bureau.

General Literature. — Requests for literature of all sorts have reached such proportions that a charge has had to be made for items in bulk quantity. The growth in distribution of material (excluding the Newsletter and press releases) has been as follows: 38,000 items in 1950 to 56,803 in 1951, and 95,000 items in 1952 to 146,750 in 1953.

World Health and United Nations Days. — The celebration each year of World Health Day has indicated a considerable increase of interest over the preceding one and this Day has now become an important holiday in a number of Member countries of the Hemisphere.

In many places it is celebrated during the whole week in which it falls. It is promoted not only by the departments of health and senior health officers in many of the Member countries, but also public school systems take part and sponsor celebrations. In the United States, the USPHS promotes it extensively and civic organizations are also playing an increasingly important part in making the celebration a success.

Each year UN has increasingly served to publicize the PASO/WHO activities and programs. A good deal of material is disseminated through UN Associations, particularly in the United States and Canada. The growth in the United States of the National Citizens Committee for United Nations Day (not directly related to the UN Association) makes heavy demands for literature and other assistance. An encouraging development is that UN Associations are beginning to suggest the purchase of bulk supplies of WHO literature, posters and simple exhibits from this office for the occasion.

Films. — The Bureau collaborated in the production of films by other organizations and in collaboration with the Bureau the UN Department of Information made three films for their "Screen Magazine." They were concerned with rabies control along the Mexican border; schistosomiasis control in Brazil; and "The Rural Nurse," the story of a modern, well-trained public health nurse working in El Salvador.

The WHO Headquarters supplied the Bureau with prints of the films, "Somewhere in India," a dramatic story on malaria control in northern India, and "The Ancient Curse," which shows the control of malaria in Thailand. The latter was made in collaboration with the US State Department and UNESCO. These two are in wide demand and scheduled to the limit. They have been used chiefly in the United States where they have been shown at conferences, in schools and other places.

VII EDUCATION AND TRAINING

Interest of the PASO in education received a strong impetus at the beginning of this four-year period through Resolution 14 of the XIII Pan American Sanitary Conference which, recognizing the need and importance of specific educational efforts, instructed the Bureau to encourage training of professional and auxiliary personnel for health activities and development of regional training centers for this purpose. This resolution was further reinforced by another of the Directing Council in 1952 listing preparation of personnel as one of the highest priorities of the work of the Organization.

During the four-year period preparation of personnel has developed in two distinct phases. In the first of these, up to June 1952, major activity lay in the fellowship program, although certain specific training projects in fields of particular interest, such as nursing, were undertaken. The fellowship program was based largely on allocation of specified funds to countries, with choice of candidates resting largely on applicants available in a variety of fields.

In the second phase, beginning with June 1952, the Division of Education and Training came into existence as a separate entity with its own personnel. Considerable expansion in field programs in education took place and distinct progress was made in coordinating efforts with other agencies. The fellowship program increased substantially in size and was redirected toward closer correlation with the specific health needs and programs of the countries. Assistance was given to countries through help to organized schools and courses and through efforts to develop the training potentialities of work experience. Aid has taken the form of supply of teaching personnel, provision of teaching materials, consultant services in such matters as curriculum, organization of seminars and conferences in specific fields, temporary assignment of international advisers while national faculty members are receiving special training elsewhere, and award of fellowships both for these purposes and to strengthen health services and field programs directly.

While in the broadest sense all endeavors of the Organization have an educational objective, certain projects have education and training as their chief focus. Whether through general advisory services or specific projects, the activities of the Bureau in the educational field may be considered under five major headings: (1) basic medical education; (2) education in public health administration and allied fields; (3) education in environmental sanitation; (4) veterinary public health education; (5) nursing education. The first of these is by definition, an exclusively professional field; the others involve training of auxiliary as well as professional personnel. In view of existing health needs and shortage of personnel in the Americas, there is clearly need both for a) training of large numbers of individuals who, with relatively less general educational background, may be prepared to carry out specific and limited tasks which make up the vast proportion of health work and b) the preparation of a small but competent group of professionals to carry out the more complicated functions, including supervision of the work of auxiliary personnel. The Bureau's program has aimed at training the two groups and an attempt has been made to maintain an adequate proportion between them.

Training of auxiliary workers is not easily identified as separate projects. Much of this activity has been undertaken as part of broader educational projects for professionals or as specific efforts in relation to general public health service programs for which training of auxiliary personnel was a highly essential first step.

(1) Medical education: From the beginning of the four-year period, many of the fellowships awarded were for professors in medical schools to improve their knowledge and teaching ability in order to strengthen basic education of the physician. With the expanded program, several more specific objectives have been undertaken. General advice has been given to all of the schools through distribution of publications and reports of international and regional conferences concerning improved curriculum planning and clarifying the role of preventive medicine throughout the entire period of medical studies. A specific project was undertaken in one school to establish teaching of preventive medicine as a major portion of the curriculum and to elucidate methods of introducing the preventive approach in other subjects.

Compilation of basic information regarding medical schools in Latin America was begun in order to provide a picture of needs and facilities. Visits by deans of medical schools to other institutions for systematic observance of teaching plans and exchange of ideas have been arranged.

Finally, a major effort has been the establishment of the Medical Education Information Center (MEIC) to promote mutual exchange of information among several groups which have been or propose to be active in assisting medical education in Latin America. The Center aims to avoid duplication of effort and promote disclosure of gaps which need to be filled. In this there has been action and interested participation by the following agencies:

Foreign Operations Administration
W. K. Kellogg Foundation
Rockefeller Foundation
Public Health Service, US Department of Health, Education and Welfare
Institute of International Education
Council on Medical Education, Association of American Medical Colleges
Inter-American Foundation for Postgraduate Medical Education
Unitarian Service Committee
The World Medical Association

(2) Public health administration and allied services constitute probably the main present focus of the Organization's entire developing program. Individual fellowships have played a major role in preparation of personnel for these services and attention is directed to individual annual reports detailing the variety of fields of study. A substantial number of workers have taken the full course leading to a master's degree in public health. In the specialties both full year and short-term fellowships have been granted.

Aid to organized schools has been undertaken systematically and directed chiefly at a) strengthening the teaching in three major schools of public health in Latin America through all of the means outlined in the introduction, and b) assistance to the North American schools by travel grants to faculty members to allow them to learn of health conditions in the countries from which their students come.

Chief example of development of a regional training center is the Inter-American Center of Biostatistics, a joint enterprise of the Government of Chile, the United Nations and the Bureau. After a period of preparation the Center has completed its first course, with great success. Use of INCAP for training in nutrition has progressed steadily. A regional center for training in tuberculosis has been slow in evolution.

Short-term courses have been organized in insect control and mosquito eradication, in laboratory methods for the diagnosis of venereal disease and of brucellosis, in X-ray techniques, in the diagnosis of tuberculosis, in medical records of hospitals, and in health education. Seminars were held in varied fields of importance to public health, notably reporting of communicable disease, mental health, alcoholism, nutrition, and health education.

(3) In the field of environmental sanitation, a major project has been directed at improving the facilities for training sanitary engineers and sanitary inspectors in Latin America through assistance to the three organized schools of public health receiving international students. Seminars on the general subject of sanitary engineering and specific training courses for waterworks operators have been held.

(4) In the field of veterinary public health education, only a small beginning has been made in regard to schools of veterinary medicine. This has been in individual countries through the efforts of the veterinary consultants in the Zone Offices. A more direct regional program has been organized on a large scale in connection with the Aftosa Center in Rio, for continent-wide training in the problem of control of this major disease. By the end of 1953 the first two courses had been completed and three more courses are planned for 1954.

(5) In the field of nursing, the Bureau has sought to establish certain fundamental standards in line with the recommendations of the Expert Committee on Nursing and with

the prevailing socio-economic conditions in the various countries in Latin America. The most important of these standards are:

1) that the graduate nurse is one who has received a three-year nursing education program based on at least three years of secondary schooling or, wherever the country's social and economic conditions permit, on complete secondary schooling (bachillerato);
2) that an "auxiliary" is one who has had at least a six-month course in general nursing given to young women who have completed primary schooling (for work in certain special fields, such as psychiatric nursing, for instance, further training of approximately three months should be given);
3) that the way should be left open for individuals in the auxiliary nursing group to advance in their career if each one will complete her secondary education and enroll in a school of nursing;
4) that in so far as possible the women who are now recognized as graduate nurses by their own governments should be given opportunities to complement lacks in their nursing education through short-term courses in their own countries or through fellowships for study abroad, preferably in a center for postgraduate nursing education to be conducted in Spanish.

In addition to consultation given by the nursing educational advisers on the Washington and Zone Office staffs, the Bureau's activities in nursing education include specific projects which cover basic and post-basic education as well as the training of auxiliary personnel. Assistance has been given to two national schools of nursing in strengthening and broadening the curriculum content to include the teaching of social and health aspects of nursing, and in essence to establish the nursing schools on a truly professional basis. Thus at one time professional nurses are being prepared for both institutional and public health activities. For the graduate nurse, post-basic education to round out her preparation and fill any existing gaps has taken the form of special six-month courses for nursing instructors and supervisors and of workshops or conferences where problems encountered by graduate nurses from many countries in Latin America have been discussed and possible solutions sought.

Since the most frequently discussed problem has been the shortage of nursing personnel, an organized effort was made in one country to attempt a solution through the training of an auxiliary group, as a pilot project. Interrelationship of professional and auxiliary training is well illustrated in this project, that for assistance to the School of Nursing in Costa Rica, and because of the general implications of this interrelationship the project is described in greater detail.

First steps involved a survey of the situation, the dispatch of international consultants for curriculum planning, preparation of national instructors through a fellowship program, purchase of equipment, remodelling of the school building and establishing the course for professional nurses. Once this was under way and future instructors and supervisors seemed assured, it was possible to turn to the question of the training of auxiliaries. Under the direction of a special consultant in this field, but with the collaboration of the senior consultant to the school of nursing, a program for training auxiliary personnel was set up in the main hospital in the country. A small number of graduate nurses from different hospitals were selected as faculty but were prepared especially through a preliminary period of approximately two months during which the curriculum to be taught was drawn up, the classroom was set up and wards to be used for clinical experience were organized. When the first course was started the graduate nurses gained practical experience in teaching through training a total of approximately forty "auxiliaries."

An important side effect of planning the training of these "auxiliaries" in collaboration with a professional school of nursing is that the school itself will receive greater recognition and its ability to recruit adequately prepared young women will be enhanced. In Costa Rica, third year students of the school of nursing practice teaching of general nursing by giving certain classes to the student "auxiliaries." The prestige associated with the "teacher" holds over in the ward situation and the "auxiliaries" in service look up to the graduates of the professional school. Having been pupils of the latter they recognize the greater knowledge and skill of the fully trained nurses and accept their guidance and supervision. As this attitude has spread and been talked about, especially in the small towns and even in the capital of the country, a distinction between the careers of professionals and subprofessionals,

Training Course for Midwives Includes Instruction by Nurse During Home Visits, El Salvador.

heretofore not clearly drawn, has become better understood by the general public. An index of this has been the observation that parents formerly opposed to having their daughters go into nursing are now beginning to give their permission willingly.

At the end of the first course for "auxiliaries," plans were made for a second course in the same hospital and for organizing another training center in the provinces. Instructors of the original group headed the new courses and four more graduate nurses, two in each of the centers, have begun the same process of preparation as instructors. Later they too will be sent to other hospitals in the provinces to repeat the procedure. A chain of courses for auxiliary nursing personnel has thus been set up which eventually will reach all the government hospitals of the country. As the training course is established in each hospital it recruits local young women with at least primary school education for its auxiliary nursing staff and trains a few of the existing staff. At least one course a year is planned for the future in each hospital in order to keep it supplied with the necessary auxiliary nursing personnel.

Provision for adequate supervision of these courses and of the "auxiliaries" once they are employed has been undertaken by the Hospital Division of the Ministry of Public Health which has ruled that no one may be employed for nursing duties in any government hospital without having taken at least this course. Thus one may expect that all personnel engaged in nursing activities in the hospitals of Costa Rica will have had at least six months' organized training.

As may be seen from a study of Appendix IX, the number of fellowships has increased substantially both in respect to awards in the Americas and fellows coming to the Hemisphere from other regions for whom programs have been planned and managed by the Bureau. With increase in size has come multiplication of ever present problems in proper selection of fellows qualified and ready to receive training, placement of these fellows in most appropriate institutions, efficient management of details of travel and living allowances, periodic visits to fellows and correspondence with them in order to be certain that best results are obtained both during and subsequent to the fellowship.

Major progress has been made in decentralizing to the Zone Offices responsibilities for seeking best candidates and evaluating the qualifications of those who do apply. Improvement in quality and adaptability of candidates has been noticed and less difficulty has been encountered in ability of fellows to use the language of the country of study. Much room for improvement, however, still exists in both regards. Zone Offices are also participating much more actively in supervision of fellows studying in Latin America and in subsequent follow-up in their home countries. Insufficient time has elapsed for a full scale study of the effectiveness of the fellowships of the Bureau as a training instrument but such a study needs to be undertaken in the near future.

Progress in educational activities has certainly not been even, an inevitable accompaniment of so large a task and one embracing so many fields. Advances and failures have been recorded and the program of education has felt the force of economic uncertainties and unexpected program revisions as have other parts of the Bureau's activities. Stimulation of interest by governments has had the not unexpected effect of producing more requests for assistance than could properly be met, but has also had the beneficial effect of improving long-range planning.

VIII PUBLIC HEALTH ADMINISTRATION

A basic objective of the Bureau's work is the strengthening and development of the national health services. While many of the special activities of the Bureau have been promoting those goals the need has been felt for the placing of a greater emphasis on assistance in over-all planning and administration. This is exemplified by a group of projects developed since 1950 with the Governments of Bolivia, El Salvador, the Dominican Republic, Paraguay and Peru, which are concerned with the establishment of model, integrated health services.

Organization of Health Services

Teams of health officers, nurses and other experts have been assigned to these projects, fellowships have been awarded and a limited quantity of supplies furnished. These demonstrations are designed to assist in developing administrative machinery during three to five year periods, through which national personnel can demonstrate the benefits conferred by an efficient health department staff engaged in full-time work. By the application of sound principles of modern public health practices it is believed the general public and both local and national authorities can be encouraged not only to support but also to extend similar services upon the withdrawal of the international personnel.

Initial success has been achieved and local inhabitants soon have become increasingly aware of the value of health programs. The usual procedure has been to start with a survey, followed by an effort to obtain active community participation in the solution of urgent sanitary problems. Thousands of vaccinations have been given and diverse health education activities directed at both individuals and groups, adults and children. Taking place largely in rural and semi-rural areas, new and better opportunities for healthy living, especially for mothers and infants, were created. A feature of the health centers has been the facilities offered for in-service and field training for both professional and auxiliary health workers. Sometimes these people have come to the centers from distant parts of their countries.

Less progress can be reported in the creation by governments of suitable, adequately paid full-time positions for career health workers, so essential in the long-range process of strengthening health services. Consequently, the international staff have been at times forced to exceed their advisory duties and take over functions, such as day-to-day operations, which are the primary responsibility of the national counterparts. Although some countries have made notable progress in the establishment of positions which attract well-qualified health workers, in others a regrettably large proportion of trainees, upon completion of their studies, fail to find adequate opportunities to use their specialized training in health administration. When students, trained in internationally-assisted projects, are unable to find suitable positions, the justification for these projects is greatly lessened. Experience has shown that in preparing regional training plans greater attention must be given in the future to the guaranty of adequate employment for the students who are to be trained.

A growing tendency throughout the Americas towards comprehensive local and national health programs has been noted in recent years. After the final phases of national campaigns for the eradication of insect-borne diseases and for the control of the most important communicable diseases, health administrations should be free to concentrate their attention on the sound development of general community health programs.

Public Health Legislation

Most public health work is carried out with authority conferred by legislation. As public health programs change, so there must be changes from time to time in the relevant statutes. The Bureau has not been called upon to give very much assistance in this important subject but in 1953 the Government of the Dominican Republic requested the services of a consultant to assist in the preparation of a sanitary code. It is expected that this work will

be completed in 1954. Through the Zone Offices, material concerned with food control regulations was supplied to the authorities of Cuba, Haiti, Jamaica and Mexico.

Community Organization

As stated above, community support is one of the important requirements for success in health demonstrations. It is, therefore, worth while reporting an instance of what can be achieved with the active assistance of the local community. In May 1952 sanitary inspectors, trained in the Cantón Loma de Ramas in El Salvador, commenced a survey of the towns in that area in order to determine the priority of health problems. Deficient water supplies had always been one of the serious defects. The inspectors found that the townspeople were willing and eager to assist in solving this problem by providing both labor and material. Because of their economic circumstances, they could contribute little of the latter and the necessary pipes and other materials were provided from project funds on condition that the labor would be supplied by the community. When the supplies arrived, all of the people who would benefit from the water supply carried the pipes to a spring in the hills and to appropriate places along the pipe route. The project personnel gave advice regarding the protection of the spring and the actual installation of the pipes. The inhabitants devoted an entire day to the work, at the end of which a piped supply of water came into the center of the town and a further extension supplied a smaller town down the valley. Previously both these towns had been highly insanitary but with the provision of safe water one of the basic defects was corrected. The story continued. People in an adjoining municipality wanted a similar supply and within six months that also was arranged. There are now plans to continue the work in other towns of the area. During the course of this work, the project personnel learned how to work with the people and the people learned how they themselves were able to assist health centers in promoting community welfare.

Health Education of the Public

Projects in health education were developed in Bolivia, Haiti and Mexico. In Mexico, a highly successful seminar was held in 1953, a follow-up and evaluation of which is planned for 1955. Among the many other agencies and organizations which participated in the seminar was the Regional Center of Fundamental Education for Latin America (CREFAL).

Some interesting cultural anthropological studies were made in Panama and in several Central American countries. Reports on those in Panama and Nicaragua are nearly completed while those concerning Guatemala, El Salvador and Honduras are in the course of preparation. There has been a very considerable demand for the reports on the work carried out in the Ica Valley of Peru, where anthropological assistance was given to the Government by both the Rockefeller Foundation and the Bureau. A great deal of very useful information immediately applicable to health education methods was gathered and published reports include: "Child Feeding and Food Ideology in a Peruvian Village," "Pregnancy, Childbirth and Midwifery in the Valley of Ica, Peru" and "Report on an Anthropological Survey of Typhus Control Campaign in Southern Peru."

Maternal and Child Health

Programs in maternal and child health (MCH) have continued to receive high priority and in many countries, with the aid of UNICEF, there has been continuous development and expansion of projects in this field. Both the governments and UNICEF, as well as the Bureau, have been interested in using MCH projects as a basis and starting point for the development of integrated health services, especially in rural areas. The universal appeal of maternal and child welfare has served this end.

In Bolivia, Brazil, Chile and El Salvador there are projects for which supplies and equipment have been furnished by UNICEF, with technical advice from Zone and Washington Office personnel, while in Colombia, Ecuador, Paraguay and Peru, international advisers

Men of Loma de Ramas, El Salvador, Wading the River Carrying Pipe for Their New Water Supply.

have been assigned to other projects which have received supplies from UNICEF. In the Colombia program, emphasis was given to the training of nurse-midwives, while the projects in Paraguay and Peru were integrated programs which included all aspects of generalized rural health services. In the "Health Demonstration Area" type of program, seen in El Salvador, Panama and Peru, MCH activities were included among the services provided. Plans are being made for the extension of the Colombian program with particular emphasis on generalized rural health service. In Chile, a program for the care of premature babies is in the planning stage. The importance of environmental sanitation to maternal and child health has been recognized and extension of existing MCH projects will no doubt reflect this recognition. Similarly, the important place of health education and nutrition in MCH work is now more widely appreciated and, as in the case of environmental sanitation, more attention will probably be paid to these subjects in future MCH programs.

Mental Health

As stated in the 1953 Annual Report, the Bureau has not yet been requested to undertake many activities concerned primarily with mental health. In 1952 a specialist in alcoholism visited Latin America and arrangements were made for participation by physicians from Latin America in (1) a special alcoholism course at Yale University and in (2) a mental health seminar at Chichester, England.

In 1952, a WHO mental hygiene physician visited a number of countries in the Americas, furnishing advice on the orientation and development of mental health programs in relation to national health services. In this way, interest in mental health programs was stimulated and subsequently a seminar on mental health was planned for 1955. To assist in making arrangements for the seminar, a short-term consultant was also engaged in 1953.

A seminar on mental health (alcoholism), held in Buenos Aires in 1953, was attended by doctors, nurses and social workers from five countries. The principal aim of the seminar was to stimulate interest among health workers in developing programs for the treatment and prevention of alcoholism. Later, programs and studies were initiated in several countries, as for example Argentina and Chile.

Nutrition

Administrative aspects of the Institute of Nutrition for Central America and Panama (INCAP) were mentioned in Section IV. The technical work of the Institute has been concerned chiefly with the study of the dietary habits and nutritional deficiencies of the area. In cooperation with Departments of Agriculture and the Inter-American Institute of Agricultural Sciences (IIAS), the need for scarce and costly animal protein has been successfully met with the finding of effective vegetable proteins. Corn, beans, wheat and other basic crops have been included in the studies and palatable soya milk powder mixtures acceptable to children have been used. In the solution of existing nutritional problems, the role of health education has become increasingly important. The study of endemic goiter has resulted in the development of a simple and inexpensive process for the iodization of salt.

The National Institute of Nutrition in Ecuador, which was founded in 1950, continues to receive assistance from the Bureau in the form of personnel, supplies and fellowships.

The Bureau sent a short-term nutrition consultant to Brazil in 1953.

The papers on the scientific work of INCAP have been presented at several important conferences on nutrition in Europe and in the Americas. At the VII Meeting of the Directing Council in 1953, discussions covered: "Nutrition Problems of Endemic Goiter and Kwashiorkor in Children," "Methods for the Study of Nutrition Problems of a Country" and "Nutrition in Public Health Programs."

Health Statistics

Important developments in the standardization and improvement of health statistics in the Americas have occurred during the last four years. Improved basic data on health are

essential to local, national and international health program planning. Progress made will be reported under three headings.

Health Statistics in General

One of the principal activities of the Bureau has been to assist governments in training the personnel required for directing programs for the collection, analysis, and use of health data.

The Inter-American Seminar for Biostatistics, held in the School of Public Health at Santiago, Chile in 1950, was the first important statistics activity of the Bureau during the four-year period. The Bureau was but one of the agencies participating; the Government of Chile, the UN, the Inter-American Statistical Institute and the National Office of Vital Statistics of the USPHS all assisted. The course was attended by 49 students from 14 countries.

The second major undertaking in the training of statisticians was the development of a permanent training center in Chile. This center, known as the Inter-American Center of Biostatistics, was established under an agreement between the Government, the UN and the Bureau (for WHO) in August 1952. Teaching in the Center is in Spanish and the first class completed its six months of academic studies and three months of practical field work in November 1953. Thirty-one students from 15 countries attended the course.

Progress in the training of statisticians has not been confined to Bureau activities only. Courses are being given in various American countries, as for example, that conducted in Peru. The Bureau is encouraging development of training facilities in several other countries, and it is thought that personnel trained in the Seminar or in the Center in Chile will provide an impetus to national training programs.

WHO Regulations No. 1, concerning the nomenclature of diseases and causes of death adopted by the World Health Assembly in 1948, contained important provisions for the development of comparable mortality statistics. A form of medical certificate and the "Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death" were recommended for world-wide use. During the last four years great progress has been made in the revision of death certificates so that they will conform with the recommendations. The Bureau has assisted by distributing the Spanish edition of the "Manual."* The Government of Brazil translated it into Portuguese and it is now in use in that country. To facilitate the adoption of the "Manual," several countries released supplementary instructions for use by physicians. Also a Spanish edition of the report, "Medical Certification of Cause of Death," Supplement No. 3 of the WHO Bulletin, was released by the Bureau as No. 3 of Scientific Publications entitled "Certificación Médica de Causa de Defunción."

In 1953 the Bureau published in Spanish the Report of the Third Meeting of the WHO Expert Committee on Health Statistics.

At the London Conference of National Committees on Vital and Health Statistics in October 1953 progress for the Americas could be reported on the establishing of national committees on vital and health statistics as had been especially recommended by the International Conference for the Sixth Decennial Revision of the International List of Diseases and Causes of Death and later endorsed by the First World Health Assembly. Committees had been established in Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Guatemala, Haiti, Mexico, Panama, Paraguay, Peru, the United States, Uruguay and Venezuela. The Bureau encouraged the formation of these national committees. The report of the Conference of National Committees is being published in English and Spanish in the Bureau's quarterly publication "Health Statistics," as a useful document for national committee members.

Notifiable Disease Statistics

In order to improve the deficient reporting on communicable diseases in the Americas, the Bureau was able to render assistance in several ways. At the Bureau Seminar on

*The precise title in Spanish is "Manual de la Clasificación Estadística Internacional de Enfermedades, Traumatismos y Causas de Defunción."

Reporting of Communicable Diseases held in Chile at the end of 1953, 29 representatives from South American countries worked together in developing basic reporting procedures. Their recommendations are being published by the Bureau under the title "Basic Procedures for the Reporting of Communicable Diseases." Chapters in this report cover subjects such as local systems of reporting, national systems of reporting, the analysis and release of data and methods of improving reporting. Four thousand copies of the report in Spanish and another 1,000 in English are being prepared for distribution.

The "Guide for the Reporting of Quarantinable and Other Communicable Diseases in the Americas," written in the Bureau Headquarters and published in 1953, has been frequently used by the Bureau staff for discussion purposes in statistical courses and during visits by Bureau staff to various countries. It is serving to improve the understanding of both the methods and the value of reporting. The Bureau prepared a new form for weekly reports of quarantinable diseases and a simplified form was developed for monthly reports of all communicable diseases in order to facilitate the work of the Bureau in collecting and distributing the information.

In accordance with the procedures described in the WHO Regulations No. 2 the Bureau receives cabled advice regarding quarantinable diseases. The Bureau forwards this information to Geneva and also publishes it in the "Weekly Epidemiological Report." This "Report" contains data regarding other communicable diseases such as poliomyelitis and influenza, and also information concerning application of the Regulations. The monthly data on notifiable diseases appear in the quarterly publication "Health Statistics."

Other Statistical Services of the Bureau

A statistical consultant is assisting the new Subdepartment of Biostatistics in the National Health Service of Chile; a special emphasis in his work is being given to the development of hospital statistics. To facilitate the evaluation of the Aëdes aegypti eradication program, monthly and quarterly reports are received routinely and summarized for publication. A summary of the work in the Hemisphere is published each month in the Bureau's Bulletin. The Bureau also serves as a distributing agency for venereal disease contact reports. In cooperation with the USPHS, a system is being developed whereby contact reports will go directly from clinics to the health agencies responsible for subsequent investigations.

Public Health Nursing

The important relationship between public health nursing and integrated health programs has been emphasized by the Bureau. Public health nurses have participated from the early planning stage in many projects. In 1950, Bureau staff nurses assisted the national health services of Guatemala and Peru in the analysis of nursing needs and in planning the development of improved public health nursing services. Progress has been noted in a number of countries where national nurses are now assuming the responsibility for planning nursing activities in health departments.

In Ecuador the Bureau has assisted the health authorities in the nursing aspects of the maternal and child health services. In the integrated health services in which the Bureau participates in rural areas of El Salvador, Panama, Paraguay and Peru, public health nurses played an important part in the development of the programs. Five nurses assigned to Zone Offices have been continuing their work with national health authorities for the improvement of nursing aspects of health services throughout Latin America. In the Washington Office, a public health nurse has been undertaking similar work in regard to the Bureau Headquarters' responsibilities for health programs.

Throughout the Americas attention has been focused on the education of nursing staff by means of fellowships, training courses and continuous in-service education. Because of the shortage of professional public health nurses, auxiliary personnel are being prepared to carry out a range of responsibilities within the limitations of their qualifications. Much emphasis has been given to the development of team relationships among members of the

nursing groups and with related professional personnel. Considerable attention has also been given to the establishment of sound administrative and supervisory procedures in public health nursing programs in order to insure their continuity as well as safe and improved services to the public.

By the end of 1953, public health nurses had been participating in the following programs:

Maternal and Child Health
- Colombia
- Paraguay
- Peru

Tuberculosis Control
- Ecuador
- El Salvador
- Paraguay

Health Education
- Haiti

Care of Poliomyelitis
- Honduras

Public Health Nursing
- Costa Rica

Venereal Disease Control
- Ecuador
- Paraguay

Veterinary Public Health

By the appointment of a consultant in 1949, the Bureau introduced veterinary public health as an international activity. The approach to this field is similar to that of the Bureau's general program, namely (1) to promote national programs for the prevention of human infection with animal diseases, and (2) to coordinate the international aspects of such programs.

Veterinary health officers at the end of 1953 were located in the Washington, Mexico City, Lima and Buenos Aires Offices.

The veterinary public health program of the Bureau has been designed to integrate the knowledge and abilities of veterinary medicine at all levels of public health services by:

1. Assisting in the prevention, control and eradication of animal diseases transmissible to man, as well as to prevent the dissemination of human disease by insanitary, unwholesome and contaminated foods of animal origin.
2. Providing advisory and demonstration services in veterinary public health to governments, and to coordinate veterinary public health programs of neighboring countries.
3. Assisting in the improvement of veterinary medical education and encouraging training in veterinary public health.
4. Stimulating and coordinating research on special veterinary public health problems having international implications.
5. Functioning as a center for information relevant to the incidence, prevalence and control of animal diseases transmissible to man, and to evaluate, process, publish and disseminate such information.

Major action has been concerned with the problems of brucellosis, hydatidosis and rabies for which more detailed descriptions will be found in Section IX. Not classified as projects, yet demanding considerable time and attention have been many of the other zoonoses. Assistance has been given in the establishment of reliable diagnostic procedures, effective control programs, the testing of vaccines and the provision of technical information. Much of the work has been concerned with advice regarding the creation of permanent public health services at various levels and suited to the needs of each country. Advances have been slow, and purposely so, as new activities are assimilated better and are more likely to prove successful if they are developed in response to experienced needs rather than made on theoretical grounds.

As adequately trained staff is vital to the development of sound and reliable services, much of the Bureau's work has been concerned with the postgraduate training of veterinarians,

the conduct of training seminars on specific problems and techniques and the encouragement of changes and improvements of teaching curricula. Every country has received advice and assistance in regard to the universal problem of food handling. Surveys of current problems, advice on improvements in slaughterhouse operations, meat examination and handling, the production, handling and testing of milk, and the development of control programs have helped to improve the wholesomeness of many foods, especially those of animal origin. Receipt of advice from a single source, such as the Bureau, has probably been useful in making the standards and techniques more uniform throughout the Americas.

Other work has been concerned with national public health laboratories, their diagnostic activities, the production of vaccines and the maintenance of healthy and adequate laboratory animal colonies. With the reorganization and expansion of health divisions and local health services in so many countries, there has been a demand for more public health personnel of all categories, including those of veterinary public health. The Bureau has endeavored to assist governments in meeting this need.

Not technically within the field of zoonosis but an important item of work of the Bureau is the operation of the Aftosa Center, described in Section IX, located near Rio de Janeiro. This Center, which has been in operation since March 1951, provides to the participating countries a vital service in the training of personnel in the prevention and control of this dreaded disease.

Public Health Engineering

The Bureau's public health engineering work is concerned with municipal and rural sanitation, housing and town planning, insect, rodent and other vector control, food sanitation, and environmental phases of occupational health. The expansion of activities during the past four years is illustrated by the increase in the number of engineers on the staff and in the number of specific projects concerned with environmental sanitation. By the end of 1953 the number of engineers employed by the Bureau in the various Offices and projects totalled eleven while in 1950 only one was on the staff. In addition there were the following numbers of specialized persons dealing with insect control problems:

TABLE 4

Insect Control Personnel

Year	Total Maximum	Medical Specialists Minimum - Maximum	Insect Control Sanitarians Minimum - Maximum
1950	14	1 - 5	4 - 9
1951	15	5 - 6	8 - 9
1952	20	5 - 10	7 - 10
1953	23	9 - 11	9 - 12

Arrangements have been made for an engineer to serve the Offices of Zones V and VI in 1954. Additional engineers will be needed to staff new projects dealing with environmental sanitation problems.

The Bureau carried on many activities of a direct service type, including surveys of general sanitation problems, assistance to governments in assessing their needs and facilities and in planning national and local programs, studies and recommendations on specific sanitation problems, such as the water supply of Asunción, Paraguay, and service on national and local commissions to study sanitation problems, for example garbage and waste disposal in Lima, Peru.

Information was collected or distributed at the request of governments concerning many aspects of environmental sanitation, including fluoridation of water, water purification, sewage treatment, standards of quality of canned foods, crematoria legislation, insecticides, equipment for spraying insecticides, pest control and methyl alcohol in distilled wine products.

A number of projects were in specific sanitation fields other than insect control. These were concerned with municipal water supply and purification; municipal garbage disposal; training of sanitary engineers, sanitarians and water works operators, sanitary engineering seminars; and rural sanitation. In addition, a number of other projects of a broader scope were operating. They included activities related to the subjects just enumerated or to other aspects of sanitation, such as municipal and rural sewage and excreta disposal, rural water supply, and food sanitation. Projects planned and undertaken more recently are mostly of the integrated type, involving a coordinated attack on the major health problems, including those of environmental sanitation.

Two seminars for sanitary engineers in Central America and Panama were held, and similar seminars are planned for other areas. These provide an opportunity for the exchange of valuable experiences in technical and administrative aspects of sanitary engineering and stimulate better planning and the application of improved techniques.

A course of training was held for water works operators in Central America and Panama. Following the period of group instruction and demonstration, the consultants visited the various countries and made practical recommendations for the improvement of operating techniques. A second course of this type is planned for 1954. In 1952 a conference of the Professors of Sanitary Engineering from Santiago de Chile, São Paulo and Mexico City was arranged in order to consider ways of improving opportunities and facilities for the training of professional and non-professional environmental sanitation personnel in Latin American training centers. Agreement was reached both as to the objectives and the immediate steps to be taken.

In 1953 the Engineer Consultant instructed the students at the Inter-American Housing Center in Bogotá, Colombia in the sanitary engineering aspects of housing. Members of the staff of the Bureau participated in meetings of several inter-American organizations concerned with housing.

Eradication

The present trend in the attack on communicable diseases is towards eradication rather than simple control. Eradication has in the past been achieved in small areas by well proven methods, such as vaccination against smallpox. Prominence has recently been given to eradication by nation-wide Aëdes aegypti work and the more spectacular elimination of Anopheles gambiae from northern Brazil. There is no single method which must be adopted in attacking a disease, but any part of its cycle may at one time or another be most vulnerable. Malaria can be controlled by attacking the mosquito vector in one of several ways or by attacking the parasite through chemotherapy.

A communicable disease can be eliminated as a hazard to man even though it continues in animal reservoirs. Aëdes aegypti eradication stops urban yellow fever in spite of continuance of the virus in the jungle. Anti-rat campaigns accompanied by insecticide dusting of runways similarly affects plague. Although both infections are still present in the Americas, human cases of both plague and yellow fever have occurred in recent years only in connection with rural epizootics.

Eradication of all metaxenic diseases does not depend solely upon vector elimination. Although some anophelines are so vulnerable that they can be readily eliminated by anti-mosquito operations, the ecology of others makes their eradication with known methods very difficult. But all anophelines do not enter houses and so are not dangerous. DDT on the walls kills those that do enter and thus stops malaria transmission and in a few years the infection dies out and eradication is achieved.

As the economy of eradication became apparent, attitudes changed. The elimination of Aëdes aegypti from cities demonstrated that, after the mosquito was gone, one watchful team could protect an area formerly requiring the attention of many.

New weapons simplified methods and reduced costs of controlling a number of diseases and the feasibility of eradication was more easily recognized. The low price of penicillin and the efficacy of a single injection in terminating the infectiousness of yaws converted this therapeutic agent into an effective public health tool in the control of the treponematoses and led to inauguration of the yaws eradication campaigns.

The development of DDT and other residual spray imagocides has had a comparable effect on a number of insect-borne diseases. Sprayed on the walls inside dwellings, this new insecticide is not only effective against the malaria mosquito but also against other house-frequenting insects which transmit such diseases as filariasis, Chagas disease and typhus.

A ready supply of heat resistant dry smallpox vaccine has made possible mass vaccination campaigns in the tropics where refrigeration of glycerinated lymph is difficult. More potent typhus vaccine, now in the developmental state, bids fair to simplify anti-typhus campaigns for, though DDT dusted on the body and clothes quickly stops typhus epidemics, the dusting must be repeated every six months in order to eradicate the disease from endemic areas.

Campaigns against communicable disease should be carried through to eradication as an economy measure if for no other reason. When the incidence of a disease has been reduced to virtual insignificance yet remains smoldering in a community, costs do not cease as control work must continue as a guard against the constant hazard of recrudescence. When country-wide eradication is achieved, the only costs are those required for the maintenance of protective zones as buffers against infected neighbors, and for surveillance teams to discover and extirpate any reintroduction of the disease. Continental eradication will still further reduce costs as protective zones will no longer be necessary. Finally, surveillance teams may be discontinued upon achievement of global eradication.

Quarantine Regulations

An important international advance in quarantine administration was the adoption by the IV World Health Assembly of the "International Sanitary Regulations" (WHO Regulations

No. 2). They came into force on 1 October 1952, superseding all earlier International Sanitary Conventions and thereby largely doing away with the confusion resulting from adherence by governments to only some of the earlier Conventions. Of the 70 States party to one or more of the last five International Sanitary Conventions prepared before 1952, 35 States had accepted the earliest maritime agreement but only 20 the latest. Similarly, 26 countries adhered to the first aerial convention, but only 18 to the second.

The Constitution of WHO had been framed in such a way that regulations adopted by the Assembly would automatically become binding on all Members unless reservations or rejections were made. As a consequence of this improved machinery, apart from the inactive Members of the Organization, only five of the 70 countries referred to above are not bound by the new Regulations. Of the 21 American Republics, all except Colombia, which is not a member of WHO, and Chile (legislation pending) are bound by the Regulations.

The new Regulations take into account recent scientific knowledge and practice and are a big advance over the Conventions which were replaced. At the VI Meeting of the Directing Council held in Havana in 1952, the Pan American Sanitary Code, 1924, was amended so as to delete those articles relating to international quarantine which were inconsistent with the provisions of the WHO Regulations. This amendment to the Code is known as the "Additional Protocol to the Pan American Sanitary Code (1952)."

The new Regulations were not only concerned with the five traditional quarantinable diseases, cholera, plague, smallpox, typhus and yellow fever, but also with relapsing fever, the epidemiology of which is in certain respects similar to that of louse-borne typhus. The Regulations contained models of vaccination certificates, prescribed the conditions under which vaccinations could be called for, and did away with health certificates. To assist States in implementing the Regulations, a Spanish edition of the Regulations was issued as Scientific Publication No. 2 of the Bureau. Copies of this have also been used in schools of public health for study purposes.

By the new Regulations, the international reporting of the quarantinable diseases to WHO was continued. The Washington Office is responsible for one of the epidemiological publications, "The Weekly Epidemiological Report."

Quarantinable Diseases

Yellow Fever

Yellow fever has ceased to be a scourge in the cities of the Americas since the discovery of the urban vector and effective means for its control and eradication. However, when the epidemiology of the disease became better known, health authorities awoke to the important continuing threat to individuals who work in the forest and to the populations adjacent to forest areas where susceptible animals and various species of vectors abound. These dangerous forest areas extend in a transcontinental belt from southern Mexico to northern Argentina.

In spite of recent advances in knowledge, there are many questions which remain unanswered. Invasions from the jungle areas cannot be foretold and can be devastating. Certain primates are overtly susceptible to infection and marsupials seem to be a factor in maintaining yellow fever in certain areas. It has been proved that certain species of jungle mosquitoes, especially those belonging to the genus Haemagogus, because of their density, infectability and flight range, play an important role in transmission.

The enzootic area where the virus is maintained permanently in wild animals and where man also can become infected comprises a vast area in this continent. In the area are the Amazon and the Plate River basins, some of the forests of which are contiguous at the river sources, thus forming a continuity of forests with the two huge hydrographic systems. Periodic excursions of the yellow fever virus occur in these forests. Under favorable conditions yellow fever breaks out in waves which spread extensively, as that for example which was observed from 1934 to 1940 in the Brazilian states of Mato Grosso, Goiaz, São Paulo, Minas Gerais, Paraná, Santa Catarina, Rio Grande do Sul, Rio de Janeiro, in Paraguay, and in the Province of Misiones, Argentina. In 1950, another outbreak, more rapid and violent, appeared first in the north and central part of Mato Grosso and in Southern Bolivia

and penetrated in 1951 the State of Goiaz. Then it spread into the southeastern section of Mato Grosso and the Paraguayan frontier (Bela Vista), and on to the northwest part of the States of São Paulo and Minas Gerais. It reached the north and central parts of Paraná in 1952 and the epizootic finally died out early in 1953. In the northern part of South America the disease occurs in Peru, Ecuador, Venezuela and Colombia, extends through Panama into the Central American countries of Costa Rica and Nicaragua, finally reaching the border of Honduras.

The location of jungle yellow fever is indicated by the numbers of reported cases for the eight years, 1946 to 1953, as contained in Table 5. Usually in the past, only cases confirmed by laboratory tests have been reported. However, clinical cases were recently reported from a few countries and these have been included.

TABLE 5

Number of Cases* of Jungle Yellow Fever
Reported from Countries of the Americas, 1946-1953

Country	1946	1947	1948	1949	1950	1951	1952	1953
Argentina	--	--	1	--	--	--	--	--
Bolivia	19	5	8	94	354	3	1	18
Brazil	1	2	3	6	4	50	223	39
British Guiana	--	--	1	--	--	--	--	--
Colombia	19	77	12	3	12	26	16	11
Costa Rica	--	--	--	--	--	39	18	--
Ecuador	--	--	--	1	--	65	--	--
Nicaragua	--	--	--	--	--	--	6	8
Panama	--	--	5	3	1	1	1	--
Peru	3	4	1	4	16	4	1	--
Venezuela	11	3	1	--	3	3	1	6

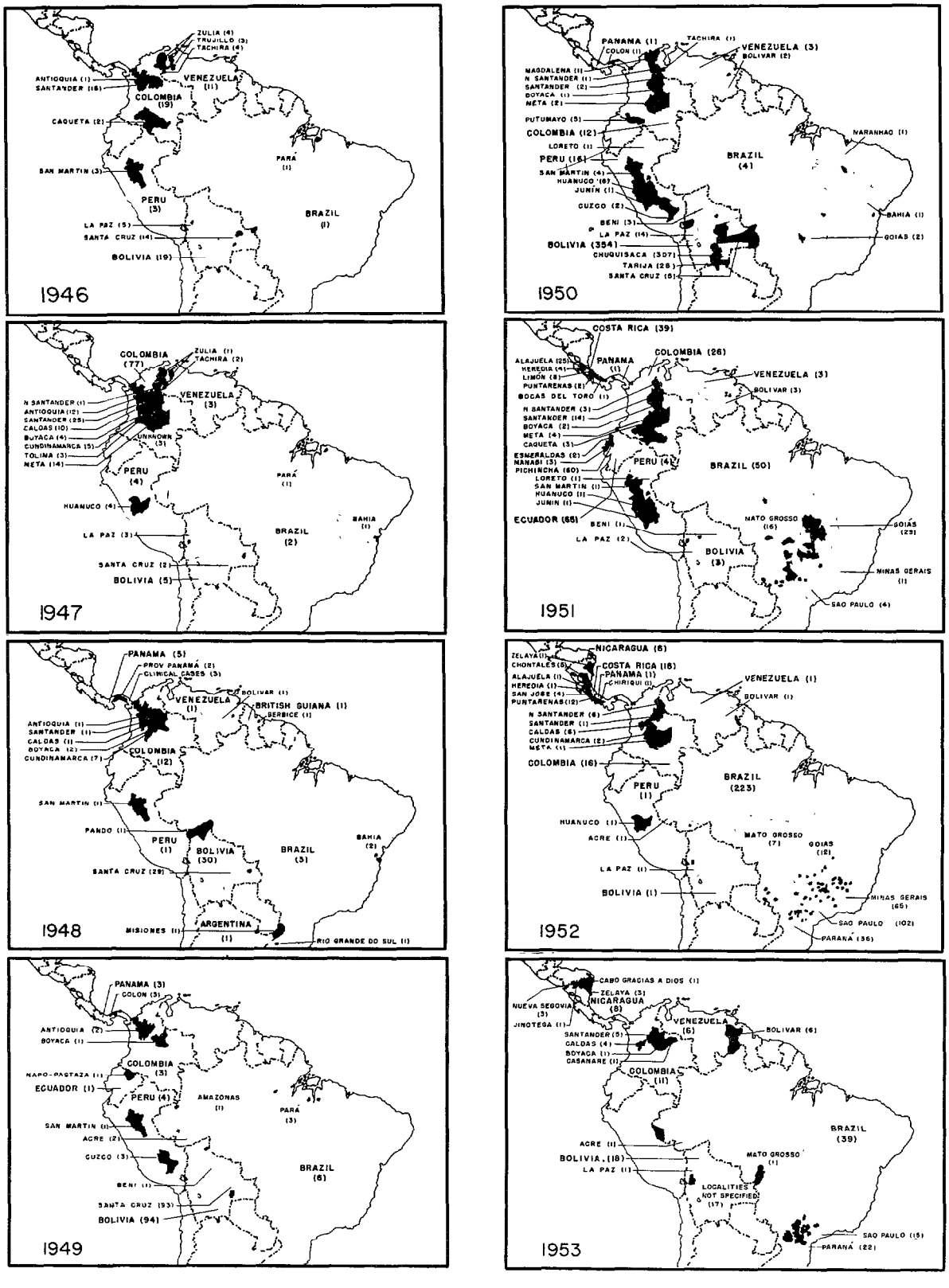
*Reported clinical cases included in the totals are as follows: 3 in Panama in 1948; 90 in Bolivia in 1949; 327 in Bolivia in 1950; 57 in Ecuador in 1951; and 7 in Brazil in 1952. Information regarding laboratory confirmation of 17 of the 18 cases reported in Bolivia in 1953 was not available.

All reported cases were known to be fatal except as follows: 1 in Bolivia in 1947; 1 in Bolivia in 1948; 50 in Bolivia in 1949; 328 in Bolivia in 1950; 4 in Brazil in 1951; 1 in Costa Rica in 1951; 41 in Ecuador in 1951; 5 in Costa Rica in 1952; and 7 in Bolivia in 1953.

During the four-year period 1950 to 1953, cases of jungle yellow fever were reported in six countries of South America and three of Central America. Cases were first reported from Panama in 1948. The infection extended northwards in the jungle and cases were reported from Costa Rica in 1951 and in Nicaragua in 1952 and 1953. In a series of maps (Chart 2) the areas are shown from which cases were reported for each of the eight years 1946 to 1953. Epidemiological investigations in Central America were initiated under the auspices of the Bureau in 1951 to determine the presence or absence of the culicine vectors, discover possible animal reservoirs, obtain material for immunity studies and to train local personnel in the technique of mosquito and animal capture as well as blood sampling. Other investigations were concerned with collecting materials for laboratory studies, observing epidemic-epizootic waves and in determining the spread of the infection in forest areas. Studies in western and eastern Nicaragua along the Honduran border yielded results of considerable interest. The absence from many areas of Haemagogus spegazinni, considered the most common jungle yellow fever vector, and the presence and abundance of other possible

Oswaldo Cruz Institute, Rio de Janeiro, Brazil.

CHART 2



AREA WITH NUMBER OF CASES OF JUNGLE YELLOW FEVER FROM COUNTRIES OF THE AMERICAS, BY POLITICAL DIVISION BY YEARS, 1946-1953.

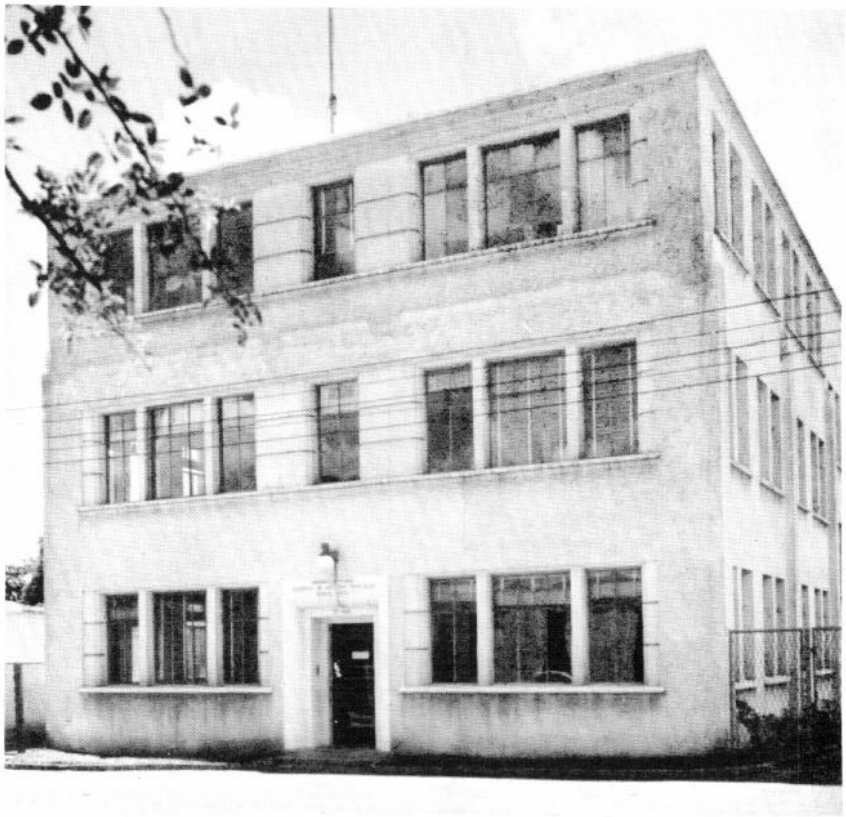
vectors, suggests the need for transmission tests in order to determine the role played by these other mosquitoes in the transmission of the disease. The liver samples of dead monkeys, mainly the Alouatta, showed a relatively high number of histopathological yellow fever lesions. The results of seroprotection in 202 samples, especially 41 taken from monkeys in Tortuga (Fatima) in the southwest of Nicaragua, 13 of which gave positive results, gave further proof of the role played by these animals as reservoirs of the disease.

These observations emphasized the need to pursue such investigations further in order to collect more accurate data on jungle yellow fever transmission, particularly with respect to the possible incidence of virus reservoirs other than the monkeys and to explain certain aspects of the epidemiology which still remain obscure.

For populations living in or near the forests, the only protective measure against jungle yellow fever is vaccination and it is practiced wherever the virus is known to be present. The spread of the virus through the jungle is at present largely unpredictable and the precise information which would assist vaccination campaigns is not available. Viscerotomy, epidemiological studies and immunological tests on both animals and man, if carried out extensively by all countries concerned, would provide this requisite knowledge.

To meet the increasing demands for yellow fever vaccine, the Bureau has assisted production in the Rio de Janeiro (Oswaldo Cruz) and Bogotá (Carlos Finlay) laboratories. The Bureau has provided supplies and equipment and the assistance of experts in order to assist with improving and standardizing the vaccine preparation as well as in increasing the total production. In 1953, the Bogotá laboratory was reorganized and the new equipment installed. Arrangements were made to supply equipment for the new laboratory being built in Rio de Janeiro.

In 1953 the Carlos Finlay Laboratory produced 2,700,000 doses, a large part of which was sent to Netherlands Antilles, Bolivia, British Guiana, Chile, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua and Venezuela. During the same year, the Oswaldo Cruz Institute in Rio de Janeiro produced 11,700,000 doses, 11,000,000 of which were used in Brazil and the remainder sent to Argentina, Guatemala, Paraguay, Peru, Portugal and Uruguay.



Carlos Finlay Institute of Special Studies, Bogotá, Colombia.

Although the discovery of jungle yellow fever has revealed new epidemiological factors there has been no material change in the international control of the disease which still depends essentially on the prevention of Aëdes aegypti-transmitted yellow fever. The potential threat of the movement of yellow fever virus from regions of jungle yellow fever to receptive aegypti-infested areas depends largely on the existence of aegypti-infested communities contiguous to the jungle infection. Jungle yellow fever tends to spread entirely independently of human travel routes, through contiguous, or nearby contiguous, forest areas. In this way the disease moved internationally from Brazil to Paraguay and into Argentina in 1937-38, and again in 1947-48; from Panama to Costa Rica and into Nicaragua in 1951; and from Nicaragua to Honduras in 1953. Neither humans nor the Aëdes aegypti mosquito have had a part in these movements. Man has not been observed to carry jungle yellow fever virus far from the point of infection and, in the absence of aegypti-transmitted yellow fever, man has not represented an important threat to international traffic. On the other hand, yellow fever in a port city in the presence of a high aegypti index, easily makes man a dangerous carrier of the virus.

The eradication of Aëdes aegypti from all urban centers close to jungle yellow fever areas is the most important measure which can be taken for the protection not only of these centers themselves but of aegypti-infested centers in other parts of the world.* The continental campaign for the eradication of the aegypti mosquito throughout the Americas, which is being carried out under the auspices of the Bureau in accordance with a resolution of the Directing Council, has as its objective the prevention of the re-infestation of centers close to jungle areas, which is of importance to every country in the Americas. The Bureau has been publishing for many years the aegypti indices of the principal ports and cities of its Member States, since it is believed to be more important to know the aegypti density of a port city as an indication of its potential threat as a source of yellow fever than it is to know whether jungle yellow fever has been reported or not in the nearby areas. It is gratifying to record that in the period 1950-53 there has been no reported case of Aëdes aegypti-transmitted yellow fever.

The Bureau has however not yet found it possible to obtain complete coordination of efforts nor to assist fully all countries in carrying out the measures known to insure complete success. The status of the eradication program at the end of 1953 is shown in Table 6 on the following page.

In some countries the Aëdes aegypti eradication campaigns have been undertaken as part of insect control campaigns during which malaria has been controlled with residual insecticides. Notwithstanding program variations among countries, the campaign for continental eradication of Aëdes aegypti is moving forward with good momentum as may also be seen from the following brief country summaries.

South America

Argentina. A governmental committee is studying a proposed agreement with the Bureau based on a plan of operations presented and discussed in September 1953.

Bolivia. Eradication of Aëdes aegypti was completed in 1948. During the last few years, the 65 localities formerly infested were checked and the continued absence of the mosquito was confirmed.

Brazil. Data available in 1953 indicated that no Aëdes aegypti were present. During the year, 310,000 houses were treated by the perifocal method and 333,000 houses checked. During the year, in all 26,000 localities with 11,000,000 houses and 65,000,000 breeding places were inspected.

British Guiana. No Aëdes aegypti have been found since 1950 but in 1953 Georgetown was reinfested by importation.

*In April 1954, a case of jungle yellow fever occurred in the Cumaca area of the island of Trinidad. Had Aëdes aegypti been eradicated from Trinidad, this would have been merely another case of jungle yellow fever. However, the fact that Aëdes aegypti infestation has been found in a village close to the forest as well as in the principal cities and ports, makes this situation a matter of international concern.

TABLE 6

Status of Aëdes aegypti Eradication Campaigns — 1953

Eradication Achieved	Campaigns in Final Stages	Campaigns in Progress	Campaigns Beginning	Campaigns Not Commenced
Bermuda	Brazil	British Honduras	Anguilla	Les Saintes
Bolivia	British Guiana	Colombia	Antigua	St. Martin
French Guiana	Chile	Desirade	Argentina	St. Barthelemy
Tobago	Costa Rica	Dominica	Aruba	United States
	Ecuador	Dominican Republic	Bahama Islands	
	Nicaragua	El Salvador	Barbados	
	Panama	Grenada	Barbuda	
	Paraguay	Grenadines	Bonaire	
	Peru	Guadeloupe and Dependencies	Cuba	
	St. Croix	Guatemala	Curaçao	
	Uruguay	Honduras	Montserrat	
		Jamaica	Redonda	
		Marie Galante	Surinam	
		Martinique		
		Mexico		
		Puerto Rico		
		St. Kitts-Nevis		
		St. Lucia		
		St. Vincent		
		Trinidad		
		Virgin Islands		

Chile. The latest reports, December, 1953, show that with the exception of Tocopilla, the originally infested localities continue to be negative.

Colombia. The campaign is proceeding on schedule and is being coordinated with the malaria program. Of 789 localities formerly positive, 756 were reinspected during 1953 and all except 13 were negative. Of the 222,000 houses in the positive localities, 163,000 were visited during the last inspection.

Ecuador. Of the 2,170 localities originally inspected, 335 were positive. Since January 1952 no Aëdes aegypti have been found in them. Checking will be continued in order to confirm eradication.

French Guiana. The campaign initiated in 1949 in conjunction with the anti-malaria campaign quickly achieved eradication of Aëdes aegypti.

Paraguay. The campaign initiated in 1946 has not yet been completed. Checks made at the end of 1953 revealed the presence of Aëdes aegypti in two small areas in Asunción after a period of two years, during which the mosquito had apparently been eliminated. Investigations revealed that this was not a case of reinfestation but of overlooked foci. The 97 localities found positive in the interior of the country, out of 1,475 inspected, have remained negative during three different checks and it can be considered that in these localities eradication has been achieved.

Peru. During the December 1953 check of the 191 localities originally infested in parts of the coastal and eastern regions, no Aëdes aegypti were found. The campaign has been extended into other parts of the country, principally along navigable rivers in the eastern region and intercoastal localities in areas sprayed with DDT as a malaria control measure.

Surinam. A survey has just been completed and it revealed high indices of Aëdes aegypti.

Uruguay. The Aëdes aegypti campaign commenced in 1948 met with quick success in most of the country. In Montevideo (population 1,000,000) infestation was generalized and for financial reasons DDT could not be used everywhere. In order to complete the eradication campaign, an agreement was signed in December 1953 with the Bureau.

Venezuela. In the malarious regions, which include two-thirds of the areas where conditions are favorable for Aëdes aegypti, the problem has been solved through repeated DDT house sprayings. In the other areas the campaign started in 1948 is still continuing. Aëdes aegypti is still found in cities such as Barquisimeto, Puerto Cabello and Valencia, and there are other cities, including the capital itself, where the mosquito is known to exist but where its control is not now feasible. December 1953 data show that of 126 localities previously infested 6 continue to be positive.

Central America and Panama

British Honduras. The only insect control operation in the country has been a DDT campaign against malaria. It has however been carried out so well that it is believed that Aëdes aegypti has been eradicated. While final checks have yet to be made, a spot check revealed no Aëdes aegypti.

Costa Rica. No Aëdes aegypti have been found since December 1951. Checks are continuing in order to confirm whether eradication has been achieved in the 103 localities found positive when the index was determined.

El Salvador. The number of infested localities has been reduced from 326 to 145. Of the latter, 62 were checked in 1953 and 25 were positive.

Guatemala. Since the beginning of 1950 inspections have been made in 651 localities and in 127 of them Aëdes aegypti were found. A 1952 check made of the 108 positive localities showed that only 4 were still infested. No information is yet at hand concerning the situation in rural areas not yet covered by anti-malarial work.

Honduras. The Aëdes aegypti campaign commenced in 1950 is progressing satisfactorily. Of 53 localities found positive when the index was prepared for 443 localities, only two were still positive in 1953. Certain areas in the interior have not yet been investigated.

Nicaragua. The campaign was initiated in 1950 and has benefited from the DDT spraying against malaria throughout the entire country. In the country, 1,506 localities were determined and when first checks were made in 1,453 of them only 18 still remained positive. No infested localities have been found since March 1952. The work in Nicaragua demonstrates the rapidity and effectiveness of house spraying by DDT for Aëdes aegypti eradication.

Panama. No Aëdes aegypti infested localities have been found since September 1952. The eradication of the vector has been assisted by the big malaria campaign, which has extended through practically all of the interior. However, there remain rural areas not yet sprayed and insufficient data are available to permit a precise evaluation of the status of the campaign.

Caribbean Islands

Bahamas. Surveys have been undertaken and an eradication campaign recently commenced.

Bermuda. Eradication of Aëdes aegypti has been achieved.

Greater Antilles. In Cuba, the organization of an Aëdes aegypti eradication campaign started late in 1953. It is planned that the operations will be based on the six provincial capitals. The capital city has been inspected and found to be heavily infested.

The eradication campaign in Haiti which at first was not conducted regularly, appeared to be progressing more satisfactorily in the last months of 1953. High indices were found in Port-au-Prince and 125 of 154 localities visited in the interior were found to be positive. 5,638 houses were inspected and 495 of these (9%) were infested with Aëdes aegypti. This

serious problem would be ameliorated by extending the malaria DDT spraying to the entire region of the interior.

The campaign in the Dominican Republic commenced in August 1952 and is progressing on schedule. The high index of 35% found in the capital city had decreased 3% at the end of the seventh cycle of work. In 1953, 526 sections out of 1,666 sections in the interior were found to be positive. The 1953 DDT spraying for malaria control in the interior protected 168,000 houses, out of 228,000 and is assisting the Aëdes aegypti eradication.

The situation in Jamaica is still not satisfactory. The campaign is progressing slowly and Aëdes aegypti are still present, even in the waterfront areas of the ports.

The campaign in Puerto Rico began with the assistance of the Bureau in April 1950 and a preliminary inspection showed 79 infested localities. DDT house spraying was carried out in almost all localities of the island and checking is now under way. At the end of 1953 the city of San Juan was still infested.

Lesser Antilles. In the Virgin Islands, Aëdes aegypti has been eradicated from St. Croix but St. Thomas, St. John, Anegada, Virgin Gorda and Tortola are still infested.

In the St. Kitts-Nevis and Anguilla group, Aëdes aegypti surveys have been completed and the eradication program well advanced.

In Antigua, Barbuda, Redonda and Montserrat, Aëdes aegypti surveys have been completed. Infestation was found to be heavy and an eradication program has been initiated.

Aëdes aegypti has been found in the St. Martin, St. Barthelemy and Les Saintes group and an eradication program is under consideration.

In Désirade, Marie Galante, Martinique, Guadeloupe and dependencies, a survey has been completed. Because of the DDT spraying used for malaria control, infestation was found to be light. The program is now being extended to non-malaria areas in order to eradicate Aëdes aegypti.

In 1952, surveys were completed in St. Lucia, the Grenadines and Grenada, and infestation found to be very heavy. The eradication program advanced well in 1953 and urban areas are now free of Aëdes aegypti.

In Dominica and St. Vincent, surveys were completed in 1953 and a spotty infestation found. An island-wide eradication program is being carried out in conjunction with malaria control.

Surveys in the Barbados showed a high infestation but an eradication campaign commenced during 1953.

In Trinidad, the eradication program is progressing well except for the Port of Spain and San Fernando areas. In addition to 40,000 houses regularly sprayed with DDT in the malarious area, an equal number has recently been sprayed as part of the Aëdes aegypti eradication campaign.

As a result of the island-wide program of DDT house spraying in Tobago, the eradication of Aëdes aegypti has been achieved.

A survey carried out in Curaçao, Aruba and Bonaire revealed a high infestation but in 1953 an eradication campaign was commenced.

North America

Mexico. The Aëdes aegypti eradication campaign commenced in 1950 was interrupted in July 1952 and has not yet been resumed. An agreement for the resumption of the work early in 1954 is being negotiated. The problem in Mexico presents great difficulties because the areas of infestation extend along the entire length of the Atlantic and Pacific coastal regions to the lower portions of the Central Mountain Range (Cordillera Central) and to the entire peninsula of Yucatan. Of 659 localities in which the index was determined, 415 were found to be positive and 170 were still infested at the time of the campaign's suspension.

United States. Breeding places of Aëdes aegypti are found in a big area including 18 states located south of the line running from southern Virginia through northern Oklahoma to El Paso, Texas, on the Mexican border. Surveys* made during World War II show that 16

*Bradley, G. H. and Atchley, F. O., The "Aëdes aegypti" Situation in the United States. (In Proceedings of the New Jersey Mosquito Extermination Association, 1953, p. 104-8).

cities had indices ranging from 1% to 21% and in another survey made in 1952, 10 of these were still positive, with 4 of them showing even higher indices. The mosquito is considered to be eradicated from Key West, Florida, as it has not been found there for two consecutive summers. A survey was made in 12 additional cities in 1952 and 7 of them were found to have indices ranging from 0.5% to 11.3%.

Smallpox

Smallpox continues to be a problem in the Americas. Some countries have reported no cases, others have reported very few, but in parts of many countries the disease has been severe for variable periods during the past eight years. Although the number of reported cases has been incomplete, it is still large as is shown in Table 7. A study of this table shows that the trend appears to be downward and the time seems opportune for pressing forward with the eradication program.

TABLE 7

Number of Cases of Smallpox Reported in the Americas
1946-1953

Area	1946	1947	1948	1949	1950	1951	1952	1953
Countries								
Argentina	71	46	166	1176	4462	984	740	232
Bolivia	1672	500	831	805	644	759	590	398
Brazil (State Capitals only)	1227	869	1288	670	706	1190	1318	875
Canada	2	-	-	-	-	-	-	-
Chile	-	-	5	4	3564	44	14	7
Colombia	877	4903	7356	3040	4818	3844	3235	5467
Costa Rica	-	9	-	-	-	-	-	-
Cuba	-	-	-	5	-	-	-	-
Dominican Republic	-	-	-	-	-	-	-	-
Ecuador	114	2984	3856	657	241	233	670	703
El Salvador	-	-	-	-	-	-	-	-
Guatemala	1	11	6	4	10	3	-	4
Haiti	-	-	-	-	-	-	-	-
Honduras	-	-	-	-	-	-	-	-
Mexico	600	1125	1541	1060	762	27	-	-
Nicaragua	-	-	-	-	-	-	-	-
Panama	2	1	-	-	-	-	-	-
Paraguay	124	2207	1451	175	135	282	313	-
Peru	700	537	7105	6305	3753	1218	1370	163
United States	337	176	57	49	39	11	21	5
Uruguay	167	326	-	9	3	-	16	7
Venezuela	2970	6315	6358	3951	2181	206	127	250
Territories								
British Guiana	-	-	-	-	-	11	-	-
British Honduras	-	-	1	-	-	-	-	...
Trinidad and Tobago	-	-	13	-	-	-	-	...

... Unknown
- None

A great deal of information has been accumulated in regard to clinical and epidemiological aspects of the disease; the diagnosis is relatively simple, the mechanism of transmission well known and, more important still, there has been an effective and simple control weapon for some 150 years. In spite, however, of all these favorable factors progress in eradication has been disappointingly slow. A major handicap in the past has been the lack of adequately refrigerated transportation for glycerinated lymph. The Bureau has therefore encouraged the development of a dry vaccine which would remain potent for a long period without refrigeration. At the XIII Conference it was reported that such a vaccine had been prepared in 1950 following an experiment at the National Institutes of Health and the Michigan State Department of Health Laboratories in the United States. The latter laboratory supplied 50,000 doses which were used in successful field demonstrations in Peru where 6,000 cases had been reported in 1949. In this field demonstration, smallpox vaccinations were performed on the right and left arms using respectively glycerinated lymph and the new dry vaccine. For a month before use, both of these vaccines had been exposed to room temperatures. There were 73 per cent of "takes" with the glycerinated lymph and 95 per cent with the dry vaccine.

Spurred on by this encouraging development, the XIII Conference recommended the development of an intensive program of vaccination and revaccination with a view to eradicating the disease from the Hemisphere. The Conference further recommended that such programs be developed under the auspices of the Bureau. Further progress was made with the eradication programs by decisions of the Directing Council.

The Council, at Havana, 1952, authorized the expenditure of $75,000 in a supplementary program against smallpox in 1953. The Council also recommended the Executive Committee to include such a program in the inter-country section of the proposed program and budget for 1954.

The VI World Health Assembly was also concerned with the problem and passed a resolution requesting the WHO Executive Board to proceed with a detailed study of the means of initiating a world campaign against the disease. This study was to include, inter alia, consultation with Member States and WHO regional committees.

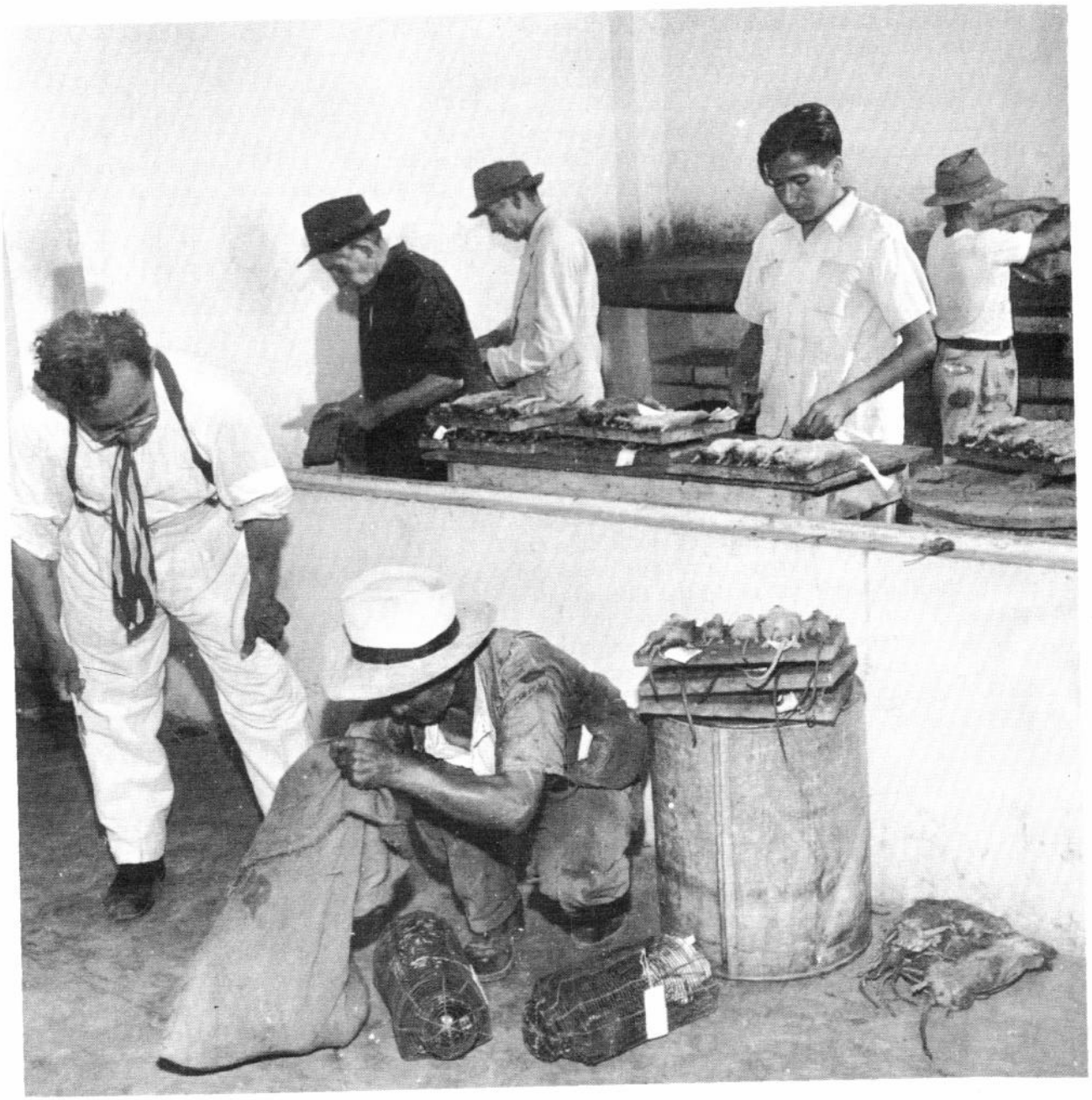
As a consequence of the Directing Council's decisions, the Bureau was able to expand its activities so as to include not only technical advisory services but also the provision of supplies and special equipment required for the laboratory production of dry vaccine. Instruction was given in production techniques and advice furnished in regard to the planning and operation of field campaigns. Attention was also given to the integration of these campaigns into the general public health work.

Following agreements with the respective governments, the Bureau furnished Peru, Ecuador and Bolivia with equipment and supplies to permit laboratories in these countries to produce dry vaccine. The Peruvian laboratory is already in production and provision has been made to give similar assistance to Argentina, Brazil, Cuba, Chile and to other countries as the necessity arises. The key to eradication is the ready local supply of adequate quantities of these vaccines.

Plague

Plague appeared comparatively recently (1899) in the Americas and for many years has been of concern to the Bureau because of its international implications. When plague was discovered in the ports, quarantine restrictions were immediately applied and the subsequent disruption of trade threatened their economic life. As in the case of yellow fever, the attention of health authorities was first directed toward clearing ports.

The Bureau has been cooperating for many years with some South American countries in anti-plague campaigns, assisting in the control of epidemic outbreaks and in the eradication of the disease from cities. For this purpose, the Bureau provided the services of a consultant (John D. Long) who for 20 years assisted the governments in organizing and developing plague control services. This help was decisive in bringing about the disappearance of plague from the ports of the Americas, and in 1938 Guayaquil, the last infected port, was finally cleared of the disease.



Preparing Rats for Laboratory Examination in Anti-Plague Campaign, Guayaquil, Ecuador.

Later, another expert was added to conduct special researches, and the studies made in Ecuador, Peru and Brazil contributed materially to the sucess of the campaigns in those countries.

The study of recent surveys and the reports of experts in this field indicate that the new methods of rat and insect destruction permit the elimination of plague in towns and settlements, without radical or costly changes in environmental sanitation.

The disease has in recent years been reported from rural areas of Argentina, Brazil, Ecuador, Peru, Venezuela and the United States, and in each of these countries it is enzootic among wild rodents. This is important as there is in certain areas a constant threat of human infection. Numerous investigators from the Bureau have offered valuable collaboration in epidemiological studies on plague carried out by several American countries, such as in Ecuador, Peru, Brazil and Venezuela.

The Bureau signed an agreement with the Government of Ecuador late in 1950, pursuant to which the Bureau furnished technical assistance and a certain amount of operating equipment and supplies. In 1951 the Bureau provided technical assistance and certain operating equipment and supplies to the Government of Peru for control work.

The Government of Bolivia in 1953 requested Bureau collaboration in planning a study of plague. The infected area extends from north to south from the Ichilo Province to the Argentine frontier and from east to west from Charagua in the Cordillera Province to the Zudanez Province. This is an area of approximately 26,000 square kilometers. In recent years, a trend has been apparent for the disease to spread towards the Amazon Basin, thus endangering a new big area. The problem is essentially rural and only in isolated instances is it of urban or household importance. So far, two species of rodent reservoirs have been identified but it is probably that other species are involved. This possibility is now being investigated and an attempt is being made to determine the geographic distribution of the rodent populations. An expert with wide experience in epidemiological studies of plague will be sent by the Bureau to assist in the investigation of this problem in Bolivia and neighboring zones of Peru.

As may be seen from Table 8, comparatively few human cases have been reported during the past four years and only two small epidemics have been reported, one in Bolivia in 1952 and the other in Ecuador and Peru in 1953.

TABLE 8

Number of Cases of Plague Reported from Countries of the Americas
1946-1953

Country	1946	1947	1948	1949	1950	1951	1952	1953
Argentina	10	4	12	-	-	-	2	-
Bolivia	13	19	3	3	22	10	55	-
Brazil	289	88	386	95	55	20	65	10
Ecuador	45	21	40	19	28	35	43	90
Peru	126	172	73	46	35	23	26	79
United States	-	1	-	3	3	1	-	-
Venezuela	-	-	7	2	5	7	-	1

Typhus

Although the number of reported cases of typhus has decreased during the last four years (see Table 9), the disease continues to be a matter of concern in a number of countries.

TABLE 9

Number of Cases of Louse-Borne Typhus* Reported from Countries of the Americas 1946-1953

Country	1946	1947	1948	1949	1950	1951	1952	1953
Argentina	16	15	2	1	2	10	1	-
Bolivia	263	-	297	52	65	36	71	43
Chile	607[a]	711[a]	1193[a]	526[a]	473[a]	593[a]	178[a]	-
Colombia	1039[a]	2686[a]	3471[a]	2798[a]	2673[a]	190	201	163
Ecuador	1098	606	423	318	366	726	410[b]	569
Guatemala	779	399	207	49	33	38	17	13
Mexico	1978[a]	2286[a]	1997[a]	1597[a]	1223[a]	1155[a]	1018[a]	762[a]
Peru	1329	1719	1863	1830	1456	948	976	404

* Cases known to be murine or tick-borne typhus have been excluded.
a) All types.
b) Ten months.

In Central America typhus has ceased to be a serious health problem since good results have been obtained from the vaccination and DDT delousing campaign in Guatemala, assisted by the Bureau from 1946 to 1950. It is gratifying to observe that the work is apparently continuing in a satisfactory manner.

The disease is endemic in the Andean regions of Peru and Bolivia, predominantly around Titicaca Lake. In 1950 the governments of these two countries and the Bureau, with the assistance of UNICEF, initiated a limited control program. It consisted mainly of the DDT dusting of people, bedding and clothing in the infected areas. The effectiveness of DDT applied regularly in this way every six months was definitely proved and studies were begun to devise better and cheaper methods for control campaigns. In 1952, the Bureau assigned an expert with extensive experience in typhus control to assist in epidemiological investigations, improvement of laboratory techniques and the development of methods suitable for use in a long-range control program. During 1953 the program was extended to cover a wider area. Two ways of DDT dusting have been employed, the periodic mass dusting of people, clothes and bedding in the selected areas, and the dusting of patients and contacts. Associated with the dusting has been a health education campaign.

By the end of November 1953, a total of 1,284,016 people, 425,854 rooms and 9,176,388 items of clothing had been dusted in Peru alone. By the end of October 1953, 146,470 people, 109,446 rooms and 1,005,809 items of clothing had been dusted in Bolivia. The results obtained in Peru can be seen from a study of Table 10.

TABLE 10

Typhus Morbidity and Mortality Rates per 100,000 Population (Peru)

Department	Type of Rate	1950	1953*
Cuzco	Morbidity	95.6	1.4
	Mortality	6.6	0
Puno	Morbidity	32.6	8.5
	Mortality	6.1	0
Arequipa	Morbidity	48.0	9.1
	Mortality	1.1	0.5

*1 January - 30 November only.

Clothes and Body are Dusted with DDT in an Anti-Typhus Campaign, Carcay, Peru.

In the fight against typhus the availability of a potent, easily obtainable vaccine is of great importance. A live typhus vaccine known to be of high antigenic potency has been developed. The Bureau is collaborating with Tulane University in field trials of this vaccine to get information on the proper dose, route of inoculation, immune response, severity of reactions, and on the epidemiological effectiveness of the vaccine in preventing the natural occurrence of the disease. Before the test population was chosen, several thousand blood specimens were collected and examined.

The vaccination trials were carried out in two population groups. About 2,300 persons in Arequipa and the surrounding area were given different doses of the same vaccine by different routes, and the local general reactions to the inoculations and the immunological responses were studied. The larger doses produce better immunological response, but give severe local and general reactions. The smaller doses produce slight local reactions but give inadequate immunological responses. The investigations are continuing to determine the dosage required for a satisfactory immunological response with moderate general reaction.

In another trial in the Department of Puno, 11,000 persons were inoculated either with a vaccine or an innocuous substance in an effort to evaluate the effectiveness of the vaccine as a preventive measure. Under the epidemic conditions of the region, this number of people is considered insufficient to show statistically significant results and it will therefore be increased to around 30,000.

Other Quarantinable Diseases

Cholera has not occurred in the Americas for several decades and there has been no apparent threat of introduction since the time of the Egyptian epidemic in 1947. Some twenty thousand deaths occurred in Egypt and the health authorities of Brazil felt obliged to prepare for the possible importation of the infection.

In recent years the existence of louse-borne relapsing fever in the Americas has not been confirmed.

Malaria

For centuries malaria presented the most serious public health problem in the Americas. Prevalent from the North to the South Temperate Zones, it not only took a toll of lives, but, through its debilitating effects, retarded agricultural and industrial development. Wherever the incidence was high, malaria reduced or even vitiated the beneficial effects of general public health programs. Fully realizing the necessity of overcoming this obstacle, the development of malaria control programs became a preoccupation of the Bureau. Persistent efforts were made to stimulate anti-malaria work in all countries where the disease was a problem and, since 1942, periodic progress reports have been submitted to the Conferences.

The last report*, presented by the Bureau's special consultant to the XIII Pan American Sanitary Conference, was optimistic. It outlined the substantial changes which had taken place in anti-malaria activities during the previous four years, presented the status of the problem in the larger countries and described the governmental organization and support given to malaria control programs in all of them.

Nearly all countries had well-administered governmental units responsible for malaria control, varying in size from simple offices carrying out all functions to full divisions with many sections.

Financial support varied greatly between countries and fluctuated from year to year. Although adequate in some countries for controlling malaria in those parts where it was most serious, governmental support was rarely sufficient for effective nation-wide eradication

*"Situación de la Lucha Antimalárica en el Continente Americano", Dr. Carlos A. Alvarado, Publicación No. 261, Anexo B, 1951.

campaigns. This was true, even though in practically all countries (only two exceptions) governmental anti-malaria campaigns received the collaboration of the states or provinces, municipalities, private concerns and other agencies.

The introduction of DDT greatly changed methods of malaria control and the report described the transition period during which drainage and larvicides gave way to imagocides, first as solutions and emulsions and finally as cheaper water wettable powders.

Experience had determined that 2 gm. per m^2 of DDT applied as a residual spray inside dwellings was effective in stopping transmission. This new weapon not only simplified procedures and reduced costs of malaria control but also provided protection against domestic insects and the diseases transmitted by them, such as filariasis, Chagas' disease, and plague. In addition, the Aëdes aegypti eradication campaign was assisted and its progress quickened. The Bureau commenced a campaign to promote the substitution of DDT for the more expensive drainage and larvicide works, and for a simultaneous expansion of the scope of anti-malaria activities with eradication as a final objective. Imagocides became popular, their increased use accelerated malaria control programs and nations began to envisage eradication of the disease.

The Bureau continued its close collaboration with countries where the malaria problem was most difficult and in seven of them UNICEF, by providing equipment and supplies, gave a great impetus to control programs. By the beginning of 1950 the situation was encouraging. British Guiana had achieved eradication and of the larger countries, two had no malaria (Uruguay and Chile), two had practically solved the problem (Argentina and the United States) and two were close to a solution (Brazil and Venezuela). These states contained the major portion of the potentially malarious areas of the Hemisphere. Venezuela was spraying 72 per cent of the homes (350,000 of 470,000) in the malarious area, and Brazil 84 per cent (2,300,000 of 2,800,000). Although Peru had not yet engaged in a nation-wide campaign, and only 95,000 of 790,000 malarious homes had been sprayed, there was already an apparent reduction of malaria. Similar successes were seen in other countries where DDT was used and results checked.

The report indicated that the financial resources of anti-malaria campaigns were adequate in a sufficient number of countries to protect by DDT residual spraying 75 per cent of the total homes in the malarious zones of the Americas, leaving only 25 per cent or 4,500,000 yet to be sprayed. The report concluded with the belief that lack of financial support was the only remaining obstacle and estimated that an additional ten million dollars a year, enough for the 25 per cent lacking, could finance a program sufficient to eradicate malaria from the Americas.

In view of the satisfactory progress made, as described in the report, the XIII Pan American Sanitary Conference adopted a resolution recommending that "The Pan American Sanitary Bureau include henceforth in its operating programs the development of such activities as are necessary to provide for greatest intensification and coordination of anti-malaria work in the Hemisphere, stimulating existing programs, facilitating interchange of information and furnishing technical and, whenever possible, economic assistance to the various countries with a view to achieving the eradication of malaria from the Western Hemisphere."

In conformity with the recommendation of the Conference, the Bureau made available the services of consultants who were expert in organizing anti-malaria campaigns. Governments began to systematize control campaigns with a view to the protection of all the population and by 1952, with the cooperation of the Bureau, coordinated inter-country projects were under way in Central America and Panama, the Caribbean area and in a number of South American countries. As the malaria situation from 1950-1953 is described in a separate report submitted by the Bureau's special consultant, no detailed description will be given here. By the end of 1953 cooperative programs were well organized in fourteen countries, in twelve of which UNICEF was providing materials and supplies. Malaria eradication programs have either been completed, are in the final stages or are well advanced in all countries of the Americas, except two, and in these nation-wide campaigns have commenced. As a result, the disease, instead of being the greatest menace in the Continent, has been reduced to a minor health problem.

While taking pride in this notable achievement, nations must avoid complacency and give the extra support required to achieve eradication. Lessened fear of the disease may reduce enthusiasm, condone diversion of funds and delay achievement of the objective. Now is the time to redouble efforts and eliminate the disease lest delay permit development of

anopheline resistance which might prolong the program unduly. This is not a matter only of academic interest but is a very real danger. A. saccharovi resistance to DDT has already been reported from Greece, one of the first countries to use the new insecticide on a nation-wide basis; and more recently among A. sundaicus in Indonesia. No DDT-resistant anopheline has yet been found in the Americas but resistance has developed among other insects; and at least one anopheline, A. albimanus, has, in Panama, manifested a changed behavior after exposure to DDT.

There is another reason, a pressing financial one, for accelerating the continental eradication campaign. Until a nation eliminates malaria, an annual house spraying program must be maintained at considerable cost, and until neighbors are freed of the disease buffer zones must be established. After malaria transmission has been terminated, the disease will disappear in a few years even in the absence of chemotherapy. A considerable annual saving may then be made by substituting for nation-wide house spraying, a less expensive surveillance and emergency spray service. Even these costs will be reduced and may even be eliminated when hemispheric eradication has been achieved.

Ever since Ross incriminated mosquitoes as the vectors of malaria, the scope of attacks upon them has been largely determined by the balance between the urgency for disease control and the availability of funds. Drainage and oil larvicide works were expensive and were used where the need was great and populations dense. Wind-blown dust larvicides lowered costs, permitting the participation of small communities and extending control works even to some agricultural areas. Imagocides, applied as wettable powders, have reduced the cost even further and brought nation-wide malaria control more readily within the reach of countries. As control works expanded, the economic burden imposed by malaria came sharply into view, for a healthier and more vigorous labor force increased industrial and agricultural production which in turn improved the economy of the country. How much malaria control contributed to the notable economic advancement of the last decade is not known but it must have been large.

And yet, the greatest obstacle to malaria eradication continues to be lack of funds. This should not be so, for malaria would have disappeared from the world if the profits from malaria control had been spent on eradication.

Chagas' Disease

The XII Pan American Sanitary Conference (Caracas, 1947) recommended that epidemiological studies of Chagas' disease be made in the countries of this Hemisphere. The Bureau sponsored the First Pan American Meeting on Chagas' Disease which was held in Argentina in July 1949. In 1950 a Bureau consultant on Chagas' disease visited most of the American States to gather information on the extent of the problem, facilities available, control methods in use and organization of research and control work in the various countries.

Chagas' disease, a serious protozoal infection with Trypanosoma (Schizotrypanum) cruzi, is widespread in the rural homes of Latin America. The infection is transmitted by large blood-sucking insects which infest the walls and thatched roofs of the poorer homes. The disease is generally limited to the lowest economic groups.

The importance of the disease is illustrated by the data compiled in 1950. In Argentina the index of rural schoolchild infestation ranged between 15 per cent and 40 per cent. In Venezuela, 33 per cent of the rural population examined had the disease. In Chile, 12 per cent were infected but the disease did not produce the serious cardiac complications observed in Argentina, Uruguay and Brazil.

Chagas' disease can be controlled either by constructing houses without cracks and crevices where insects can harbor, or by direct chemical attack on the vector.

Studies, including large-scale field and laboratory tests, have been carried out in a number of countries. When residual insecticides have been applied to the inside walls of the rural houses varying results have been obtained. DDT was used at first but was found to be of limited value. Gammexane (BHC) was found to be a useful tool if applied frequently, but was not wholly effective. More recently dieldrin has been proven in laboratory studies in Venezuela to be quite effective. When applied at dosages of 0.5 gram or 1.0 gram per square meter, it was effective for 16 months and 24 months respectively. Field studies showed that

both water suspensions and kerosene solutions when sprayed at a rate of 1 gram of dieldrin per square meter were effective over a 7-month period. This indicates that a practical method is available for eliminating the disease by using dieldrin to eradicate the triatomids.

Consequently, the Bureau has encouraged governments to expand their activities in the study and control of the disease, and has collaborated with a number of countries in expanding or inaugurating insect control programs which include those measures known to be effective against triatomids as well as other insect vectors of disease. In rural health programs in which the Bureau collaborates, continued attention is being given to the problems of rural housing and health education as they relate to the control of Chagas' disease.

Tuberculosis

Notwithstanding the notable advances of the last few years in the development and application of antibiotics, tuberculosis is still among the first five causes of death in a number of countries. Its drain on national wealth and manpower — because of its chronicity and debilitating effects — is very considerable, all the more so as it strikes during youth and during the most economically productive years.

UNICEF in the years immediately following World War II assisted many mass BCG programs in Europe and developed a similar interest in the Americas. Consequently much of the anti-tuberculosis work of the Bureau has been in collaboration with UNICEF.

From 1950 to 1952 the Bureau cooperated with the Government of El Salvador in a tuberculosis control program, which included mass case finding, ambulatory treatment, home demonstration by visiting nurses, health education of the public and vaccination with BCG. As local personnel were trained they gradually took over the various operations which were ultimately incorporated into the general public health program of the country.

A similar program for Paraguay was begun in August 1952 and is still continuing. In both countries emphasis was placed on the accurate diagnosis of tuberculosis by bacteriological means and laboratory technicians were trained in the techniques of isolation and identification of the causative organism.

In Ecuador, UNICEF cooperated with the Bureau in providing equipment for the pulmonary physio-pathological laboratory and a pathology department. The Bureau also provided an advisor and technician who assisted in the training of national counterparts. The latter continued to develop the pathology service so necessary in training medical students and physicians. Exact bacteriological diagnosis of the disease was also stressed in Ecuador, and UNICEF also provided equipment for the development of a laboratory for handling large numbers of specimens. A home-nurse visiting service — which already existed in Guayaquil — was expanded with the assistance of Bureau advisors and in general the tuberculosis program was bolstered.

As an integral part of the Ecuador tuberculosis project a training center was established for this purpose. The Government gave a building to house the fellows, provided board and lodging and the necessary facilities for laboratory and clinical teaching. In 1953 the first course of instruction was given and proposals have been submitted for expanding this program so as to include a limited number of international fellows during the forthcoming years — the fellow's transportation to and from Ecuador to be provided by the Bureau and the board and lodging by the Government of Ecuador.

A program started in Jamaica in late 1951 and carried on through 1953. Advisors in X-ray and bacteriology were assigned by the Bureau and UNICEF provided the equipment for the diagnostic laboratory, the mass X-ray machine and supplies for BCG vaccination.

With UNICEF assistance a modified program was commenced in British Honduras late in 1953 and a BCG vaccination campaign is still in progress.

To facilitate the accurate diagnosis of tuberculosis by bacteriological means, in both Trinidad and Peru, UNICEF provided equipment and the Bureau sent in technical advisors who helped to develop the laboratories as well as train local personnel to carry on a large scale bacteriological diagnostic program.

An interesting feature of the training of BCG personnel in the Americas has been the so-called "BCG Observer" training scheme. Fellowships were awarded (utilizing UNICEF funds which had been specifically set aside for the purpose) to nationals of countries about to

start BCG programs wherein these nationals were trained by participating in a mass campaign in another country. Thus, teams (one doctor and two nurses each) from El Salvador, Costa Rica and Jamaica were trained in Ecuador in 1950 and 1951. Later trainees from Paraguay and Trinidad were sent to Jamaica while its program was under way and Trinidad and Jamaica shared in the training of personnel from the Windward Islands, British Guiana and the Leeward Islands.

From March 1952 onwards a statistician was provided by the Bureau to train local personnel in the collection and analysis of the tuberculin testing and BCG vaccination data.

The development of the BCG vaccination programs led to the demand in certain areas for more vaccine production centers. However, just a few production centers are able to supply an entire continent. The WHO Expert Committee on Tuberculosis at its 6th Session recommended that the further "multiplication of BCG vaccine production centers should be discouraged."

During the last two years the need for integrating the BCG vaccination campaigns into the over-all tuberculosis and public health national programs has been stressed by the Bureau. The vaccination of the population against tuberculosis was only one of the many activities in a total disease prevention program. Other aspects of disease prevention — such as those concerned with the control of smallpox, diphtheria, typhoid, etc. also could be developed, utilizing the personnel who would have otherwise worked only with BCG. An effort is being made to stress the polyvalent nature of disease prevention work rather than its limitation to individual campaigns. This attitude was recently stated clearly by WHO's Expert Committee on Tuberculosis which indicated that "in countries where a large scale BCG vaccination campaign was envisaged, its organization should not be left to tuberculosis centers, but it should be coordinated centrally or regionally and made part of the general public health programs. The mass campaign should make use of all appropriate public health facilities and institutions, while the tuberculosis centers should concentrate their efforts in the vaccination of particularly exposed individuals and groups."

Leprosy

The Directing Council at Lima in 1949 recommended that the Bureau study leprosy with the objective of promoting suitable measures for coordinating control activities. In 1950, a consultant was appointed who made surveys in Bolivia, Colombia, Ecuador, Paraguay and Peru. The surveys included a study of the incidence of leprosy, its characteristics, existing control measures, available facilities and both public and private organizations working on the problem. With the assistance of the Leonard Wood Memorial a questionnaire was prepared. This was subsequently used and most useful information gathered.

The WHO Expert Committee on Leprosy met in Rio de Janeiro in 1952 and the report on the meeting, subsequently published by WHO, contains useful recommendations.

In 1953 a request was received from the Government of Paraguay for assistance in expanding the facilities for the control of leprosy. The Bureau made arrangements for the consultant who had surveyed the situation in 1950 to return and to assist in preparing a draft plan of operations for a program which would include domiciliary treatment with the sulphones. In 1953 it was decided that UNICEF would be able to assist in the field of leprosy control. Requests for assistance were received by the Bureau from Surinam and Trinidad and discussions held with other governments in the Caribbean for the development of a regional project.

Treponematoses

The different diseases grouped under the name treponematoses are important in various parts of the Americas. The most important three in the group are syphilis, yaws and pinta. Fortunately there is a powerful public health weapon at hand in penicillin, which is an effective prophylactic as well as a therapeutic agent.

Since the success of syphilis control is closely related to the accuracy of diagnosis, the Bureau has been encouraging the standardization of laboratory methods and the training

Team Prepared for Rural Visit in Yaws Eradication Campaign in Haiti.

of technicians. Because of its eradication objective, the yaws program in Haiti has been of special interest.

Haiti. — With the assistance of the Bureau and UNICEF, the program for the eradication of yaws was launched in July 1950. Through treatment of all cases and contacts with penicillin (penicillin G in procaine and aluminum monostearate (PAM)), it was planned not only to eradicate yaws but also to control syphilis in rural areas. At the beginning, field operations were based on mobile treatment centers but it was soon found that an inadequate proportion of the population was being reached and the house-to-house method of treatment was adopted. In the villages and rural areas of Haiti almost everyone was treated, adult cases getting 600,000 units of PAM, while contacts and children received 300,000 units. A research clinic was established at Bainet to evaluate this method of treatment. The above dosage is sufficient to make infective cases non-infectious, thus breaking the chain of transmission.

A serological laboratory was established in Port-au-Prince to serve as the serodiagnostic and training center for the campaign. By the end of December 1953, PAM had been given to 2,613,000 out of Haiti's population of 3,112,000 (84 per cent). At the same time, surveys were initiated to determine whether any cases remained which had been missed or whether the cases treated had received adequate medication. The Haiti project has definitely established the possibility of completely eradicating yaws from a heavily infected population, even though the techniques of the final stages of the campaign have yet to be determined.

Guatemala. — In 1946 a laboratory for the study of the serological aspects of venereal diseases in Central America and Panama was established in Guatemala City by the Government, with the cooperation of the Bureau, the USPHS and the National Institutes of Health. In 1948, the Government and the Bureau agreed to furnish additional equipment, supplies and technical personnel for the laboratory in order to expand its services and to make it a center for the training of serologists in venereal disease control. The laboratory also assists in the distribution of standardized antigens to other serological laboratories so as to improve the quality and accuracy of their work. Technicians from nearby countries have attended several training courses in the laboratory. A short-term consultant has assisted the participating countries in surveying their serological laboratory techniques and in appraising the results of the above courses. Encouraging reports on the efficiency of these laboratories have been received.

Mexico - U. S. Border. — During 1948 and 1949 the incidence of venereal disease reached a peak along the Mexico - U. S. Border area of Tijuana-San Diego. This area was chosen in 1949 as the site of the first pilot project for prophylaxis against syphilis and gonorrhea by the administration of penicillin to the population groups most likely to spread venereal infections. The Bureau assisted with the services of a consultant in VD control, and provided health education material and penicillin. The local personnel, the physical facilities and equipment were provided by the Government.

Little information was available as to the prophylactic value of penicillin prior to 1949. However, practical results of the program demonstrated the effectiveness of this control method by which 300,000 units of PAM were administered every 7 days to those persons who might be reservoirs of the infection.

Results were evaluated by repeated clinical and serological examinations of the treated persons and by the study of the syphilis and gonorrhea morbidity rate shown by controlled military personnel. A satisfactory result has been obtained with a reduction of 60% in the incidence of VD in the study groups.

Another interesting development has been the joint sponsorship by the USPHS and the Bureau of a program for training Mexican VD lay investigators particularly in contact follow-up techniques. Two lay investigators were awarded fellowships to attend a two-week training course in Atlanta, Georgia, sponsored by the USPHS.

Paraguay. — The Bureau is assisting the Government of Paraguay in planning and developing a venereal disease control program in the Asunción - Villarrica area, with the provision of staff supplies and equipment. The work is now extending into the rural areas and progress has been made with the standardization of techniques and the training of personnel.

Ecuador. — In 1950 a small-scale demonstration program for syphilis control was initiated in the city of Portoviejo, Ecuador. Every person between 15 and 50 years of age, whether infected with syphilis or not, was to be given two injections of 1,200,000 units of

PAM at five-day intervals, and a serological test was made at the time of the first injection. The objective was to eliminate the disease from the area. During the campaign over 6,000 persons were treated.

Later, the program was extended to the nearby area of Manta, in order to protect the results achieved in Portoviejo, and 7,300 people were given the antibiotic. The procedure was simplified by giving the treatment as a single dose of 2,400,000 units of PAM. In 1953, a similar campaign was initiated in Bahía with the same objective.

Dominican Republic. — In 1953 an agreement was signed between the Bureau and the Government for the purpose of carrying out a program for the control of the treponematoses. It was agreed that the Bureau would provide the services of a consultant and the Government all local personnel and materials. Field programs have been planned and personnel trained.

Venezuela. — Since 1950 the Bureau has been cooperating with the Government in a program for the standardization of serological methods in Venezuelan laboratories and for the training of physicians and laboratory technicians both of Venezuela and other countries.

The Bureau provided a consultant and laboratory supplies and equipment. The Government gave financial assistance for the training of five fellows sent by the Bureau from the Dominican Republic, Ecuador and Paraguay. From January 1950 up to December 1953 training had been given to approximately 160 laboratory technicians, 45 public health officers and hospital doctors, 8 venereologists, 63 doctors from rural areas and 30 student technicians. A number of studies were made in serological techniques, the preparation of serological reagents and related subjects.

Brazil. — At the end of 1951, the Bureau assisted the University of São Paulo in the establishment of a laboratory, the main functions of which would be to standardize techniques for the diagnosis for syphilis, to train personnel in these techniques, to assist VD prevention programs by laboratory methods, to study the incidence and prevalence of VD in São Paulo and to promote the dissemination of information on the most recent developments in VD laboratory techniques. For these purposes the Bureau contributed a consultant and several fellowships, as well as supplies and equipment for the laboratory. Two courses in serological diagnosis were held in 1953 with participants coming from various Brazilian states. At the end of the year, a total of 20 laboratory technicians had been trained and it is planned to train an additional 30 technicians during 1954.

United States. — The Bureau is assisting by means of a grant to the Department of Health of the State of New York, an effort to simplify and evaluate the Treponema pallidum Immobilization Test for the diagnosis of syphilis. The Bureau grant covers the salaries of a serologist and a technician for one year and also provides certain supplies. The test is based on the immobilization of virulent Treponema pallidum by syphilitic blood in the presence of complement and shows evidence of possessing a high specificity. If, as it seems, it should be more specific than the standard serological tests, it will be of great value in differentiating between true and false positives.

Salmonelloses

Enteric diseases are widespread and of frequent occurrence throughout the populations of many of the countries of this region. They are recognized by all health services and various degrees of attention are directed to preventive measures.

The Bureau, through its Zone Offices and project personnel, has attempted to stimulate the adoption of modern control procedures, and has provided technical advice. Although no single project has been devoted to this subject, many improvements have been effected through the assistance given in other projects such as environmental sanitation, insect control, maternal and child health clinics, food control services and assistance to laboratories for vaccine production and diagnosis.

Brucellosis

Brucellosis is a debilitating and often chronic disease in man and, as a major cause of loss of livestock, is a serious economic problem. Many countries have recently given the

disease increased attention and as a consequence, the Bureau has awarded a number of fellowships, cooperated in research, education, and the establishment of effective control programs.

The blood serum agglutination reaction is a relatively simple test used for the diagnosis both in man and animals. Although the agglutination test was widely used, the antigens and techniques for this test had not been standardized on an international basis. This led to much controversy and misinterpretation. Recognizing this undesirable situation, the XII Conference (Caracas, 1947) recommended that "the methods and means of brucellosis diagnosis be made uniform throughout the American Republics." The Second Inter-American Congress on Brucellosis (Buenos Aires, 1948) also emphasized the need for standardization of diagnostic methods for human and animal brucellosis and recommended the employment of the agglutination reaction with a standard antigen.

As a result, the Bureau, in cooperation with the University of Minnesota, inaugurated studies of 36 diagnostic antigens obtained from 25 laboratories in 15 different countries. The studies revealed many differences in the degree of sensitivity. In addition, discrepancies were discovered in the techniques of testing procedures. In conformity with the recommendation of the Third International Congress on Brucellosis, the Bureau arranged for the periodic distribution to national laboratories of selected serum samples, including standard dried serum for purposes of checking laboratory tests.

The Third Inter-American Congress on Brucellosis, Washington, November 1950, was sponsored by the Bureau, which later published the papers in book form. Immediately following this Congress, the Bureau facilitated a meeting of the Joint FAO/WHO Expert Panel on Brucellosis. Its report was published in 1951 and was distributed by the Bureau to the countries of the Americas. The Bureau has sent technical information on brucellosis to appropriate officials throughout the Hemisphere, and has published scientific articles in the "Bulletin."

The Bureau planned a series of training seminars to cover all aspects of control, including diagnosis and vaccine production. The first seminar dealt with diagnosis and placed particular emphasis on antigen production and standardization. It was held at Santiago in December 1952, and was attended by fellows from the countries of South America. The next was scheduled for March 1954, at Mexico City, for the countries of Central America, the Caribbean area, Panama and Mexico. For the conduct of these training seminars the Bureau obtained the services of outstanding authorities. In selecting fellows from the countries, equal attention was given to the Health and Agriculture Ministries.

In addition, the Bureau has cooperated in the program of the WHO Headquarters for the establishment of brucellosis centers in various parts of the world, where study of this disease and improvements in diagnostic techniques and treatment regimens are carried out. So far, centers have been established in Argentina, Mexico, and the United States.

Diphtheria and Whooping Cough

One of the more important public health objectives in the Americas is the reduction of mortality among children. Elimination of diphtheria and whooping cough would contribute significantly to this end.

Although diphtheria is not a serious problem in the tropics it is of concern in the temperate zones. From reports of cases and deaths whooping cough in the Americas appears to be a very common disease in infancy and childhood and causes many deaths among children under one year of age. Because vaccines against both of these diseases can conveniently be produced in the same laboratory and injected simultaneously, it is customary to combine them.

Experience has shown that systematic mass immunization of children against these two diseases reduces the morbidity rate to very low levels. Accordingly, the Bureau has encouraged the development of laboratories for the production of vaccines against both diseases and the organization of mass vaccination campaigns among children.

With the assistance of Bureau consultants and UNICEF supplies and equipment, vaccine laboratories have been established and diphtheria and pertussis vaccines are being produced in ample quantities and are available for use in the general public health programs

in Colombia, Chile, Brazil and Peru. A mass vaccination campaign has been completed in Chile and Colombia, is well advanced in Brazil and has commenced in Peru. Services for testing the diphtheria-pertussis vaccine produced by the laboratories in all of these countries are being provided by the Bureau through a continuing grant to the Michigan State Public Health Laboratory.

Influenza

Influenza is a world-wide problem, usually occurring in epidemics, the economic losses from which, although very difficult to measure, are known to be great. Furthermore, this disease, or its main complication, pneumonia, kills a considerable number of people every year.

The WHO has planned a world-wide influenza program, the objectives of which include the centralization of current information on its prevalence and distribution, to determine the strain of virus involved in each outbreak, and to devise control methods for limiting its spread and severity.

It is hoped in this way to avoid a disaster such as that created by the explosive waves of the pandemic which commenced in 1918. The virus was virulent and influenza killed not only the old and weak but also the young and vigorous (50 per cent of deaths being in the 20-40 years age group). The attack rate was high, 200-400 per 1,000, and the death rate soared to unprecedented heights. Over 15,000,000 people lost their lives, industry was brought nearly to a standstill in certain places and many municipal governments were disrupted.

In order to carry out its program the WHO established a network of laboratories around the world, through designation of national laboratories as WHO Influenza Centers. The Bureau, as the Regional Office for the Americas, was made responsible for developing the network in the Western Hemisphere. Seventeen laboratories distributed in the various countries of the Region have been designated as Influenza Centers. There is also one special Strain Study Center located in New York which serves as Reference Laboratory for the whole Region. The Bureau collects and distributes technical information and provides diagnostic antigens and antisera to the Centers.

The functions of these Centers are:

1) To collect epidemiological information and report the occurrence of epidemics in the respective countries to the Bureau, to WHO Headquarters in Geneva, and to the Reference Laboratory.

2) To isolate and type the virus present in an epidemic, and if this is not possible, identify the type of virus causing the epidemic by serological tests in the population.

This network of laboratories has begun to function and several strains of virus isolated by the different Centers have been forwarded to the Reference Laboratory. Plans have been made for the expansion of the program in Latin America and to enlist the cooperation of laboratories located there.

The Bureau has received full cooperation from the US Advisory Committee of the WHO Influenza Study Center Program in an effort to establish a properly functioning influenza program for the Americas.

Poliomyelitis

In recent years an increase in the incidence of the paralytic form of poliomyelitis has been observed in several countries of the Americas. At the end of 1949 and the beginning of 1950 an epidemic outbreak occurred in the Province of Santiago, in Chile. A total of 373 cases and 39 deaths was reported. The Chilean authorities requested the Bureau's assistance in improving treatment methods.

A team consisting of a medical officer who had specialized in poliomyelitis, a physiotherapist and a nurse was provided. The work of the team was of material assistance to the country and stimulated the interest of the Government and the medical profession in a program for the rehabilitation of crippled children.

In November 1951 the Government of Honduras requested technical assistance from the Bureau in the fight against an outbreak of poliomyelitis and the Bureau sent a team similar to the one which had worked in Chile and with equally good results.

The Bureau also provided the services of consultants to assist in the rehabilitation programs in Mexico and Peru.

In September 1953 the WHO Expert Committee on Poliomyelitis met in Rome and made among its recommendations the following:

> "That laboratories chosen from among the research laboratories of scientific institutes experienced in the necessary techniques, should be designated as Regional Laboratories for the purpose of examining limited number of specimens from countries where there are as yet no facilities. The principal task of the Regional Laboratories would be the identification, typing and further study of poliomyelitis virus and of unidentified virus isolated from stools in all parts of the world. In addition, the preparation, storage, and distribution of strains of poliomyelitis virus, as well as type specific antisera for diagnostic and typing purpose, should be undertaken to assist other laboratories working in this field."

The responsibility for carrying out this program in the Americas has been given to the Bureau and measures are under way to designate the reference laboratories.

Rabies

Rabies, a disease of warm-blooded animals, has existed in the Americas for over two centuries. It is important because of its high human case fatality rate and because its continuance in animals constitutes an ever-present danger to man. Although reporting is incomplete, over two hundred cases a year are now notified in the Americas. In addition, wherever the disease is enzootic in vampire bats, heavy economic losses occur due to death of cattle and horses attacked by rabid vampires.

The Bureau has given service in this field to governments through provision of technical consultation on rabies problems; assistance in planning control campaigns; advice on techniques of preparing and provision for testing nationally-produced vaccine; and the award of fellowships whereby officials received special training. The Bureau has also cooperated with the WHO Expert Committee on Rabies, and on the preparation of a Rabies Manual.

In 1950 rabies reappeared in Puerto Rico, infecting mongooses as well as dogs, and the Bureau sent a staff member to assist in developing a control program. As a result of the interest aroused by the Puerto Rico outbreak, the Caribbean Rabies Conference was held in Kingston, Jamaica (August 1950), under the sponsorship of the Bureau. Measures were recommended for the eradication of rabies from infected islands and prevention of its spread to other islands.

A serious situation developed in the US-Mexico Border area and on Mexican cattle ranches due to the high incidence of rabies in dogs and wild life, particularly vampire bats. Attacks by rabid animals, or those suspected of being rabid, necessitated a large number of anti-rabies treatments in humans. Livestock losses became so high in certain areas as to make farming impractical. In the subsequent control programs the Bureau cooperated by providing certain equipment and materials and the full-time services of an expert. He assisted in: the development of dog control and vaccination programs; the establishment of avianized rabies vaccine production; the direction of training courses in laboratory diagnosis; the demonstration of wild life destruction methods; and the organization of cattle vaccination campaigns. He also acted as coordinator of the control programs on both sides of the US-Mexico Border. During this time an ample supply of safe and reliable vaccine was produced and given to over 700,000 head of cattle and 50,000 dogs. In addition, studies were made of the ecology of vampire and other bats, their role in the rabies problem and methods for their destruction. Many other countries benefited from this project through fellowships for their national officials who were sent for field training in the rabies campaign.

This consultant was later assigned by the Bureau to Trinidad, Cuba, and the United States. In the latter country a survey was made of bats migrating through the Big Bend area of the Rio Grande, and specimens were collected for laboratory analysis to determine the incidence of rabies in bats travelling north. Provision has been made for the employment of

Vaccinating Dogs, El Paso, Texas, during Anti-Rabies Campaign along the Mexico-United States Border.

a full-time mammologist to study in greater detail the life history of vampire bats and to devise methods for the control or eradication of rabies in these animals.

Foot-and-Mouth Disease

Foot-and-mouth disease (aftosa) is very prevalent in most of the countries of South America and causes serious economic losses. Rarely infecting man, it is of public health importance because of its effect in reducing the production of dairy products and meat.

In those countries where aftosa is enzootic, aggressive steps have been taken by governments towards its control and eventual eradication, requiring on the one hand intensive efforts to eradicate the disease from highly-infected herds, on the other the establishment of zones of protection between infected territories and recently-cleared areas. However, the process is slow and expensive. These programs depend largely upon vaccination which, to be fully effective in some countries, must protect against three different strains of virus. This complicates the problem because the percentage of animals fully protected falls as the number of strain-vaccines is increased. In addition, animals must be vaccinated three times each year. In spite of these difficulties, the campaigns are having some effect, and only one fresh epizootic occurred during 1953. This was in the State of Veracruz, Mexico, and was brought under control by the United States-Mexico Commission.

In 1950 the Organization of American States, realizing the absence of veterinary services in any other inter-American agency, requested the Bureau to prepare and sponsor a technical assistance program for control of aftosa. In collaboration with the Inter-American Institute of Agricultural Sciences, the Bureau prepared a program for a Pan American Aftosa Center to be operated with Technical Assistance funds. The Director presented the OAS request and the plans for a control program to the XIII Pan American Sanitary Conference which, by resolution, authorized the Bureau's participation in the organization of such a Center until such time as some other Specialized Agency of the OAS is prepared to take full charge, on the condition that financing of the Center would be with funds other than those of the Bureau.

In cooperation with Brazil, the Center was developed near Rio de Janeiro. The Brazilian Government provided land and buildings, maintenance services, utilities and local labor. With Technical Assistance funds from the Organization of American States, the Bureau provided technical personnel to staff the Center and supply consultative services to governments. By the end of 1952 the buildings were sufficiently complete for nearly full operation, staff had been recruited, and research and other activities were under way. During 1953 two training courses were held at the Center, attended by 16 fellows from 11 countries. In addition, officials from a number of countries have visited the Center from time to time for special training in certain specific aspects of the work.

From the start the Center has been engaged in studies of the basic nature of the disease and related viruses. Special studies were undertaken to improve diagnostic techniques and the laboratory has examined many specimens from a number of countries, clarifying difficult diagnoses. The most urgent need was development of more effective and less expensive vaccines than those in use. Experimentation has developed methods which successfully adapted the viruses first for growth in baby mice and later in adult mice and then baby rabbits. This has greatly reduced the cost of experimentation and it is hoped to lower it still more by adapting the viruses for growth in chicken egg-embryos.

An interesting line of research has been opened through development of a technique which separates from the virus suspension parts concerned respectively with virulence and complement fixing antigenic properties.

Members of the technical staff have made field visits to all the countries to advise on techniques for the prevention and control of foot-and-mouth disease. These visits have been either general in nature or for the specific purpose of analyzing a particular problem affecting the countries' control program. They also assisted in educational campaigns for which the Center prepared a pamphlet dealing with the dangers of the disease and the importance of its prevention, "The Magnificent Bull." It has also developed a Spanish-language sound color film dealing with an outbreak, "Brote," and has prepared a training manual and guide

Preparing to Apply Molluscocide to Streams Harboring the Snail Intermediate Host (Tropicorbis centimetralis) of Schistosoma mansoni, Pernambuco, Brazil.

dealing with various aspects of aftosa control. In addition, staff members have submitted a number of technical papers to scientific journals.

Schistosomiasis

Schistosomiasis (bilharziasis) is a parasitic disease of wide distribution in Africa, and Asia, and is present in a number of the countries of the Western Hemisphere, particularly in the Caribbean area and Brazil. In parts of central and northeastern Brazil, as much as 90% of the rural population has been found infested. The public health importance of schistosomiasis has often been underestimated as it is not an acute fulminating infection, but is usually seen as a chronic disease affecting rural people and those who come in contact with streams and ground water where the intermediate molluscan host exists. The chronicity of the disease and the deaths which are eventually caused by cumulative damage constitute an important local socio-economic problem.

In 1951 Brazil inaugurated a cooperative project with the Bureau and with the National Institutes of Health of the USPHS, to test molluscocides and to conduct a study of the snails which are the intermediate hosts of Schistosoma mansoni (the species found in America). At least two species of snails and possibly a third are known to be incriminated.

Scientists from Brazil and the National Institutes of Health have made ecological studies of snails and have tested their ability to resist desiccation during the long, hot, dry spells. The infection in the snail dies out quickly, but the snails resist desiccation for months, and rapidly repopulate the waters when the rains come. Sick people soon reinfect the snail and the vicious cycle resumes.

Three pilot projects were set up in Brazil so that field tests could be made on various snail species in different types of terrain under varying climatic conditions. During previous work in Texas and Puerto Rico over 1,000 possible molluscocides had been screened. Since the present studies began 300 more were given laboratory tests. Only a few showed promise and these were tested in the field. Of them all, sodium pentachlorophenate seems the most useful and relatively large field trials of pond and stream treatment have proven its practical value.

The dry season would appear to be the best time to attack the snail, but tests proved the futility of attempting their eradication when the water was low and difficult to reach because of the dense vegetation covering the flats left dry by receding waters. Although more expensive, treatments must be applied during the rainy season when the snails can be more easily reached. At least three applications must be made each year.

In spite of the lack of completely satisfactory treatment for the disease, programs for schistosomiasis control were successful in the pilot project areas. Campaigns were promoted for sanitary excreta disposal and snails were destroyed at laundry sites by adding sodium pentachlorophenate to the water. These projects have convinced the authorities that control measures are practical and the National Malaria Service of Brazil has been directed to plan and inaugurate a national eradication campaign.

Intensive research will continue on the ecology of snails; in testing new molluscocides; and the possible utilization of chemotherapy. As it is already known that certain Brazilian semi-aquatic rodents are hosts, further animal reservoirs will be sought.

Onchocerciasis

In Guatemala between 1946 and 1953 the Bureau, in collaboration with the National Institutes of Health (USPHS) and the Guatemalan Ministry of Health carried on a cooperative onchocerciasis research-demonstration program. The international technicians were from the staff of the National Institutes of Health. The investigations included therapeutic, entomological and parasitological studies. The results of these studies and the new data collected will assist the Guatemalan Government in its national onchocerciasis control program.

In the therapeutic phase of this work a number of drugs were tested, including hetrazan and suramin. Although no specific was discovered, suramin was found to benefit 85% of

those treated with it. In the vector phase, the ecology, classification and biology of many flies were studied, together with the use of insecticides, larvicides, and other means for their control. In addition to the three known Simuliidae, three new species were incriminated as intermediate hosts. Control of the vectors through the use of larvicides or insecticides was not always found practical because of the difficult terrain where foci of this genus existed. The role of horses and cattle in the problem of onchocerciasis was also studied. New data were collected and a number of scientific articles were contributed to the technical literature.

In addition to the benefits resulting from the various studies, this project was used as a training center for technical personnel not only from Guatemala, but also from Venezuela and Mexico.

The Bureau assisted in arranging the meeting of the Expert Committee on Onchocerciasis held in Mexico in 1953 and for its use compiled the First Supplement to the "Bibliography on Onchocerciasis." This brought the references up to June 1953. In addition, a Bureau grant was made for the publication by the Smithsonian Institute of a monograph entitled "The Blackflies (Simuliidae) in Relation to the Transmission of Onchocerciasis in Guatemala."*

Hydatidosis

Hydatidosis is a parasitic disease which is an important problem in Argentina, Chile, Uruguay and the southern part of Brazil, and recent discoveries have revealed its existence in Alaska and in the subtropical regions of Peru. The helminth is found as an adult tapeworm in dogs, and as either large or multiple intermediate cysts in herbivorous animals and man. Hydatidosis in man is especially serious when multiple cysts occur or the cysts develop in vital organs. Even where life is saved by surgery the individual often remains incapacitated.

For years the Bureau has cooperated with the countries in their hydatidosis problems by providing technical information and educational material, and in assisting at technical meetings and congresses on hydatidosis. A booklet, "Cachito en Peligro," by Professor Velarde Pérez Fontana, describing the dangers and outlining methods for control of hydatidosis served as the source material for the preparation of an illustrated comic book which was published in both Spanish and English by the Bureau for mass distribution. A colored film strip, also useful in educational programs, was produced and copies were made available to authorities.

More direct assistance has been provided through an inter-country project in which the Bureau provides equipment, material, research grants, and the services of the Zone veterinary public health consultant who supplies leadership and advice to the countries in the coordination of their programs. A field demonstration unit has been equipped for the treatment of dogs and the education of their owners. Research grants have been made to two national public health institutions, one for the development of new and better taeniacides to rid dogs of tapeworms and the other for study of hydatidosis in wild animals. Consultation is provided also regarding the improvement of slaughtering methods, particularly the safe disposal of offal, which is one of the most important measures in the control and eradication of this disease.

Hydatidosis presents a special problem in Alaska. Found in wild animals throughout the greater part of the country, it is now well established in dogs which are essential for local transportation. In 1952, a Bureau expert visited the territory to advise on control methods. Particular attention was given to the situation on St. Lawrence Island where the infecting worm is a new species of Echinococcus which, in contradistinction to mainland species, is found in a rodent (tundra vole) as one of its intermediate hosts and can infect muskrats and other rodents. The Bureau's expert urged that the hydatidosis control program on the Island be expanded and developed into an eradication campaign.

*In press, August 1954.

Hookworm

The incidence of hookworm, which is so prevalent in the rural areas of a number of countries in this Hemisphere, can be reduced materially by the general use of sanitary pit latrines, or water flush toilets, and public education on the dangers of promiscuous defecation on the surface of the ground. Several countries, with the collaboration of the Bureau, have initiated programs to bring about wider adoption of sanitary methods of excreta disposal but only a few were inaugurated as specific projects for hookworm control or simply for rural sanitation. These projects have now become parts of integrated rural health programs and the more recent ones were so incorporated from their inception, even though the main objective was the solution of the problem of insanitary excreta disposal.

The program in Paraguay is typical. Surveys had revealed a hookworm incidence of 65% in Asuncion and 80% in nearby rural areas. Beginning in September 1953 a mass medication program was inaugurated and by the end of the year approximately 20,000 persons (32% of the population in the program areas) had been treated. The initial program was planned solely for sanitary excreta disposal but was later expanded to include smallpox vaccination and in 1953 its integration into a general health program commenced.

A cooperative anti-hookworm project in Nicaragua was set up as rural sanitation, but in El Salvador, Panama and Peru measures for hookworm control were an integral part of general rural health programs from their inception. By the end of 1953 preliminary discussions were under way and plans were being prepared for four other specific projects in which hookworm control is a prime objective. In addition, sanitary excreta disposal was given a prominent place in health education programs.

X APPENDICES

APPENDIX I

ATTENDANCE AT MEETINGS OF THE DIRECTING COUNCIL REGIONAL COMMITTEE OF THE WHO

MEMBER COUNTRIES	MEETINGS						
	I BUENOS AIRES 24 SEPT – 2 OCT 1947	II MEXICO, DF 8-12 OCT 1948	III LIMA, PERU 6-13 OCT 1949	IV C TRUJILLO 25-30 SEPT 1950	V WASHINGTON, DC 24 SEPT – 3 OCT 1951	VI HAVANA, CUBA 15-24 SEPT 1952	VII WASHINGTON, DC 9-19 OCT 1953
ARGENTINA	■	■	■	■	■		■
BOLIVIA	■	■	■		■		
BRAZIL	■	■	■	■	■	■	■
CHILE	■		■	■	■	■	■
COLOMBIA	■	■	■		■	■	
COSTA RICA	■	■	■	■	■	■	
CUBA	■	■		■	■	■	
DOMINICAN REPUBLIC	■	■	■	■	■	■	■
ECUADOR		■	■	■	■	■	■
EL SALVADOR	■	■	■	■	■	■	
FRANCE		■	■	■	■	■	■
GUATEMALA	■	■		■	■	■	■
HAITI	■		■	■	■	■	■
HONDURAS	■	■		■	■		
MEXICO	■	■	■	■	■	■	■
NETHERLANDS		■	■	■	■	■	■
NICARAGUA		■			■	■	■
PANAMA	■	■	■	■	■	■	■
PARAGUAY	■	■	■	■	■	■	■
PERU	■	■	■	■	■	■	
UNITED KINGDOM		■	■	■	■	■	■
UNITED STATES OF AMERICA	■	■	■	■	■	■	■
URUGUAY	■	■		■	■	■	■
VENEZUELA	■	■	■	■	■	■	■

■ ATTENDING □ ABSENT

ATTENDANCE AT MEETINGS OF THE DIRECTING COUNCIL REGIONAL COMMITTEE OF THE WHO

OBSERVERS	MEETINGS						
	I BUENOS AIRES 24 SEPT – 2 OCT 1947	II MEXICO,DF 8-12 OCT 1948	III LIMA, PERU 6-13 OCT 1949	IV C TRUJILLO 25-30 SEPT 1950	V WASHINGTON,DC 24 SEPT – 3 OCT 1951	VI HAVANA,CUBA 15-24 SEPT 1952	VII WASHINGTON,DC 9-19 OCT 1953
CANADA							
INTERGOVERNMENTAL ORGANIZATIONS							
WORLD HEALTH ORGANIZATION							
ORGANIZATION OF AMERICAN STATES							
ECONOMIC COMM. FOR LATIN AMERICA							
UNICEF							
UNITED NATIONS							
UNESCO							
INTERNATIONAL LABOR ORGANIZATION							
FOOD AND AGRICULTURE ORGANIZATION							
NONGOVERNMENTAL ORGANIZATIONS							
AMERICAN COLLEGE OF CHEST PHYSICIANS							
BIOMETRIC SOCIETY							
INTERNATIONAL COUNCIL OF NURSES							
INTERNATIONAL UNION AGAINST CANCER							
INTERNATIONAL UNION AGAINST TUBERCULOSIS							
INTERNATIONAL UNION AGAINST VENEREAL DISEASES							
LEAGUE OF RED CROSS SOCIETIES							
PAN AMERICAN MEDICAL CONFEDERATION							
WORLD FEDERATION OF MENTAL HEALTH							
WORLD FEDERATION OF UNITED NATIONS ASSOCIATIONS							
WORLD MEDICAL ASSOCIATION							
INTERNATIONAL PEDIATRIC ASSOCIATION							
INTERNATIONAL SOCIETY FOR THE WELFARE OF CRIPPLES							
INTERNATIONAL DENTAL FEDERATION							
INTERNATIONAL HOSPITAL FEDERATION							

ATTENDING ▒ ABSENT □

APPENDIX III

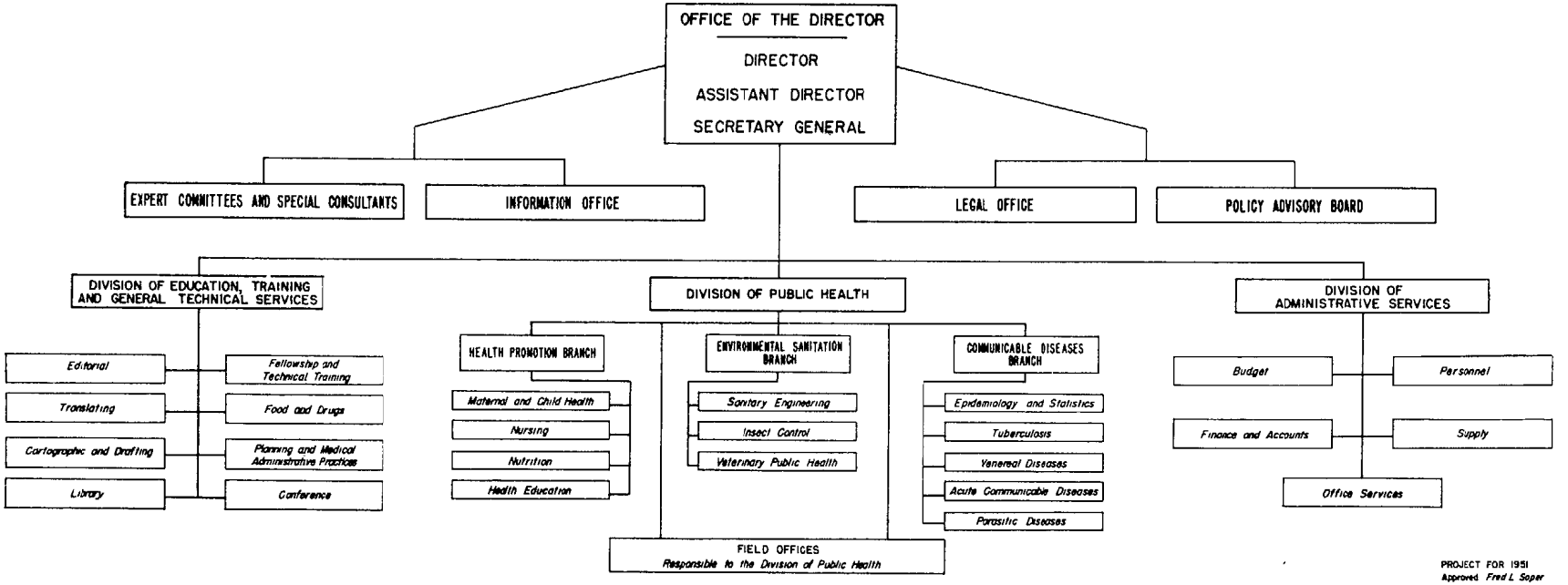
MEMBERSHIP OF THE EXECUTIVE COMMITTEE

COUNTRY	TERMS							
	FROM JANUARY 1947 TO OCTOBER 1947	FROM OCTOBER 1947 TO OCTOBER 1948	FROM OCTOBER 1948 TO OCTOBER 1949	FROM OCTOBER 1949 TO SEPTEMBER 1950	FROM SEPTEMBER 1950 TO OCTOBER 1951	FROM OCTOBER 1951 TO SEPTEMBER 1952	FROM SEPTEMBER 1952 TO OCTOBER 1953	FROM OCTOBER 1953 TO OCTOBER 1954
ARGENTINA	■		■	■	■			■
BOLIVIA								
BRAZIL	■	■	■				■	■
CHILE	■				■	■	■	
COLOMBIA								
COSTA RICA	■	■	■					
CUBA	■	■						
DOM. REP.					■	■	■	
ECUADOR						■	■	■
EL SALVADOR				■	■	■		
GUATEMALA			■	■	■			
HAITI							■	■
HONDURAS								
MEXICO	■	■	■			■	■	■
NICARAGUA								
PANAMA							■	■
PARAGUAY								
PERU				■	■	■		
UNITED STATES	■	■		■	■	■		■
URUGUAY		■	■	■				
VENEZUELA		■	■	■				

ORGANIZATION CHART - 1950

PAN AMERICAN SANITARY BUREAU

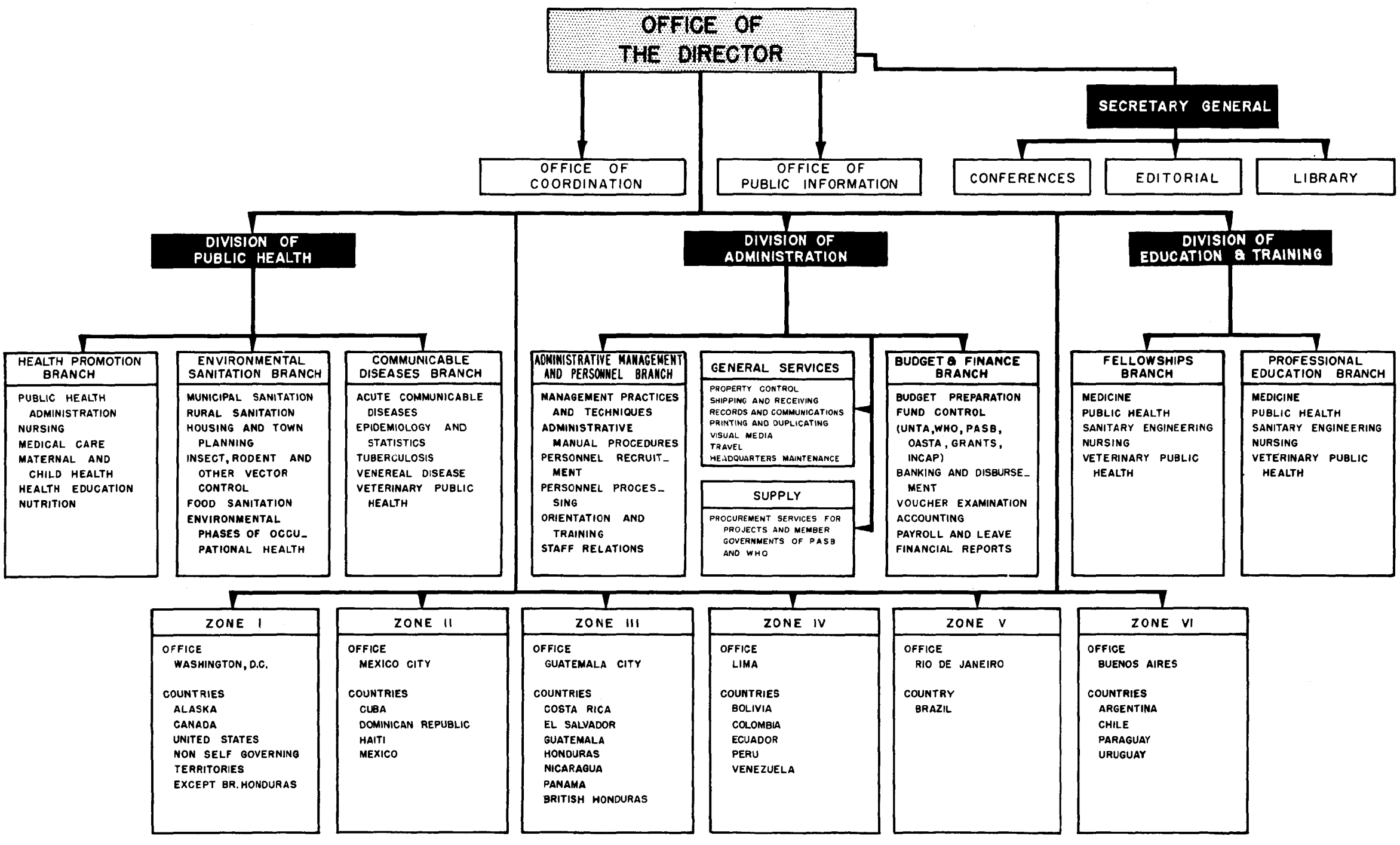
REGIONAL OFFICE OF THE WORLD HEALTH ORGANIZATION



PROJECT FOR 1951
Approved Fred L. Soper
19 April, 1950

APPENDIX V

PAN AMERICAN SANITARY BUREAU
REGIONAL OFFICE OF THE
WORLD HEALTH ORGANIZATION
ORGANIZATION CHART
1953



APPENDIX VI

Special Publications - 1950-53

1950

Serial No.	Technical Publications
242	Bibliografía de Oncocercosis
248	El Control de las Enfermedades Transmisibles en el Hombre
	Official Documents
243	VI Conferencia de Directores Nacionales de Sanidad
244	Documentos Básicos de la Organización Sanitaria Panamericana
245	Basic Documents of the Pan American Sanitary Organization
246	Informe Final de las Reuniones I, II y III del Consejo Directivo de la Organización Sanitaria Panamericana
247	Final Reports of the I, II and III Meetings of the Directing Council of the Pan American Sanitary Organization

1951

	Technical Publications
250	Diagnóstico y Tratamiento de la Sífilis
258	Pruebas Serológicas para Exámenes en Masa
259	Informe del Comité de Expertos en Enfermería (WHO-TRS No. 24)
	Official Documents
254	Informe Final de la Cuarta Reunión del Consejo Directivo
255	Final Act of the IV Meeting of the Directing Council
256	Acta Final de la XIII Conferencia Sanitaria Panamericana
257	Final Act of the XIII Pan American Sanitary Conference
	Miscellaneous Publications
252	Cahier d'Hygiène Pratique et Elémentaire pour les Ecoles Primaires de Marbial
253	Cahier d'Hygiène Pratique et Elémentaire pour les Centres d'Education d'Adultes
1	VIII Curso Internacional de Malaria y Otras Enfermedades Metaxénicas

1952

	Technical Publications
248	El Control de las Enfermedades Transmisibles en el Hombre (Sda. Edic.)
249	Manual de Reacciones Serológicas para el Diagnóstico de la Sífilis
251	Profilaxia das Doenças Transmissíveis
260	Nuevos Métodos de Protección contra la Tuberculosis
262	La Educación Básica de la Enfermera Profesional
263	Informe del Comité de Peritos en Saneamiento Ambiental (WHO-TRS No. 10)
265	Informe del Comité de Expertos en Servicios de Higiene Escolar (WHO-TRS No. 30)
266	Informe del Comité de Expertos en Educación Profesional y Técnica del Personal Médico y Auxiliar (WHO-TRS No. 22)
267	Informe del Comité de Expertos en Higiene Mental (WHO-TRS No. 31)
268	Conferencias del Tercer Instituto Internacional de Administración y Organización de Hospitales
-	Third Inter-American Congress on Brucellosis*

*Not included in serial numbers of PASB.

1952 (cont'd)

Serial No.	
	Official Documents
261	XIII Conferencia Sanitaria Panamericana, Tomo I - Actas; Tomo II - Anexos
269	Informe Final de la V Reunión del Consejo Directivo
270	Final Report of the V Meeting of the Directing Council
	Miscellaneous Publications
264	El Primer Congreso de Enfermeras en Costa Rica y Segundo Congreso de Enfermeras en Perú
271	Seminarios de Trabajos en Enfermería
-	--- Segunda Edición
2	IX Curso Internacional de Malaria y Otras Enfermedades Metaxénicas
-	Cartel de Reacciones de la Vacunación contra la Viruela*

1953

	Technical Publications
1	Informe del Comité de Expertos en Higiene Mental, Subcomité de Alcoholismo, Primera Reunión (WHO-TRS No. 42)
2	Reglamento Sanitario Internacional, Reglamento No. 2 de la OMS (WHO-TRS No. 41)
3	Certificación Médica de Causa de Defunción**
4	Informe del Comité de Expertos en Higiene Mental, Primera Reunión (WHO-TRS No. 9)
5	Informe del Comité de Expertos en Estadística Sanitaria, Tercera Reunión (WHO-TRS No. 53)
6	Informe del Comité de Expertos en Administración Sanitaria, Primera Reunión (WHO-TRS No. 55)
	Official Documents
1	Informe Final de la VI Reunión del Consejo Directivo de la OSP
2	Final Report of the VI Meeting of the Directing Council
3	Reglamento Sanitario Internacional, Memorándum Explicativo
4	Reglamento Sanitario Internacional, Tabla de Comparación
5	Documentos Básicos de la Organización Sanitaria Panamericana (Sgda. Edic. Rev.)
6	Basic Documents of the Pan American Sanitary Organization (2nd Edit. Rev.)
	Miscellaneous Publications
3	Los Primeros Cincuenta Años de la OSP
4	X Curso Internacional de Malaria y Otras Enfermedades Metaxénicas
5	Guía para la Notificación de las Enfermedades Cuarentenables y de Otras Enfermedades Transmisibles de las Américas a la OSP
6	Guide for the Reporting of Quarantinable and Other Communicable Diseases in the Americas to the PASB
-	Cartel de Reacciones de la Vacunación Contra la Viruela (Sgda. Edic.)*

*Not included in serial numbers of PASB

**Suplemento No. 3 del Boletín de la OMS

APPENDIX VII

Monthly Distribution of the Bulletin

1950 - 1953

Country	1950	1951	1952	1953
Argentina	628	625	662	663
Bolivia	143	144	113	114
Brazil	873	837	717	764
Canada	21	-	34	33
Chile	332	337	160	181
Colombia	642	671	603	595
Costa Rica	262	261	137	139
Cuba	370	367	358	363
Dominican Republic	153	153	125	130
Ecuador	281	318	177	184
El Salvador	96	121	120	124
Guatemala	173	173	165	168
Haiti	40	39	50	44
Honduras	157	78	68	77
Mexico	507	493	503	498
Nicaragua	68	66	81	81
Panama	170	166	162	160
Paraguay	341	96	97	95
Peru	281	287	263	282
Puerto Rico	54	62	62	65
United States	722	743	725	757
Uruguay	153	159	162	160
Venezuela	405	636	632	640
Barbados, Bermuda, British Guiana, British Honduras, Jamaica, Windward Islands, Leeward Islands, Bahamas, Trinidad	27	-	34	33
Guadeloupe, French Guiana, Martinique	5	-	8	8
Curaçao, Surinam	3	-	4	4
Other countries	201	283	234	256
Total	7,108	7,115	6,456	6,614

APPENDIX VIII

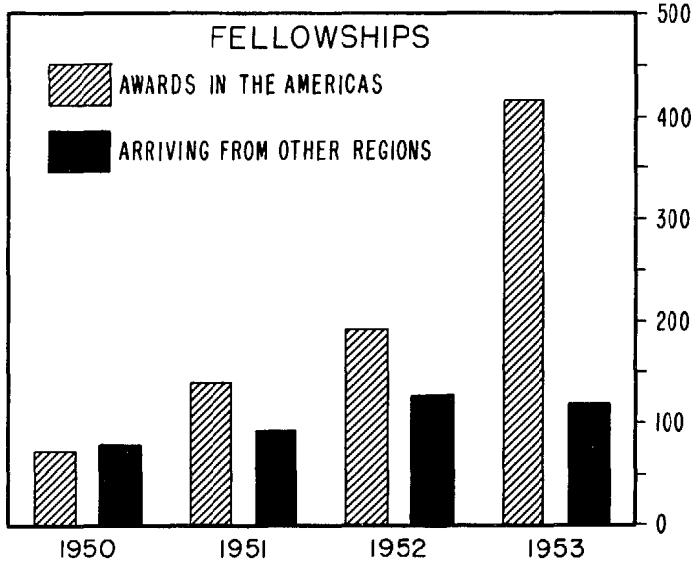
Library Statistics 1950-53

Activities	1950	1951	1952	1953
Acquisitions				
Books, pamphlets and subscriptions ordered and requested	929	1472[1]	426	380
Books received	1067	882	515	516
Pamphlets received	1575	2067	1100	1211
Periodicals:				
Exchanges established	83	30	14	24
New titles	87	83	46	37
Documents:				
WHO	8593	6225	4321	1523
Other International Organizations	528	179	81	27
Processing:				
Cataloging:				
Works cataloged	2652	1974	1756	1535
Cards prepared for catalogs	4093	11019	15304	8523
Cards prepared for Zone Offices and WHO, Geneva, Library	2832	3676	7513	8606
Periodicals:				
Issues filed	3060	5865	7041	6017
Duplicates and discards	1752	7313[2]	3330	71472
Volumes bound	592	537	425	353
Indexing:				
Documents and articles	1783	1470	1156	1144

[1] A reference collection comprising basic texts and important periodicals was established in the Offices of Zones II, V, and VI.

[2] This figure includes issues of periodicals discarded at the time the collection was reviewed, first, on moving to a smaller area in permanent headquarters, and, second, to conform with the policy of the Library Committee.

ACTIVITIES PRIMARILY CONCERNED WITH EDUCATION 1950-1953



1950

Seminars and Workshops:
Nursing - Chile

Short courses:
Lab. methods in VD - Central America, Venezuela

1951

Medical education:
Survey - Costa Rica

School of Nursing
Costa Rica

Seminars and Workshops:
Nursing - Guatemala

Short courses:
Lab. methods in VD - Cent. Amer., Venezuela, Brazil

1952

Schools of Public Health:
Environmental sanitation,
General public health

Schools of Medicine

School of Nursing -
Costa Rica

Seminars and Workshops:
Nursing - Peru
Diagnostic methods, brucellosis - South America

Short courses:
Insect control - Caribbean
Lab. methods in VD - Brazil, Central America, Venezuela
Nursing - Mexico
Medical records librarians- Peru

1953

Schools of Public Health:
General public health courses
Travel grants to professors
Environmental sanitation

Schools of Medicine
Regional, Paraguay, Uruguay

Schools of Nursing
Bolivia, Costa Rica

Inter-American Center of Biostatistics

Seminars and Workshops:
Reporting, Communicable Diseases
Alcoholism
Health Education
Regional Nursing Conference

Short courses:
Insect control workers
Lab. methods in VD - Brazil
Cent. Amer., Venezuela, Mexico
Aftosa Control
Nursing - Mexico
Waterworks
Auxiliary nursing- Costa Rica
TB control and clinical aspects - Ecuador
Radiography - Costa Rica, Panama
Medical records librarians - Peru

APPENDIX X

List of Projects Grouped Under Major Subject Headings

Project Code Number and Title		1946	1947	1948	1949	1950	1951	1952	1953
Malaria and Insect Control*									
AARO-7	Insect and Yellow Fever Control (Central America and Panama)				⊢	→	→	→	→
AARO-8	Insect and Yellow Fever Control (Caribbean Area)					⊢	→	→	→
AARO-71	First Training Course in Insect Control								⊢
Argentina-51	A. aegypti Eradication					⊢	→	→	→
Bolivia-4	Insect Control								⊢ →
British Honduras-1	Insect Control						⊢	⊣	
Colombia-5	Insect Control					⊢	→	→	→
Costa Rica-2	Insect Control						⊢	⊣	
Cuba-1	A. aegypti Eradication								⊢ →
Dominican Republic-2	Insect Control							⊢	→
El Salvador-2	Insect Control							⊢	⊣
Haiti-4	Insect Control								⊢ →
Mexico-53	A. aegypti Eradication				⊢	→	→	⊣	
Paraguay-1	Insect Control			⊢	→	→	→	→	→
Peru-5	Insect Control							⊢	→
Uruguay-51	Control of Arthropods	⊢	→	→	→	→	→	→	→
Nursing									
AARO-11	Nursing Workshop (Chile)					⊢	⊣		
AARO-11	Nursing Workshop (Guatemala)						⊢	⊣	
AARO-11	Nursing Workshop (Lima)							⊢	⊣
AARO-23	3rd Regional Nursing Congress (Rio de Janeiro)								⊢ ⊣
Bolivia-5	Nursing Education								⊢ →
Costa Rica-3	Assistance to the San José School of Nursing						⊢	→	→
Mexico-5	Nursing Education							⊢	⊣
Mexico-11	Second Course for Nursing Instructors								⊢ ⊣

*NOTE: Most of the Insect Control projects began as Aëdes aegypti Eradication Campaigns and in 1951 and 1952 were expanded into general campaigns.

APPENDIX X (CONT'D)

Project Code Number and Title	1946	1947	1948	1949	1950	1951	1952	1953
Tuberculosis								
AARO-31 BCG Statistician								
British Honduras-2 BCG Vaccination								
Costa Rica-5 BCG Vaccination								
Costa Rica-10 Radiography Training Course								
Ecuador-5 TB Teaching Center								
Ecuador-6 BCG Laboratory								
El Salvador-1 TB Control								
El Salvador-3 BCG Vaccination								
Jamaica-1 TB Control								
Jamaica-3 BCG Vaccination Campaign								
Leeward Islands-1 BCG Vaccination								
Paraguay-2 TB Control								
Peru-12 TB Laboratory Diagnosis								
Trinidad-1 BCG Vaccination								
Trinidad-4 TB Bacteriological Diagnosis Laboratory								
Public Health Administration								
AARO-10 Inter-American Center of Biostatistics (Chile)								
Colombia-8 Expert in Hospital Administration - San Juan de Dios Hospital								
Colombia-11 Expert in P.H. Administration and Development of Health Services								
Dominican Republic-4 Reorganization of Local Health Services								
Ecuador-11 National Institute of Health								
El Salvador-5 Health Demonstration Area								
Haiti-9 Public Health Laboratory								
Panama-1 Rural Public Health Services								
Peru-7 Assistance to Medical Records Libraries								
Peru-13 P.H. Demonstration and Training Center, Callao								
Venezuela-1 Demonstration of Local Health Services.								

APPENDIX X (CONT'D)

Project Code Number and Title		1946	1947	1948	1949	1950	1951	1952	1953
Endemo-Epidemic Diseases									
Inter-Regional-8	Brucellosis Centers (Argentina, Mexico, U. S. A.)								
Inter-Regional-10	Influenza Centers								
AARO-14	Brucellosis Seminar in South America (Santiago)								
AARO-43	Hydatidosis Control								
AARO-44	Seminar on Reporting of Communicable Diseases								
AARO-53	Foot-and-Mouth Disease Virus Study								
AARO-57	Yellow Fever Studies								
AARO-60	Smallpox Eradication								
Bolivia-1	Typhus Control								
Brazil-4	Diphtheria and Pertussis								
Brazil-51	Yellow Fever								
Brazil-53	Schistosomiasis								
Chile-2	Poliomyelitis								
Chile-3	Diphtheria-Pertussis Vaccination								
Colombia-1	Diphtheria-Pertussis and Smallpox Vaccination								
Colombia-52	Yellow Fever (Carlos Finlay Institute)								
Costa Rica-53	Yellow Fever								
Ecuador-8	Yellow Fever Control								
Ecuador-52	Plague Control								
Guatemala-53	Onchocerciasis								
Honduras-53	Poliomyelitis Consultants								
Mexico-4	Rabies Control								
Paraguay-5	Hookworm and Smallpox Control								
Peru-1	Typhus Control								
Peru-16	Diphtheria-Pertussis Vaccination								
Peru-54	Typhus Vaccine Field Investigation								
Mental Health									
AARO-9	Seminar on Alcoholism (South America)								
AARO-12	International Seminar on Mental Health and Infant Development								
AARO-34	Mental Health - Short-Term Consultant (2nd Course)								

APPENDIX X (CONT'D)

Project Code Number and Title		1946	1947	1948	1949	1950	1951	1952	1953
Health Education of the Public									
AARO-6	Joint Field Mission on Indigenous Population								
AARO-15	Seminar on Health Education (Mexico)								
AARO-29	Cultural Anthropology								
Haiti-3	Health Education								
Haiti-6	Fundamental Education								
Honduras-2	Health Education								
Mexico-3	Fundamental Education Training Center (CREFAL)								
Nicaragua-2	Health Education								
Peru-11	Ica Health Center (Anthropologist)								
Maternal and Child Health									
Bolivia-2	Children's Hospital (La Paz)								
Brazil-3	Maternal and Child Health								
Chile-7	Maternal and Child Health								
Colombia-4	Maternal and Child Health								
Ecuador-4	Maternal and Child Health								
El Salvador-6	Maternal and Child Health								
Paraguay-3	Maternal and Child Health (Asunción-Villarrica)								
Peru-10	MCH and Related Health Services (Lima-Pativilca)								
Venereal Diseases and Treponematoses									
AARO-21	VD Laboratory and Training Center (Guatemala)								
Brazil-52	VD Laboratory and Training Center								
Dominican Republic-52	VD Control								
Ecuador-2	VD Control (Portoviejo)								
Ecuador-7	VD Control (Manta, Bahia)								
Haiti-1	Yaws Eradication and Rural Syphilis Control								
Mexico-13	VD Training Course								
Mexico-51	VD Prophylaxis (Tijuana)								
Paraguay-4	VD Control								
USA-6	TPI Study								
Venezuela-52	VD Laboratory and Training Center (Caracas)								

APPENDIX X (CONT'D)

Project Code Number and Title		1946	1947	1948	1949	1950	1951	1952	1953
Nutrition									
AARO-25	Third Conference on Nutrition in Latin America								
AARO-54	Assistance to INCAP								
Brazil-7	Nutrition Consultant								
Cuba-2	Food Sanitation (Bromatology)								
Ecuador-53	National Institute of Nutrition								
Environmental Sanitation									
AARO-1	Environmental Sanitation Training (Brazil, Chile, Mexico)								
AARO-13	First Seminar on Sanitary Engineering (Nicaragua)								
AARO-17	Waterworks Training Course								
Bolivia-6	Study of Water Supply (La Paz)								
Chile-1	Garbage Disposal								
Costa Rica-9	Assistance in the Construction of Slaughterhouses								
Guatemala-10	Garbage Disposal								
Nicaragua-51	Environmental Sanitation								
Therapeutic Substances and Insecticides									
Chile-6	Penicillin Plant								
Other Education and Training Projects									
AARO-18	Assistance to Schools of Medicine and P.H.								
AARO-77	Pan American Foot-and-Mouth Disease Center								
Colombia-12	Fellowships in P.H.								
Costa Rica-4	Medical Education Survey								
Paraguay-6	Assistance to the School of Medicine								

ZONES AND ZONE OFFICES OF THE PAN AMERICAN SANITARY BUREAU