Annual report

1961

PAN AMERICAN HEALTH ORGANIZATION

WORLD HEALTH ORGANIZATION

ANNUAL REPORT OF THE DIRECTOR

of the

PAN AMERICAN SANITARY BUREAU

REGIONAL OFFICE FOR THE AMERICAS

of the

WORLD HEALTH ORGANIZATION

1961

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PAN AMERICAN HEALTH ORGANIZATION
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To the

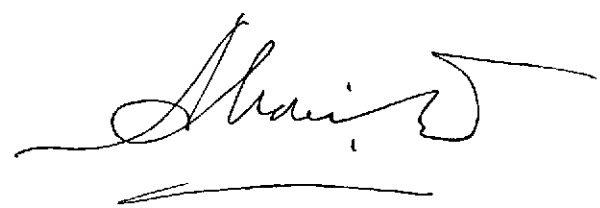
States Members

of the

Pan American Health Organization

I have the honor to transmit herewith the Annual Report on the work of the Pan American Sanitary Bureau, Regional Office for the Americas of the World Health Organization, in the year 1961. This Report provides a description of activities at Headquarters and in the countries, together with a summary of the projects carried out by the Governments of the Americas in collaboration with the Bureau and with other international organizations. The Financial Report for the year is submitted separately.

Respectfully,



Abraham Horwitz
Director

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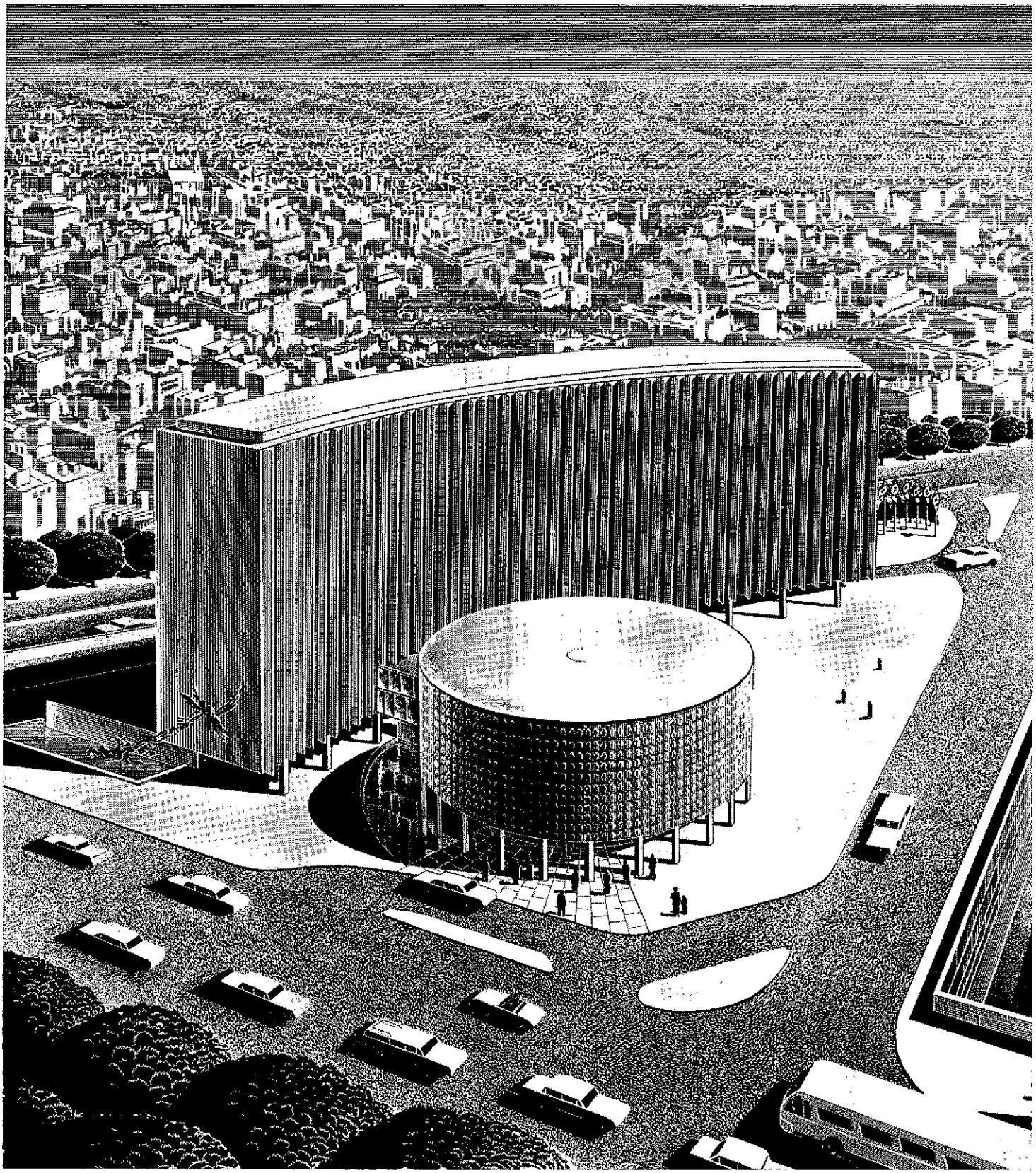
ABBREVIATIONS

AID (ICA)	Agency for International Development
AIDIS	Inter-American Association of Sanitary Engineering
APHA	American Public Health Association
FAO	Food and Agriculture Organization
ECLA	Economic Commission for Latin America
IADB	Inter-American Development Bank
IAEA	International Atomic Energy Agency
IANEC	Inter-American Nuclear Agency Commission
ICN	International Council of Nurses
ICSAB	International Civil Service Advisory Board
ILO	International Labor Office
INCAP	Institute of Nutrition of Central America and Panama
INNE	National Institute of Nutrition of Ecuador
KF	W. K. Kellogg Foundation
MEIC	Medical Education Information Center
OAS	Organization of American States
OAS/PTC	OAS—Program of Technical Cooperation
PAHO	Pan American Health Organization
PAHO/CWSF	PAHO—Special Community Water-Supply Fund
PAHO/SMF	PAHO—Special Malaria Fund
PASB	Pan American Sanitary Bureau
UN	United Nations
UN/TAO	United Nations Bureau of Technical Assistance Operations
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations Children's Fund
UNTAB	United Nations Technical Assistance Board
USPHS	United States Public Health Service
USPHS/NIH	United States Public Health Service National Institutes of Health
WHO	World Health Organization
WHO/R	World Health Organization (Regular Budget)
WHO/TA	World Health Organization/Technical Assistance



ARTIST'S CONCEPTION OF THE NEW PAHO HEADQUARTERS BUILDING WHEN COMPLETED.

INTRODUCTION

THE MOST SIGNIFICANT EVENT OF 1961, an event heavy with consequences for the future of the Americas, was the decision of the Governments to unite in a common effort to accelerate economic and social development and to bring a better life to all the peoples of the Hemisphere. The terms of this agreement are set forth in the Charter of Punta del Este, the historic document that sprang from the Special Meeting of the Inter-American Economic and Social Council at the Ministerial Level held in August 1961. It posits the close relationship between the human and the natural resources in achieving progress. It does not look solely to economic growth to automatically generate greater well-being; on the contrary, it looks to a more equitable distribution of the national income, which simultaneously with improving living conditions will stimulate the social and cultural changes inherent in development.

The means recommended for attaining that end is planning: the ordering of problems according to their importance and the marshalling of resources to solve them. The mobilization and growth of domestic resources constitute the basis for this new direction of development. External capital will act as a catalyst and also as a supplement to local resources. The Governments have agreed that legal, structural, and institutional reforms will be needed if this new endeavor is to produce results more consistent with existing and future possibilities.

The Charter of Punta del Este sets forth the various activities that contribute to the improvement of well-being, to be financed as the economy expands. These activities include the protection of health, the prevention of disease, and the treatment of the sick; and among the goals the Governments have agreed to work toward in the decade are: "To increase life expectancy at birth by a minimum of five years, and to increase the ability to learn and produce, by improving individual and public health. To attain this goal it will be necessary, among other measures, to provide adequate potable water supply and sewage disposal to not less than 70 per cent of the urban and 50 per cent of the rural population; to reduce the present mortality rate of children less than five years of age by at least one-half; to control the more serious communicable diseases, according to their importance as a cause of sickness, disability, and death; to eradicate those illnesses, especially malaria, for which effective techniques are known; to improve nutrition; to train medical and health personnel to meet at least minimum requirements; to improve basic health services at national and local levels; and to intensify scientific research and apply its results more fully and effectively to the prevention and cure of illness." [1]

In other words, all the problems which, because of their consequences for the economy and the people, are of the greatest importance in the Hemisphere. The Governments, it is clear, will have to take these problems into consideration in drawing up their general development plans; they will have to set specific targets for each of them, describe the methods, the manpower, and the working tools to achieve them, as well as the estimated cost and the financing of the total enterprise. The plan then is but a means, not an end; it is a detailed statement of what is intended and of how it is to be done with the human and material resources available. It is also a well-ordered statement and extension of the activities already under way in all of the countries in the Hemisphere. This is what we understand a plan to be and that is why, interpreting the spirit of the Charter, we wish to emphasize that the health programs being carried out should in no way and on no account be interrupted while plans are being prepared. On the contrary, they should be expanded and extended to other communities for they will clearly find a place within the national development plan. In other words, while the Governments are taking the necessary steps to draw up a comprehensive plan for all the activities to be undertaken in the decade, further impetus must be given to programs aimed at the general welfare.

To that end, a Ten-Year Public Health Program of the Alliance for Progress (Resolution A.2) forms part of the Charter of Punta del Este. Although the plan embraces the entire Hemisphere, it sets out the bases on which each country can determine its own problems, goals, and measures for the prevention and treatment of diseases. The Charter is of major significance in that it assigns health activities their rightful place in a meaningful development program. Aware though we are of the spiritual significance of our mission, we are no less aware of the relationship between health and economic development. Nevertheless, it bears pointing out that when they finance a health activity, Governments, com-

[1] *OAS Official Records*, OEA/Ser.H/X.II.1 (Eng.), 1961, p. 11.

munities, and private citizens alike are investing their money, not merely spending it. For a country can have no more productive capital than healthy, active, and literate human beings fully capable of creating, producing, and consuming.

The countries of the Hemisphere have acquired a rich experience in preparing preventive and curative programs, within the national budgets. To the best of our knowledge, there is no established technique for drawing up a comprehensive economic and social plan for a given community or country. It is a matter of determining what problems beset a given human group, regardless of its size; what means are to be used to solve them, and what their influence will be on the economy, on well-being, and on the ends in view. A suitable technique must be developed and tested, and until such time as a proper formula is arrived at, general plans for economic development and social progress must consist of a presentation of the policies to be followed in relation to each activity and to each goal.

The presence of the Organization at the Special Meeting of the Inter-American Economic and Social Council held at Punta del Este was in line with the policy approved by its Governments. In cooperation with experts from the delegations there present, it was able to play an active part in the analyses of the role of health in the general development process, as is stated at different places in the Charter of Punta del Este. During 1962, it must take the necessary steps to collaborate with the Governments in fulfilling the commitments they undertook at that meeting.

SIGNIFICANT ALSO was the XIII Meeting of the Directing Council of the Pan American Health Organization, Regional Committee of the World Health Organization, which was held in Washington, D.C., in October 1961. Most of the thirty-nine resolutions approved by the Governments at this meeting have a direct or indirect bearing on the policy that governs the Organization: health is a basic component of development. Moreover, the topic of the Technical Discussions during that meeting was "Methods of Evaluating the Contribution of Health Programs to Economic Development." The resolution [1] that was approved contains a series of recommendations to the Governments on the formulation of national health plans directly related to economic growth. A special item on the agenda was "Economic Aspects of Health Activities," in the discussion of which, in addition to the representatives of the Governments, the representatives of the Inter-American Development Bank and of the Organization of American States took part. Resolution XXIII [2] summarizes the views expressed during the debate and, while reaffirming the previous policy, points to specific measures for implementing it in the Hemisphere.

The Directing Council also approved the General Program of Work for the period 1962-1965. That document assigns priority to the strengthening of national health services, with the aim of integrating preventive and curative activities, especially at the local level; the control or eradication of communicable diseases, depending on the characteristics; the training of professional and auxiliary personnel; medical research; and the coordination of health activities with economic and social activities. It also states that the program must be flexible and subjected to periodic revisions and evaluations in view of the dynamic nature of health as a social function. "The Organization in the past has been carrying on programs of work similar to the one here formulated. Nevertheless, it has never before faced the challenge of setting up systems for health planning in the Latin American countries for the next ten years. If the Governments and peoples of the Americas continue to give the Organization, as they have in the past, sufficient financial and moral support, the Organization can be expected to fulfill the objectives for which it was created, in the measure that the decade in which we live demands." [3]

THE DIRECTING COUNCIL ALSO EXAMINED the situation in certain fundamental health fields, the future prospects in the decade, and the financing of continental plans. Problems relating to nutrition, tuberculosis, environmental sanitation, education and training, and malaria, smallpox, and *Aëdes aegypti* eradication were dealt with. We should like now to refer to those same problems but this time in terms of what the Governments achieved during 1961 with the advisory services of the Organization, which is the subject of this Report. We will of course have to bear in mind the pertinent resolutions of the Directing Council which were based on the work of the Organization in 1960.

The importance of **nutrition** in the Americas was fully recognized by the Directing Council, which devoted an entire day to the study of the working document submitted by the Organization. The resolution [4] that was approved both consolidates and expands the lines of action followed by the Governments under international guidance. As the method of choice, it emphasizes the

[1] *Official Document PAHO* **41**:28-29 (Resolution XXIV).

[2] *Ibid.* (Resolution XXIII), pp. 27-28.

[3] *Ibid.*, p. 395.

[4] *Ibid.* (Resolution XI), pp. 21-22.

training of personnel for the various types of activities involved in such a complex social and economic problem as nutrition. Once again it assigns priority to: malnutrition, especially protein malnutrition in children aged under five years; to the anemias of various etiologies; to endemic goiter; and to the other deficiency diseases. The Organization's activities in 1961 were in line with that policy and are described in full in the Report. That the production of INCAPARINA increased by 38 per cent over 1960 production is indeed gratifying, as is the fact that, in addition to Guatemala and El Salvador, six other countries are preparing to produce and distribute it. The research carried out in various parts of the Hemisphere on local foodstuffs that can be used in other low-cost, high-protein preparations was also significant. Meanwhile the Governments will, it is hoped, increase their production of animal protein to the point where the future needs of the country can be met.

In cooperation with the Food and Agriculture Organization and the United Nations Children's Fund, the Organization collaborated in the so-called Expanded Nutrition Programs in eleven countries. The essential aim of these programs is to improve the diet of the rural family by promoting simultaneously education in nutrition and food production in home and school gardens. In 1961 programs were begun in some areas in Bolivia, Colombia, El Salvador, Nicaragua, and Peru. It has been observed in all countries that it is no easy matter to coordinate the activities of experts from the various branches of the government; however, the goals sought are so fundamental to the organization of communities for the common good that every support should be given to these programs.

During the year intensive training programs were carried out, especially at the Institute of Nutrition of Central America and Panama and at other advanced centers. The thirty-one fellowships awarded by the Organization represented a marked increase in comparison with previous years.

Because of its fundamental importance, mention should also be made of the research program, especially projects on methods to evaluate nutritional status; the metabolism of malnutrition; amino-acids supplementation of cereal protein; the interrelation of infectious diseases and nutritional status, both experimentally and epidemiologically; and the so-called Inter-American Atherosclerosis Project to determine the prevalence of this condition in different ethnic groups. By the end of 1961, twenty-eight laboratories throughout the world were engaged in this project, and over 4,000 cases were studied during the year. Reference has already been made to vegetable-protein mixtures. These research projects, which are described in detail in the Report, were mostly carried out at the Institute but other nutrition institutes in the Hemisphere also participated.

The Organization's nutrition policy was clearly defined. If the Organization had greater resources, it would be able to put it into practice as regards specific functions, in cooperation with the Governments and with other international organizations.

THE POLICY ON ENVIRONMENTAL SANITATION, especially with regard to community water supply services, established in 1959 by the Governments of the World Health Organization [1] and of the Pan American Health Organization,[2] was greatly expanded during 1961. One of the goals whose achievement in the decade is laid down in the Charter of Punta del Este is to provide adequate potable water supply and sewage disposal to not less than 70 per cent of the urban and 50 per cent of the rural population. What the Governments accomplished in 1961 is a good indication of their intention to include in their general development plans specific programs that will be of benefit to communities that lack water, to existing and future industries, and to the economy as a whole. Some data in the present Report give clear evidence of that intention. In 1961 the loans for water supply services approved by the Inter-American Development Bank amounted to almost 65 million dollars, to be matched by the countries by a sum of 47 million dollars, and those granted by the Export-Import Bank came to more than 10 million dollars. These sums will make it possible to install water supply services, and in some cases sewage disposal services, in localities with an aggregate population of four million persons. The systems have generally been planned to meet the foreseen needs up to 1980, which means that they have been planned to serve a population of approximately six million persons.

The Organization cooperated with the Governments in formulating plans and cost estimates, including the external capital needed, as well as in the organization and administration of services and in the drafting of laws and regulations for national water agencies. These activities have been accompanied by an expansion of programs for the education and training of personnel. The Report contains details on the courses given in waterworks design, in well-drilling and tapping of underground water supplies, in the administration and financing of water services, in educating communities to support the government's policy.

To the extent to which the international capital market

[1] *Off. Rec. Wld Hlth Org.* **95**:42-43 (Resolution WHA12.48).
[2] *Official Document PAHO* **32**:22-23 (Resolution XVI).

continues to give priority to long-term, low-interest loans for water supplies in the countries, it will be possible, we believe, to gradually solve the problem in the Americas and to attain in the decade the objectives of the Charter of Punta del Este.

The Report also touches on the work done in other basic fields of environmental sanitation, such as sewage and refuse disposal, rural sanitation, industrial hygiene, food hygiene, and housing. Special mention should be made of the assistance given to universities and health agencies to enable them to increase the number of sanitary engineers and auxiliary workers.

This, then, is a summary of activities in one of the basic fields of health that have been markedly expanded in the past three years.

The Directing Council thanked the Governments of the United States of America and Venezuela [1] for their generous contribution in support of the water programs undertaken by the Organization. A pledge from the Government of Uruguay was received in 1961, and a new contribution from the United States permitted the further expansion of these programs.

MALARIA, SMALLPOX, YAWS—these three diseases the Governments have agreed to eradicate, with the assistance of the Organization. To those programs should be added the eradication of *Aëdes aegypti*, the urban vector of yellow fever.

Substantial advances were made in 1961 toward the eradication of **malaria**. In Brazil, the preparatory phase was extended to all the states where the disease exists. With the entrance of Haiti and Cuba, hemisphere-wide participation in the program became complete. The population living in areas in the consolidation phase rose by 79 per cent in comparison with 1960, and that of areas in the attack phase fell. The Pan American Health Organization began its register of areas in which the disease has been eradicated; the first entry was an area in Venezuela—157,500 square miles with a population of 4,271,271. As was to be expected in so complex an undertaking, biological, administrative, and financial problems arose. The original plans of the Dominican Republic and of Paraguay had to be revised. Special epidemiological investigations were carried out in foci where transmission persists despite skillfully applied measures. All these aspects are detailed in the Report, which also forecasts the final results of the programs in the individual countries.

We wish especially to mention the contributions of the United Nations Children's Fund, essential to the fulfillment of each Government's plans. The Agency for International Development, of the Government of the United States of America, cooperated in the technical and administrative organization of malaria eradication and in its financing. A new voluntary contribution on the part of the Government of the United States to the Pan American Health Organization has made possible the continued provision of advisory services to the Governments in the various phases of the eradication campaigns. To date, this contribution to the hemisphere-wide program has amounted to more than 10 million dollars, and is one that the Governments of the Americas have recognized with due appreciation.[2, 3, 4, 5]

In 1961, 1,923 cases of **smallpox** were reported—the lowest figure in four years. Of these cases, 1,411 occurred in a single country. The Governments intensified their vaccination programs with the aim of conforming to the criteria for smallpox eradication approved by the Directing Council: "when no new cases of smallpox occur during the three years immediately following the completion of a suitable vaccination campaign." The present low levels of immunity are cause for concern, especially in countries that have had no cases of smallpox in recent years, as is shown by the data on vaccinations performed in the countries during 1960-1961 included in Table 5 (page 45). There is ample justification for the resolution [6] adopted at the XIII Meeting of the Directing Council, which ranks the immunization of potentially exposed populations in the Americas as equal in importance to the eradication of the disease where it actually exists.

The incidence of the infectious forms of **yaws** in Haiti was reduced from 100 cases per 100,000 population in 1959 to 30 cases in 1960, and to 1.13 in 1961. Out of 275 suspect cases, *Treponema pertenue* could be verified in only 33, which reveals, on the one hand, the progress of eradication and, on the other, the need to investigate the frequency of tropical ulcers of other etiology. In the Dominican Republic the yaws rate was 30 per 100,000 population in 1961. In 1961 the Organization continued to provide advisory services to Jamaica, Trinidad and Tobago, and a number of territories in the Caribbean Area. The incidence of the disease in these territories is variable, and the programs under way are expected to eliminate it in the future.

As confirmed by the Directing Council at its XIII Meeting in October 1961,[7] Chile and Costa Rica were

[1] *Official Document PAHO* **36**:24 (Resolution XX).

[2] *Official Document PAHO* **22**:20 (Resolution XIV).
[3] *Official Document PAHO* **27**:30 (Resolution XIV).
[4] *Official Document PAHO* **36**:21 (Resolution XV).
[5] *Official Document PAHO* **41**:29 (Resolution XXV).
[6] *Ibid.* (Resolution XXXII), pp. 32-33.
[7] *Ibid.* (Resolution XXXIV), p. 34.

added to the list of areas where ***Aëdes aegypti*** has been eradicated. At that time, the Council emphasized that this program should be completed as soon as possible, and urged the countries that had not yet done so to initiate their campaigns in accordance with Organization standards. The Report describes the present status of the campaign in each country and territory and gives the expected completion dates.

During the year eighty-three cases of jungle yellow fever were reported from five countries. The Organization continued to provide technical advice and financing to the Carlos Finlay Institute in Bogotá and the Oswaldo Cruz Institute in Rio de Janeiro, in the production of 17D vaccine and diagnostic services for all countries of the Hemisphere.

THE PROVISION OF ADVISORY SERVICES on other communicable diseases varied in degree and in investment depending on the interest evidenced by the Governments, the prevalence of the particular disease, the policy established, the control methods employed, and the health services' need for supplementary resources.

A hemisphere-wide **tuberculosis** program for the next ten years was submitted to the XIII Meeting of the Directing Council in October 1961. Its object is to detect and treat 1,900,000 additional active cases and also to apply control measures to four contacts per patient. The pertinent document [1] covers every aspect of the program and estimates its eventual cost. On the basis of this proposal, the Directing Council approved a resolution [2] noting the importance of ascertaining the size of the tuberculosis problem in each country, establishing goals for the next ten years, applying modern control techniques, and utilizing the resources of the Governments as well as private resources into a well-conceived program. Meanwhile, the Governments expanded their activities during the year, some with the assistance of the Organization and the United Nations Children's Fund contribution. This work is examined in the Report. In view of the medicosocial importance and the still-high prevalence of tuberculosis in the Americas, the implementation of the proposed ten-year plan is greatly to be desired.

Leprosy control is making various degrees of progress in most of the countries of the Americas where this disease exists. During 1961, adaptations were made in all the programs in accordance with modern ideas of limiting the effects of the disease. The Organization appointed four consultants to work in ten countries of the Americas. A survey of the problem at year's end appears in the Report, and the increase in the number of cases and contacts discovered and treated is, of course, natural in the early stages of a program. The training of physicians and other officials in "dermatoleprology" continued throughout 1961. Since previous leprosy surveys carried out in Bolivia, Ecuador, and Peru were brought up to date in 1960 and a survey was made in 1961 in the Dominican Republic, only the surveys of prevalence in Cuba and Haiti are still needed for a complete picture of this disease in the Americas.

In the field of **poliomyelitis**, several Governments carried out large-scale vaccination programs with live attenuated poliovirus. Because of the ramifications they have had, we should like to recall here the two conferences on the use of these vaccines, held in 1959 and 1960 under the auspices of the Pan American Health Organization and the World Health Organization with assistance from the Sister Elizabeth Kenny Foundation.

During 1961 the Organization collaborated with the health authorities in Brazil in vaccination programs with the oral live poliovirus vaccine which covered approximately 600,000 preschool children. The first of these programs, involving 25,000 children under four years of age, was carried out in Santo André, São Paulo, to study the effectiveness of two doses of a trivalent Sabin vaccine given eight weeks apart. Preliminary results of laboratory studies at the Adolfo Lutz Institute in São Paulo indicate very good antibody response to the vaccine in this form.

The experience gained in this study was used in a pilot vaccination program in Petropolis and, subsequently, in a city-wide vaccination campaign in Rio de Janeiro which covered, in a period of one week, approximately 432,840 children under six years of age. This figure represents a 93 per cent coverage of the population in this age group.

The Organization also collaborated with the Hillsborough County Health Department in Tampa, Florida, in the first large-scale field study in the United States of America of the trivalent Sabin vaccine. Nearly 200,000 persons up to forty years of age were vaccinated, and the program included behavioral studies of community attitudes as well as laboratory studies to assess the efficacy of the vaccine.

The work in **influenza**, **plague**, **Chagas' disease** and other parasitic diseases, and the **zoonoses** are all summarized in the Report. Special mention should be made of the research at the Pan American Foot-and-Mouth Disease Center for the development of a live attenuated virus vaccine to control this disease, so significant in the economy of the Americas. The first tests of monovalent vaccine in Brazil, Venezuela, and British Guiana seem promising and justify the continuation of these studies.

[1] *Ibid.*, pp. 359-362.
[2] *Ibid.* (Resolution XXXVI), pp. 35-36.

The Center expanded its advisory services to the countries, its training of laboratory and control technicians, and its diagnostic services. It is financed by contributions from the Organization of American States—through its Program of Technical Cooperation—and from the Government of Brazil.

THE EDUCATION AND TRAINING of professional and auxiliary personnel for various duties in health protection, promotion, and restoration is among the basic functions of the Organization as specified by the Governments. It also constitutes one of the best investments a country can make to promote its own well-being. Cooperation with universities and health ministries with regard to professional schools and the training of auxiliaries continued in 1961. The quantity of advisory services provided reflects budgetary limitations, though its quality was at all times high. This assistance was confined to five medical schools (consultants); sixteen nursing education projects in fourteen countries (eighteen consultants); five schools of sanitary engineering connected with as many universities; three schools of veterinary medicine; and every school of public health in Latin America.

A total of 517 fellowships were awarded for special and academic courses and for observation visits to teaching institutions and health services in various countries of the world, with emphasis on those of the Region of the Americas. In addition, fellows from other Regions, whose programs were prepared by the Organization, amounted to 134. Full information on this basic program of the Organization is provided by a series of tables in the Report. Also to be pointed out is a series of seminars, courses, and meetings of experts in related disciplines for the exchange of experiences and the solving of specific problems (see Table 16, page 67).

Education and training took approximately 9 per cent of the total 1961 budget of the Organization. However, considering that most of the programs in which the Organization cooperates include the training of technicians, the total may be said to reach 27 per cent. Even so, we believe that additional extrabudgetary funds must be obtained to expand this activity, especially in the field of medical training. The Governments have so indicated.[1, 2]

THE ORGANIZATION AND ADMINISTRATION of health services is another basic instrument for preventing disease, treating it promptly, and maintaining community health. It is therefore one of the most important activities of the Pan American Sanitary Bureau. Activities in this field during 1961 took two paths: the formulation of national health plans and the integration of the preventive and curative services. The Report contains a detailed account of the cooperation provided to fifteen Governments in sixteen programs by means of fifty-six consultants. Whether at the national, intermediate, or local level, or at all levels simultaneously, advisory services included improving the structures and the way in which they are administered, developing better methods for prevalent problems, extending activities to new communities, bringing health legislation up to date, in-service training, and preparing specific programs. As the Report shows, these activities varied with the countries, but in any case they reveal progress over previous years that has benefited a substantial number of inhabitants.

Special mention must be made of the evaluation program in the Central American countries and Panama that is to be completed in 1962. The data obtained will be invaluable in formulating national health plans based on complete knowledge of present problems and resources. Moreover, the program constitutes a test in the methodology of evaluating a region's public health status.

The Governments of the Americas spend over 80 per cent of their health budgets on medical care. This fact justifies the Organization's interest in cooperating more actively in this field than hitherto. The year 1961 made it possible to define the problem more precisely and to lay the foundation for a more effective use of existing resources so as to care for a greater number of patients. As has been said, the important thing is to integrate this basic service within a single community health program. In the course of the year, advisory services—chiefly on hospital organization and administration—were provided to seven countries and basic information was obtained in three others.

Cooperation in the field of health statistics was intensive during 1961. The most significant program was the inter-American investigation of mortality, aimed at obtaining comparable data on causes of death in ten cities of the Americas. This study, financed by an allocation from the National Institutes of Health of the United States Public Health Service, is scheduled to last four years and cover 40,000 cases. Of equal importance is the work in training statisticians at professional and other levels, as well as the direct assistance to Governments, given in the form of advisory services by consultants assigned to the Zone Offices and to three countries. Mention should also be made of the publications issued, among them *Facts on Health Problems*,[3] which was pre-

[1] *Official Document PAHO* **36**:26 (Resolution XXIV).

[2] *Official Document PAHO* **41**:37-38 (Resolution XXXIX).

[3] *Miscellaneous Publication PAHO* **63**, 1961.

pared for the Special Meeting of the Inter-American Economic and Social Council at the Ministerial Level held at Punta del Este, Uruguay, in August 1961. In view of the importance that the Governments attach to the preparation of general development plans, including health, the need for statistical data as complete and correct as possible has become obvious. As resources permit, the Organization's work in this particular field should be expanded as much as is compatible with the rest of its program.

With respect to the general function of improving health services, the Report covers 1961 activities in mental health and radiation protection—both of which were initiated during the year—and in dental health, public health laboratories, and nursing services. In the last three fields, the concrete achievements surpassed those of previous years in breadth and depth. A more thorough knowledge of problems and of how best to solve them was attained. Nursing services form part of integrated health programs. The Organization provided advisory services through twenty-one nurses assigned to projects in the countries, nineteen assigned to education programs, and three professional nurses at Headquarters. To appreciate the magnitude of the problem they face, suffice it to recall that in the Americas there are approximately 37,000 nurses and that the need is for more than 60,000.

IT IS INTERESTING to note the work done by the Library as well as the information and publication activities of the Bureau in 1961. Reference services to Governments and to the staff of the Organization were provided in reply to 3,889 requests. In this connection, most of the 4,130 technical publications that were circulated and of the 3,018 pages of photostatic copies reproduced were sent to health workers in the field. Other activities of the Library, among which were compiling comparative bibliographies and acquiring and cataloging books, reflect its collaboration with Governments and the Organization to keep those interested up to date as to progress in the diversified and dynamic functions of individual and collective medicine.

As regards publications, both special ones such as the *Boletín de la Oficina Sanitaria Panamericana* and others, the Report contains an analysis which shows substantial accomplishments in the year under review. The progress arises, on the one hand, from the interest of Governments and national technicians and, on the other, from the expansion of the activities of the Organization in the Hemisphere. This is a vast field that is covered by limited resources, which makes it necessary to be selective and give priority to the problems of widest prevalence and greatest interest for Governments and for the Organization. In this period when it has become necessary to emphasize the reciprocal relationships between health, welfare, development, and levels of living, the publication of articles on these subjects was justified in 1961.

On ending 39 years of existence, the *Boletín de la Oficina Sanitaria Panamericana* can be considered a tradition in the Hemisphere, interested at present, as in the past, in collecting and disseminating the ideas and experience of those who dedicate their efforts to health as a medicosocial function. Although the number of original articles continues to increase, we would like to see even more, especially those describing the problems of the different countries, the methods used to solve them within different cultures, and the resulting effect on communities. The *Boletín* should continue to be the medium of circulating the positive or negative results of health programs in the Americas.

Public information activities were extended, highlighting the achievements of Governments with international cooperation. The press and other communications media showed greater interest in health work and in its economic and social significance. We believe that in the countries of Latin America organized public opinion on the health programs of the Governments does not exist. Except in emergencies such as epidemics, community interest and action are not concerted to put into effect the preventive and curative measures which circumstances require. Only in a few cases is the technique of social action known as "community organization and development" applied. As a consequence, one does not find a solid public opinion which spontaneously and continuously collaborates with the Government at the national or local level to assure that each person, his family, and his neighbors, have a sustained interest in health. To the degree that community organization and development become reality, the Organization can play an advisory and informational role which we believe is appropriate.

AS REGARDS THE STRUCTURE AND ADMINISTRATION of the Pan American Sanitary Bureau, the problem of rationalizing its services continued in 1961. Details are given in the body of the Report.

Progress of greater significance was realized in 1961 to assure the construction of a new headquarters building for the Pan American Health Organization and the World Health Organization in the Americas. An international jury selected the design of the building, the Government of the United States of America confirmed that the Organization would have use and domain of the land so gener-

ously provided, and the W. K. Kellogg Foundation made an unusual loan of $3,750,000 to the Organization to construct the building. The loan is unusual because it stipulates that the annual amortizations are to be invested in new health programs. In appreciation of this gesture, the representatives of the Governments at the XIII Meeting of the Directing Council expressed their sentiments of gratitude to the Kellogg Foundation in the person of its President, Dr. Emory W. Morris. The same gratitude was made manifest in referring to the Government of the United States of America, and the Uruguayan architect, Mr. Román Fresnedo Siri, was congratulated on his original architectural conception of the ideals and objectives that guide the Organization.

AN ANALYSIS of the Report on the 1961 activities of the Pan American Sanitary Bureau, Regional Office of the World Health Organization, in terms of the spirit and letter of the Charter of Punta del Este, reveals that it coincides with the objective of extending health work to the common problems of social and economic significance in the Americas. This explains the emphasis on the prevention, control, or eradication of prevalent diseases, as the case may be, and the improvement of permanent measures to achieve this end. As regards the Bureau itself, the expansion of work in certain areas is justified, as well as the new initiatives which appear indispensable at this moment in the history of the Hemisphere. If the roads to follow vary according to circumstance, the basic moral foundation of health as a social function remains inalterable, as Hippocrates phrased it:

> Sometimes give your services for nothing, calling to mind a previous benefaction or present satisfaction. And if there be an opportunity of serving one who is a stranger in financial straits, give full assistance to all such. For where there is love of man, there is also love of the art. For some patients, though conscious that their condition is perilous, recover their health simply through their contentment with the goodness of the physician. And it is well to superintend the sick to make them well, to care for the healthy to keep them well, also to care for one's own self, so as to observe what is seemly.[1]

[1] Translated by William Henry Rich Jones [1817-1885].

I. PLANNING AND RESEARCH

PLANNING

The year 1961 was important for the activities of the Pan American Health Organization (PAHO) in the field of health planning because of the emphasis placed on planned economic and social development by the countries of the Americas. In August 1961, the Charter of Punta del Este identified the lines of action to be followed and approved the mechanism of financing social and economic progress over a ten-year period through the Alliance for Progress which had been proposed by the Government of the United States of America.

The establishment of national plans and planning agencies is the first step which the countries of the Americas must take in order to initiate balanced economic growth and social progress. In the field of health, the Charter of Punta del Este established a clearly defined program of short- and long-term activities and gave the Pan American Sanitary Bureau (PASB) the specific responsibility of providing technical assistance to the Governments in the Western Hemisphere in the formulation and implementation of their health plans.

Experience in health planning has been gained over the years in the Americas in programs of integrated health services and in campaigns for the eradication of communicable diseases such as malaria. This experience has demonstrated both the usefulness and the need of planning health activities and of integrating these activities in the general process of national economic and social development. At the same time, the lack of experience in over-all national health plans and the scarcity of personnel experienced in health planning make it necessary to mobilize resources on a broad front in order to achieve the objectives of the Alliance for Progress.

The Organization is working in three ways to promote health planning in the Americas. First, it is engaged in the formulation of methodology and specific standards for the planning process. Secondly, it is aiding in the creation of the administrative bodies which Governments must establish in order to draw up plans and link them with economic and social planning. Finally, it is providing specialized training in the fundamentals of planning method and a broad understanding of social and economic problems for the officials who will be responsible for national health plans.

In order to undertake this task efficiently, the Organization began by developing its own resources. In 1961 a Planning Office was established at Headquarters, and its first assignment was to prepare manuals on planning to provide guidelines for international staff and aid national officials engaged in this type of work. The draft documentation and the general problem of implementing the planning aspects of national development programs were then reviewed by an advisory group of experts.

These activities provided background material which will be placed at the disposal of the Governments to help in the preparation of national health plans. At the same time, discussions were begun with the United Nations Economic Commission for Latin America (ECLA) and with other technical and teaching institutions with a view to setting up courses for health planning. The purpose of the proposed courses was to train both international and national health officials in the specialized techniques required in the planning process and to give them an understanding of the broad social and economic context within which their activities must take place.

RESEARCH

Biomedical research and improvement of public health accompany the advance of science. The Organization disseminates new knowledge through expert consultants and through educational and training programs, and stimulates and assists in the development of national and international research institutions.

Among the international institutions receiving support from the Organization are the Institute of Nutrition of Central America and Panama (INCAP), the Pan American Zoonoses Center, and the Pan American Foot-and-Mouth Disease Center. Other research activities, such as the continuing studies of insect resistance to insecticides, the pioneering field-trial studies on oral poliovirus vaccine, and the study of comparative mortality rates by causes in 10 cities of the Americas, are undertaken directly. Finally, the Organization assists a great variety

of national research projects and institutions in the Americas.

To assist national biomedical research development and to facilitate international cooperation and collaboration among scientists, the Organization, with financial aid from the United States Public Health Service National Institutes of Health (NIH), established an Office of Research Coordination in 1961. The Office maintains communication and coordination with the Office of Research Planning and Coordination at the Headquarters of the World Health Organization (WHO) in Geneva, Switzerland.

An inventory of the biomedical research resources in the Americas was begun in 1961 in order to assist Governments in developing their full potential for solving health problems. As this development is proceeding, countries which are better developed in these respects are being encouraged to share their skills and resources in cooperative programs.

The basic goal of the Organization in the field of research is to stimulate and develop research activities related to its program effort, to give high priority to the solution of problems which require a multicountry cooperative approach, to stimulate and assist the development of national biomedical research institutions and organizations, and to advance the development of biomedical research in the Americas by promoting the training of research workers in national institutions and through international cooperative efforts. It should, however, be recognized that these specific guidelines are still tentative and in process of development.

Among the subjects which have been identified as requiring research efforts on a more intensive basis are ARBO viruses, Chagas' disease, foot-and-mouth disease, leprosy, malaria, plague, and schistosomiasis. Wider areas where intensified research is required are the zoonoses in general, dental health, mental health, radiological health, environmental health, and public health practice.

To assist the Organization in developing policies and specific programs in the research field, an Advisory Committee on Medical Research, comprising 12 distinguished scientists, educators, and administrators of the Americas, has been appointed. It will meet periodically with headquarters staff and specialized consultants to review and advise on the research program.

Information on specific research activities supported by the Organization in 1961 is given in the chapters that follow.

HEALTH ECONOMICS

The activity of the Organization on economic questions of concern to the health of the Americas was intensified in 1961. The subject "Methods of Evaluation of the Contribution of Health Programs to Economic Development" was the theme of the Technical Discussions held during the XIII Meeting of the Directing Council (see page 79). The Organization took a major initiative in the formulation of the health goals set for the Americas within the framework of the proposals of the Charter of Punta del Este for general economic and social development. In an attempt to develop an interdisciplinary approach to the subject, a mixed working group of economists and public health specialists was convened to advise the Organization in January 1961.

A grant was made to the Bureau of Public Health Economics of the University of Michigan, U.S.A., in support of a study on the economic impact of malaria eradication, and technical advice was also provided.

An economist was assigned part time at Headquarters to study questions of interest to health programs in the Americas.

Health—A Basic Component of Economic Development,[1] based on the Act of Bogotá, and *Salud—Crecimiento económico y progreso social en la América Latina*,[2] a compilation of material relating to the Punta del Este Meeting of the Inter-American Economic and Social Council of the Organization of American States (OAS), were published.

The Organization maintained close liaison on economic questions with the Organization of American States, the United Nations Economic Commission for Latin America, the Inter-American Development Bank (IADB), and other intergovernmental and nongovernmental organizations concerned with economic development.

[1] *Miscellaneous Publication PAHO* **66**, 1961.
[2] *Miscellaneous Publication PAHO* **68**, 1961.

II. PUBLIC HEALTH ADMINISTRATION

In 1961 health administration activities centered on two fundamental concepts—national health planning, and accelerating the integration of health services.

The Charter of Punta del Este clearly stated the need for planning in order to meet the health objectives of the Alliance for Progress. The Charter gave a significant impetus to the already widely accepted concept of preparing national health plans as a systematic procedure for developing specific programs.

Several countries already had health planning units at the national level, and many others established them during 1961. These countries also began to prepare, or to study the bases for drafting, national health plans. The need for integrated services, as a prerequisite for attacking the problem of health as an indivisible whole, became more acute during the year. Studies and plans for providing various cities with potable water supplies were intensified. Advisory services to several countries in the field of health service administration—especially with respect to budgets, accounting, and management of personnel—were continued. The Organization also provided consultant services to countries for improving health legislation.

The broadening of the activities encompassed by health administration occurred in a large number of fields, some of which have been developing slowly because they required prior study. This is particularly true of mental health and medical care. In other fields (e.g., nutrition, dental health, and programs for integrated services) quicker progress has been made because the facts concerning the problem were more or less fully known.

INTEGRATED HEALTH SERVICES

While the need for integrated health services is generally recognized, integration is a slow and difficult process in most countries. The higher cost, the greater difficulties in organization, and inferior results inherent in services that function independently and without coordination are well known. The basic question is how to achieve integration.

The task of integrating traditional medical care services with those of public health is difficult. The diversity of medical care systems, even within one country, makes it difficult to find a single formula for implementing integration. This makes it necessary to conduct preliminary studies to experiment in limited areas.

During 1961 the Organization collaborated with the Governments of 15 countries in 16 health service programs, and assigned consultants to each program. These programs have been called Integrated Health Services to indicate their goal, without implying that they are integrated at present.

In 12 programs, the assistance was provided at the national and lower levels. The aim was to organize central national services and simultaneously to develop decentralization of specific activities at the regional and local levels. In four programs advisory services were provided at the local level only.

Special emphasis was placed on the need for establishing a health service career which would include stable, full-time employment, and adequate salaries, to ensure employee continuity in the service.

A total of 56 consultants were provided by the Organization to the Governments for these programs during 1961.

In the course of the year, agreements were signed with three additional countries for the purpose of collaborating in similar programs, at the national level in Costa Rica and British Guiana and on a regional basis in Northeast Brazil.

Health Planning and Organization

During the year, remarkable progress was made in many countries with regard to the planning and organization of services.

Within the program of integrated health services for El Chaco Province, Argentina, the transfer of the medical aid systems from the Federal Government to the Provincial Ministry was completed. This resulted in a decentralization of responsibilities and greater efficiency in operation at the local level. This program also achieved a considerable increase in the various categories of technical and auxiliary personnel, as well as a corresponding raise in salaries. This inducement for employees to continue in their positions will facilitate long-range planning.

For the first time, program budgets were prepared with the participation of the officials who will be in charge of developing the programs.

In the Province of San Juan, Argentina, great progress was made in the development of the local health services, which now constitute a model for the country. More details about them are given below in connection with legislation.

In Bolivia, the definitive organization for the National Health Service was established and expert national personnel were appointed to serve as full-time directors and department heads. With consultant services provided by the Organization, a study was made of the functions of the Administrative Department, which was then reorganized in accordance with the recommendations formulated. It now includes, among other services, a supply center. Assistance was also given for the drafting of a Ten-Year Health Plan which the Government included in the National Ten-Year Plan for Economic and Social Development, and for the administrative organization of hospitals at La Paz and Cochabamba.

The program for Northeast Brazil is to cover nine states. Beginning in the State of Rio Grande do Norte, the program is to be extended into Piauí and Sergipe and finally into the other six states. It was not possible to obtain a medical consultant for this program, and advisory services were provided by the Zone V Office. The program in the State of Mato Grosso continued to develop satisfactorily, in view of the resources available.

In Colombia, a Ten-Year Plan was prepared with a view to improving health service throughout the country. The Plan calls for setting up 20 new centers each year for 10 years. Each center is to serve an area with about 100,000 inhabitants. These centers will provide for the integration of activities for the promotion, maintenance, and restoration of health on a regional basis. At the end of 1961, there were in all 32 health centers in operation in Colombia, serving a population of 1,653,941.

Assistance in the internal organization of the Colombian Ministry of Health, begun in 1960, continued. A Coordination Committee was set up, with great success. An Office of Biostatistics was organized and has the help of a consultant from the Organization. Consultant services were also provided for the organization of the Department of Epidemiology.

In Cuba, the plan for the development of health services in the Province of Pinar del Río, which had been selected as the initial area for activity, was given up, and discussions were held with the Government regarding the use of Marianao, in Havana Province, for practical training.

In Ecuador, political and administrative difficulties continued to impede the development of the integrated health service program. The country had three Directors General of Health in 1961, so that continuity of action was not possible. Nevertheless, a Planning Committee was appointed in the General Directorate of Health, and was given the task of drafting a plan for organizing the health services. The Committee is studying the preparation of a National Health Plan. A National Board for Planning and Economic Coordination was created to advise the President of the Republic, who has requested a special consultant on health matters for the Board. A National Department of Epidemiology was created in Guayaquil, and three health centers were organized in Quito, one in Tulcán and one in Cotacachi.

In Guatemala, a Three-Year Health Plan was drafted for the period 1961-1963. Its aim is to improve health organization at the national, regional, and local levels. During the year, local health services were extended and subcenters increased in number from five to seven, health posts from 15 to 17, and clinics from 89 to 94. Nine sanitary units were converted into health centers, so that the latter increased from 21 to 30.

The achievements of the national program in Haiti were limited, owing to economic and political difficulties. The Government was, however, interested in drafting a plan which would expand health services in a selected area.

In Honduras, the central organization was strengthened by the addition of full-time personnel and a Division of Environmental Sanitation was created. The establishment of a Nursing Department was approved for 1962. Programs for nutrition, tuberculosis, leprosy, and dental health were incorporated into the National Five-Year Health Plan.

Mexico's program for integrated health services now includes nine states, and services are gradually being expanded. In particular, the services in the States of Guanajuato, Tlaxcala, Sonora, Yucatán, and Oaxaca were improved during 1961.

In the Dominican Republic, a Committee on Planning and Coordination was created within the Ministry of Health and Welfare. Its task will be, in particular, to study health problems and both human and material resources and to draw up, in collaboration with the Organization, a National Health Plan. Divisions of Statistics and Nutrition were established, as well as a Dental Health Section in the Division of Maternal and Child Health. They will begin operation in 1962. Technical and administrative personnel for the new health center of San Pedro de Macorís were trained at the Centers in San Cristóbal and Santo Domingo.

In Panama, a plan for integrated health services was drafted for the central region and was later extended to cover the entire country. The Government appointed a General Coordinator, who functions as Assistant Director of Health, to direct the work of the various committees which are studying the specific problems that will have

to be taken into consideration in the health plans. A study was made of the possible reorganization of the Ministry, which would facilitate the policy of integration for the health services. In the development program for the central region, the area of Penonomé was selected as a demonstration area for the integration process. For this purpose, a building which serves both as an integrated center and outpatient clinic was erected next to the hospital.

In Paraguay, progress was made in decentralization, and greater administrative responsibilities were given to the regional health directors. The low salaries paid to physicians continue to be a serious problem.

In Peru, in addition to the consultant services on a national level, the Government has been given assistance in developing the Junín health area. During the year, the full-time technical personnel of the area reached full strength. A study was prepared on the creation of a training center which would make it possible to train both professional and auxiliary personnel locally.

In Uruguay, two new centers began operation in 1961, so that eight health centers are now functioning in accordance with the integrated program. Once the personnel now receiving training becomes available, it will be possible to organize eight new centers in the Departments of Durazno, Salto, and Artigas. The former Department of Health Units has been integrated with the Division of Hygiene. This will facilitate greater coordination in the development of the programs.

Legislation

In the Province of San Juan, Argentina, the consolidation of the legal structure was achieved through the promulgation of a Sanitary Code, the first instrument of its kind in the country. Another law established the Provincial Health Service as an independent decentralized body with legal status. The Basic Regulations of the Provincial Health Service were also promulgated. A law governing medical careers was drafted with the collaboration of the local medical association and subsequently adopted. In addition, regulations on competitive examinations for professionals and draft staff rules for the Provincial Health Service were prepared. These efforts are designed to create a permanent staff with adequate salaries and well-defined functions. In the Province of El Chaco, the Sanitary Code, which was prepared with the assistance of the Organization, has not yet been adopted.

In El Salvador, a study of the Sanitary Code and the Regulations in force was made with the help of a consultant, and a first draft of an amendment to the Code was formulated.

At the request of the Government of Costa Rica, its Sanitary Code was revised, and a first draft of an amendment was prepared for submission to the Government.

Assistance in formulating health legislation in Trinidad, begun in 1959, will be continued by the provision of consultant services on quarantine regulations.

Training

The training of personnel is one of the fundamental elements in each of the integrated health service programs. Fellowships for courses given abroad are provided when facilities are lacking within the country, or courses are given at specialized centers or locally within the country. In-service training is also available.

In the Province of El Chaco in Argentina, 338 persons were trained locally in courses comprising 1,182 hours of class and 732 hours of practice for nursing and midwifery auxiliaries, sanitary inspectors, and nurses. A series of short courses on various health programs were also provided.

In the Province of San Juan, Argentina, courses were given for statisticians, assistant dietitians, assistant health educators, social workers, and nursing auxiliaries—a total of 92 persons. Thirty-five persons received fellowships from the Organization and the Provincial Government for advanced studies in Buenos Aires and abroad.

In the State of Mato Grosso, Brazil, 12 health visitors and 10 assistants were trained.

In Colombia, the fourth health orientation course for physicians was given, with a total enrolment of 32 students. The tenth postgraduate nursing course ended early in the year and 15 students were graduated, and the eleventh course, attended by 14 students, was given. Six-week short courses were given for sanitary inspectors in the Departments of Bolívar, Atlántico, Boyacá, and Tolima. At the School of Public Health in Bogotá, the sixth and seventh courses for sanitary inspectors, attended by 28 and 23 students, respectively, were given. Thirty-seven nursing auxiliaries were trained in a short, theoretical and practical course.

The Public Health School of Cuba trained approximately 1,400 professionals and assistants in a wide variety of courses. One of the main courses was an introduction to health administration for physicians, veterinarians, dentists, and nurses; another was for health officers, and a third for nursing auxiliaries.

In Ecuador, a course was given for 22 auxiliaries who will serve with the Andean Mission. In Guatemala, local training courses were attended by 13 physicians, 17 nurses, 11 nursing auxiliaries, 12 midwives, 16 sanitary inspectors, and 13 laboratory assistants; a special short course on public health was held for 20 dentists; and 9 sanitary inspectors attended a short course on food hygiene. In Honduras, courses were held for 20 nursing auxiliaries and 11 sanitary inspectors.

In Mexico, training courses in public health were held for 22 doctors at Morelia, Michoacán, and for 22 nurses in Puebla. In addition, practical courses in sanitation and courses for nursing auxiliaries were held in the States of Tlaxcala, Guanajuato, Yucatán, and Coahuila.

In the Dominican Republic, short courses on food inspection were given for 24 public health officers. Three courses on nursing were provided and a total of 11 women were trained. Ninety-one food handlers were also trained in a short course.

In Paraguay, two courses for nursing auxiliaries were given to a total of 52 students, a course for sanitary inspectors was attended by 25 students, two courses for midwives were attended by 39 students, an orientation course in public health was attended by 30 social workers, and two courses on nutrition and the teaching of nutrition trained a total of 235 persons.

In Peru, the first training course for sanitary inspectors was inaugurated with 31 students. The first steps were taken for the establishment of a training center which would meet the requirements of the country for training both professional and auxiliary personnel. Five courses were also provided for 113 hospital nursing auxiliaries in Lima and Callao.

In Uruguay, 22 health visitors and 43 nursing auxiliaries were trained for work in the services and departments carrying out the program of integrated health services.

Construction and Remodeling of Buildings

The lack of local health installations in most countries of the Americas is such that the organization and expansion of services and the process of integration require substantial new construction or remodeling. This process is just beginning, and its development depends on the economic and material resources of each country.

In the Province of San Juan, Argentina, a number of health centers and posts were remodeled and some were combined with hospitals. Several centers are either under construction or being remodeled. In the Dominican Republic, studies for the construction of a health center at Santiago de los Caballeros were completed and work is to begin early in 1962. In Panama, the final details of the construction of an integrated regional medical center in Aguadulce, in the central region, are being worked out. The center will serve as a model for studying and testing different integration methods, as well as for training personnel.

Evaluation

The Organization consistently urged that evaluation be a continuous process in the development of health programs so as to provide for possible changes and reorientation of plans of action. The evaluation process begins with the report and the critical analysis of its work, which each program prepares quarterly and which are studied by PASB Headquarters and Zone Offices.

A detailed and more complete evaluation of health activities, similar to the study carried out in Paraguay in 1960, was begun in the countries of Central America and Panama. The Organization's consultant began his activities in Nicaragua, and the evaluation is scheduled for completion early in 1962. In the other countries, preliminary arrangements were made for carrying out the evaluation during 1962. In Peru, an evaluation of the services of the Huancayo health center was made and, as a result, procedures were revised and an in-service training course was organized.

Joint Field Mission on Indigenous Populations

This program has been under way since 1954 in the Andean Region of South America and is aimed at accelerating the natural development of the indigenous populations and their social and economic assimilation into the life of each country. Considerable progress was made in 1961.

In Bolivia, the four bases of Pillapi, Playa Verde, Otavi, and Cotoca continued to provide satisfactory medical and nursing care. Progress was made in the construction of a rural hospital in Otavi, and a training course for 50 volunteer Indian assistants was held. A plan to increase the number of activity centers to 28 is under study. With the assistance of the Organization, a National Plan of Rural Development was prepared and incorporated into the National Health Plan which, in turn, forms part of the plan prepared by the Government for the economic development of the country.

In Ecuador, the activities in the Andean Region began with the appointment of a full-time medical director and the opening of the course for nursing auxiliaries described above under Training.

In Peru, the activity centers in the Department of Puno were integrated with the corresponding health area by their transfer from the Ministry of Labor to the Ministry of Public Health. This will permit greater coordination of health work throughout the Department.

In the southern region of Colombia, there is great interest in extending the recently initiated program to the entire indigenous area of the country.

During the year, studies were begun in the northern part of Chile and in the northern part of the Province of Jujuy, Argentina, so as to extend this program to areas which have problems similar to those of the countries mentioned above.

MEDICAL CARE

During 1961 the Organization continued to promote medical care, interpreted broadly to include not only diagnosis, treatment, and rehabilitation, but also activities aimed at promoting the health of the individual, preventing disease, and discovering asymptomatic conditions. Medical care, in this sense, is one of the basic services of integrated health programs. The Organization also emphasized the incorporation of medical care activities in the health programs under way in the countries, as discussed under Integrated Health Services.

A preliminary survey was made for the purpose of obtaining the most urgently needed qualitative information on medical care in the countries of Latin America. The analysis of the information brought to light certain deficiencies, of which the following were most important: separation of public health services from medical care services; lack of a hierarchic system of institutions for the care of the sick; shortage of human and material resources; lack of a general policy for medical care; lack of medical care services in rural areas; efforts mainly devoted to organizing inpatient services, to the detriment of ambulatory and domiciliary care; poor distribution of institutions and their facilities; and administrative deficiencies.

The problems of medical care were specifically mentioned in the Charter of Punta del Este, as needs to be satisfied through the Alliance for Progress. Medical care will have to be taken into account in formulating ten-year health plans within the framework of general development plans. Among the steps outlined at Punta del Este were the improved collection and analysis of vital and health statistics to complete the basic data which are now lacking; the preparation and training of professional and auxiliary personnel, which is now insufficient in quantity and quality; the improved organization and administration of services for integrating preventive and curative activities; the improved performance of medical care services and the gradual establishment of such additional services as are deemed essential; the completion of projects under way that are aimed at strengthening medical care activities; and the extension of medical care services to the greatest possible number of persons, by improving the organization and administration of hospitals and other centers devoted to health protection and health promotion.

The XIII Meeting of the Directing Council in 1961 chose the topic "Present Status of Medical Care in the Americas in Relation to its Incorporation as a Basic Service in Integrated Health Programs" as the theme of the Technical Discussions to be held during the XVI Pan American Sanitary Conference.

Special efforts have also been made to ensure that all new agreements on health services entered into by the Organization with Governments will include a special paragraph on medical care as a basic service. Argentina, Chile, Colombia, and Peru were the most advanced in this respect.

The Organization also continued to promote specific projects on medical care in Argentina and El Salvador.

In El Salvador the bases have now been laid for organizing a national hospital system, embracing hospitals and other welfare centers under the direction of the Ministry of Health and forming a medical care plan for the country. The consultant attached to the El Salvador project also visited Costa Rica, Honduras, and Panama.

In Argentina, activities in the field continued in accordance with the original plan of action. The demand for consultation and technical advice on hospital services increased both in Greater Buenos Aires and in the provinces, and a technical approach to hospital administration is taking shape. Many deficiencies recorded in 1957 have been overcome, and others are being made good. In addition to general advisory services, special studies of particular establishments, and collaboration in meetings, courses, and seminars in Argentina, the consultant provided advisory services to Chile on its plans for the reconstruction of establishments damaged or destroyed during the 1960 earthquake, and to Uruguay on a plan to provide assistance to a teaching hospital, and on plans for reorganizing the public health services.

Short visits were made to Colombia, Ecuador, and Peru to collect background information. Steps were taken in El Salvador to incorporate the medical care program in a national health plan, and in Chile to plan medical care along the same lines.

The Organization also continued its activities in the field of rehabilitation. In cooperation with other international agencies, it continued to participate in the Rehabilitation Training Center at São Paulo, Brazil, where training is given in techniques to aid the handicapped to become self-sufficient. The program begun in Chile continued to receive consultant services on prosthetic appliances, and an agreement was prepared whereby this program would be given greater impetus through better health-welfare support.

The fellowships granted were aimed primarily at improving the administration and construction of hospitals.

NURSING SERVICES

The change in the title of the Regional Adviser in Public Health Nursing to Regional Adviser in Nursing Services

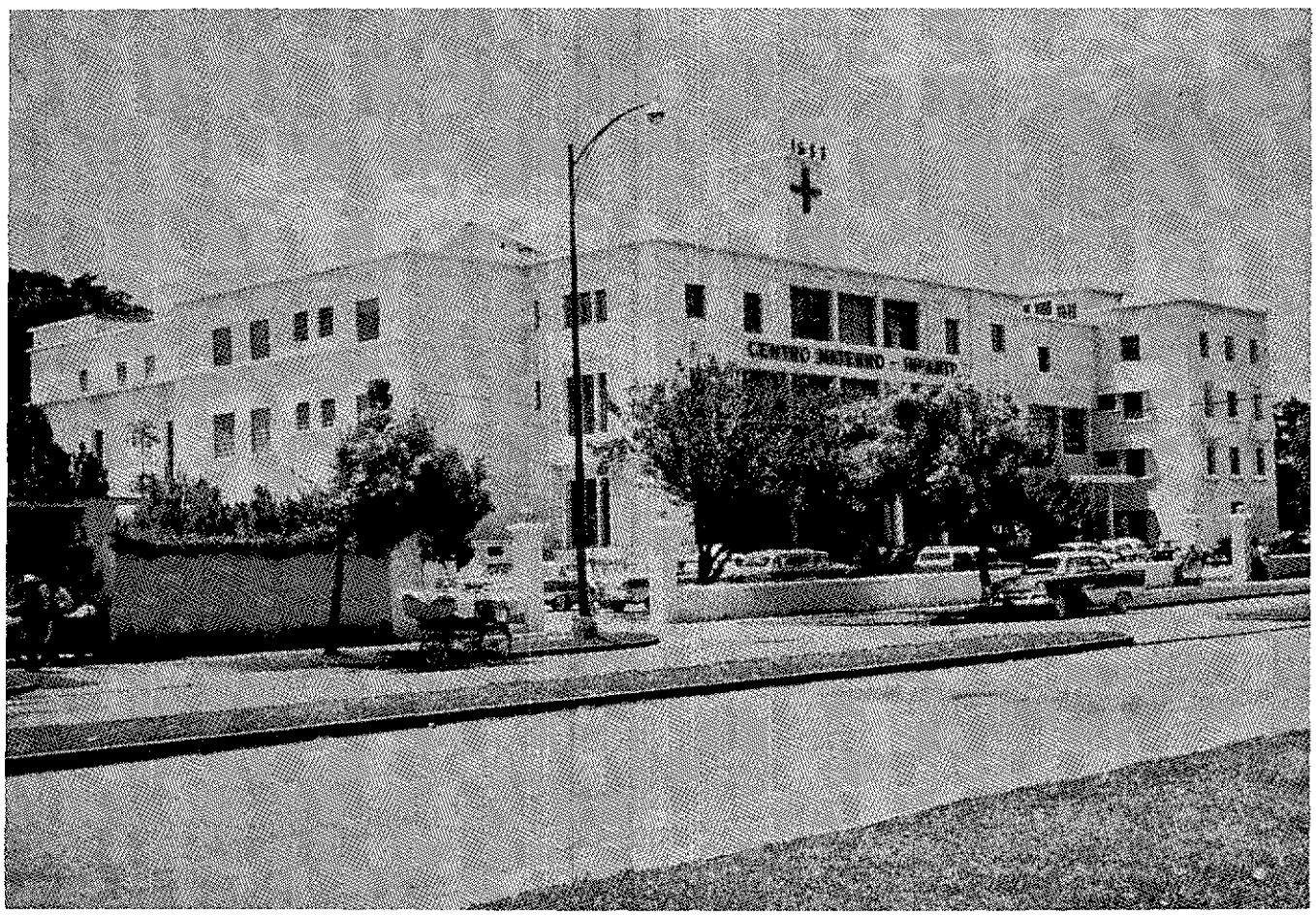
reflected the increasing emphasis on nursing needs in hospitals as well as in public health services. Consultant services are being geared to assisting countries to think in terms of total nursing needs and to plan accordingly.

In recognition of the need for increased collaboration for the improvement of health services in the United States-Mexico border area, a nurse consultant was appointed to cooperate with health and nursing personnel of the border states toward the development and expansion of nursing education facilities, both formal and in-service, and the improvement of nursing services. Consultant staff in nursing was increased to include 14 public health nurses assigned to projects in integrated health services, public health nursing, and tuberculosis control; 7 nurses assigned to Zone Offices and the El Paso Field Office; 19 nurses assigned to nursing education projects; and 3 nurses at the Regional level. At the end of 1961 only one existing post of nursing consultant was unfilled.

Because of the increased interest in the better preparation and utilization of midwifery personnel and the requests from a number of countries for assistance, a nurse-midwife was added to the staff to study midwifery education resources and practice—starting with the countries which prepare professional midwives—with the objective of contributing to the improvement of maternal and child health services.

The first of a series of seminars for key national nurses working in health services was held in El Salvador in November. The seminar brought together 27 nurses from Panama, Central America, and Mexico to discuss "The Participation of the Nurse in Planning for Health Services."

Although difficulties in terms of shortages of trained personnel, lack of transportation for supervisory activities, and insufficient supplies and equipment continued, there was nevertheless a steady increase in all countries of the Americas in numbers of nurses and auxiliary nurses employed. In addition, nurses assigned to units, sections, or departments at national levels have increasingly been called upon to participate with allied health personnel in the planning of health and nursing services.



REDUCING INFANT MORTALITY—A MODERN MATERNAL AND CHILD HEALTH CENTER IN GUATEMALA.

MATERNAL AND CHILD HEALTH

Studies on diarrheal disease in Guatemala carried out through INCAP were continued. In addition, support was advanced under direct contract to a research scientist studying the problem of diarrheas in malnourished children in Peru.

A Regional Adviser in Maternal and Child Health was appointed and assumed duty during the last quarter of the year. An initial orientation trip was made to five Latin American countries and three Caribbean islands.

The principal emphasis in assistance provided in this field by the Organization continues to be placed upon the integration of maternal and child health services into general health programs. Activities in the fields of nutrition, control or eradication of diseases, and other areas affecting maternal and child health are reported in the sections relating to these topics.

NUTRITION

Recognizing the complexity of nutrition problems, the Organization has based its work in this field on the principle that health services can play a vital role, particularly when their efforts are joined to those of agricultural and general socioeconomic development programs. The most effective way to promote nutrition programs is to plan them on a broad scale within the type of balanced development plan envisioned in the Charter of Punta del Este.

One of the key events of 1961 was the discussion of nutrition problems in the Americas at the XIII Meeting of the Directing Council. As a result of that discussion, the Council, in Resolution XI, recommended that Governments:

(a) Within their national health plans, and with due attention to the importance of this problem, include among the activities accorded highest priority the programs related to nutrition, encompassing both specific measures for the prevention of deficiency diseases and other measures to promote general improvement in the state of nutrition of the population.

(b) Organize, or expand, the nutrition programs in the national health services.

(c) Establish the means for achieving the proper planning of an agricultural policy that will take into account the basic nutritional needs of the population, and for attaining the proper coordination of efforts among the different official agencies, as part of the plans of social and economic development.

(d) Promote the best utilization of high-protein, low-cost mixtures from products and by-products that are not at present used for the human diet.

(e) Renew their efforts to achieve the effective application of a salt-iodization program, as a preventive measure against endemic goiter.

(f) Take into account, as a complement to any program for improving nutrition in the population, the importance of raising, in all aspects, the level of education.

The Organization appointed an additional nutrition adviser who was assigned to Zone I, thus raising the number of nutrition advisers to five, including the Director of INCAP who acted as Zone III adviser.

With the organization of new personnel training centers in the Region, such as those at INCAP and in the United States, the possibility of expanding fellowships in nutrition improved notably, and in 1961 a total of 31 were awarded, or eight times more than the average in recent years. If the Organization can continue this pace with its regular resources, it can train 300 to 400 people in a decade—an objective which would meet the needs of the Region. The following order of priorities was established: medical nutritionists in public health, nonmedical nutritionists, and general public health personnel.

Protein deficiencies, almost always associated with a general diet deficiency, are the most important nutrition problems in the Americas, especially among children under five. The Organization, among other measures, promoted during 1961 the production of new low-cost sources of protein, utilizing products previously not used for human consumption, to complement the traditional policy of increasing consumption of high-protein animal foods such as milk, eggs, and fish.

In Latin America the production of INCAPARINA (see the report on INCAP, below) was 87.2 metric tons in 1961, or 38 per cent more than in 1960. Guatemala and El Salvador have put the product on the market, with demand exceeding present production possibilities. Six other countries in the Americas, with eight firms in a position to begin production, obtained authorization to produce INCAPARINA. The authority granted by INCAP establishes a maximum retail price through regular commercial channels of US$0.04 for the 75-gram package that meets a child's daily protein requirements. Welfare agencies receive a 30-per-cent discount.

Other products being studied in the Americas are based on peanut flour, fish flour, soybean flour, goosefoot, etc., and the Organization continued to stimulate research in this field.

As a measure against endemic goiter, the Organization has encouraged Governments to enact appropriate laws and to adopt measures to put into practice the iodization of salt, but progress in 1961 was not significant and new approaches to advance this program are being studied. In 1961 several fellowships were awarded for studies re-

lated to this problem, and discussions were held with several Governments on possibilities for future assistance.

The Organization was active in support of research on the nature and scope of anemia in the Americas as a necessary prerequisite to the adoption of preventive measures. Investigations continued in Iquitos, Peru, and, with the support of the United States Public Health Service National Institutes of Health, the bases were prepared for a study in Trinidad. In Ecuador studies were begun on anemia, using therapeutic tests to clarify its etiology, and assistance was provided on anemia investigations in Venezuela. The Organization also continued to promote the supplying of iron to all expectant mothers at health centers.

In close cooperation with other international agencies, especially the Food and Agriculture Organization (FAO) and the United Nations Children's Fund (UNICEF), the Organization encouraged the creation of national agencies to coordinate food policy. To complement the direct activities of consultants, a seminar was organized in Puerto Rico in 1961 for non-Spanish-speaking Caribbean countries and territories, with the participation of the Caribbean Commission, FAO, and UNICEF. One of the recommendations of the seminar was for the creation of a permanent Caribbean Nutrition Committee composed of representatives of the countries participating in the seminar and of international agencies.

Efforts to raise the nutritional level of rural families through intensive educational activities and promotion of food production at the school and family level were continued through coordinated programs of applied nutrition developed in collaboration with ministries of health, of education, and of agriculture. In 1961 Bolivia, Colombia, El Salvador, Nicaragua, and Peru began such programs,

YOUNG PARTICIPANTS IN THE EXPANDED NUTRITION PROGRAM—GUATEMALAN CHILDREN PLANT THEIR SCHOOL GARDEN.

and the UNICEF Executive Board approved aid for a program to begin in Trinidad and Tobago in 1962.

The establishment of adequate machinery to coordinate the efforts of agencies engaged in applied nutrition activities at the national, regional, and local levels is naturally difficult. The first programs aroused considerable interest among both nutritionists and local authorities, and in November 1961 a meeting of international consultants and advisers was held at INCAP, in Guatemala City, to evaluate the results obtained to date and to unify policy standards to be followed in the future.

The Organization has also worked to promote nutrition education in general. A seminar held in October 1961 in Guanajuato, Mexico, discussed the methods to be used in nutrition education programs. Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama participated in the meeting, which was sponsored by the Government of Mexico, FAO, UNICEF, and the Organization.

During 1961 assistance continued to be provided to the Institute of Nutrition of Ecuador (INNE) by the Zone IV Office. A fellowship was awarded to the chief of the Department of Nutrition Education to study at INCAP and two medical nutritionists attended a course in biostatistics in São Paulo. Training programs for nursing and social service personnel were intensified. Research studies continued on the possibility of using the "chocho" seed (*Lupinus mutabilis*) as a source of low-cost protein. Simple methods of extraction of the alkaloids which limit the use of this seed for human consumption were investigated. The chemical analysis of local varieties of food continued, as did studies of the etiology of "geographic tongue," for which therapeutic tests with riboflavin were begun.

With the collaboration of the Organization, INNE continued nutrition education activities at all levels, and a National Nutrition Committee was formed, with representatives from the ministries of health, of education, and of agriculture and the National Board of Economic Planning and Coordination.

Institute of Nutrition of Central America and Panama

Services to Member Countries

INCAP has placed special emphasis on the coordinated programs of applied nutrition described above, whose goal is to improve the nutrition status of the most vulnerable groups such as preschool children, expectant mothers, and nursing mothers. The Institute, in cooperation with personnel of Costa Rica, El Salvador, and Nicaragua and of the international agencies concerned with

these programs (PAHO/WHO, FAO, UNICEF), took part in the early training courses for teachers, nurses, agricultural extension agents, and others responsible for work at the local level. A total of 280 hours of instruction were given to 996 students of the three countries. The Institute also prepared reference material for the nutrition and nutrition education courses that made up the first phase of the programs.

Similar programs were planned in Honduras and Panama. The preliminary work in Honduras is already well under way and the program is expected to start in 1962. In Panama, the arrangements will be completed in 1962 in order to begin the program early in 1963. This will mark the establishment of coordinated nutrition programs in all INCAP member countries, since Guatemala has had one in operation since 1958.

The study of problems that have impeded the effective application of measures recommended periodically by INCAP for salt iodization and flour enrichment continued. Important advances were scored in salt iodization in Honduras and El Salvador. Flour enrichment is already obligatory in almost all member countries of INCAP, and a special effort was made in 1961 to draw up adequate methods to enforce national regulations. Costa Rica and Guatemala have achieved practical and effective systems, including proper controls based on laboratory work set up with the help of the Institute in the Departments of Public Health.

In nutrition education, the preparation of information leaflets and reference materials for the use of personnel working in the fields of agriculture, education, and public health continued; 19 new leaflets were distributed with the monthly bulletin of the INCAP nutrition education service. A manual of simple experiments for primary-school teachers engaged in nutrition education programs was prepared. The manual includes graded experiments adapted to the levels of the different primary classes and to the needs and resources of the countries.

Training

Toward the end of 1961, the seven students of the first class of the INCAP School of Nutrition and Dietetics were graduated. Two came from El Salvador, two from Guatemala, one from Nicaragua, and two from Panama. The second course, which began in May 1961, included professionals from El Salvador, Honduras, Nicaragua, and neighboring South American countries.

The three-month Nutrition Course for Public Health Physicians included the chiefs of the Public Health Nutrition Departments of El Salvador and Nicaragua, the chief medical officer of a health region in Panama, and 11 physicians working in public health or education programs in various South American countries.

INCAP continued its in-service training programs, giving them official status. In 1961, most of the 22 students were from the six member countries, with fellowships provided by the Institute, and the remainder were from Australia, Brazil, Chile, Colombia, Mexico, Paraguay, Puerto Rico, and the United States, with fellowships from PAHO or other organizations. The students received special training in clinical nutrition and public health, agricultural and food chemistry, clinical biochemistry, laboratory techniques, nutritional biochemistry, anthropology, statistics, etc., and made studies on atherosclerosis, diarrheal diseases, pathology, and pedagogical methods.

Development of Vegetable Mixtures

The successful acceptability tests of INCAPARINA in 1960 culminated more than eight years of work on vegetable-protein mixtures of high nutritive value and low cost. In conformity with a resolution adopted by the INCAP Council at its XI Meeting, the production and distribution of the product on a commercial scale, by private enterprise under the authority and control of the Institute and with the close cooperation of the Governments concerned, was begun in 1961.

The original output of 10 metric tons per month in Guatemala (begun in May 1961) proved insufficient to supply the market, and production was stepped up to the plant's present maximum capacity of 15 metric tons per month, which is still insufficient to supply the market properly and permit the further promotion of consumption in all parts of the country.

INCAPARINA was put on the market in El Salvador at almost the same time as in Guatemala, and a second Salvadorean company, founded specifically to produce and distribute INCAPARINA, also began preliminary activities.

In Nicaragua, a firm established for this purpose was authorized by INCAP in mid-1961 to produce and distribute INCAPARINA, and the plant was nearing completion by the end of the year. Firms have also been licensed in Colombia, Honduras, Mexico, the United States, and Venezuela, and preparations for production are under way in several of these countries. Applications from firms in Costa Rica and Panama, the only member countries of INCAP where production has not yet been authorized, are under study.

Research

Studies of infant malnutrition have concentrated lately on the interrelationship between distinct clinical forms of protein-calory malnutrition via physiological, metabolic, and biochemical research, with a view to clarifying the physiopathological mechanism of the multiple deficiency

syndrome of infancy, marasmus, and other intermediate forms of malnutrition.

In the quest for practical methods to evaluate nutritional status, it has been established that the urinary excretion of some nitrogen metabolites can be used to evaluate the state of protein nutrition. Collecting the necessary 24-hour urine specimens, however, is evidently impractical in the field. Studies have shown that by the use of certain relationships between metabolites correlated with the person's size, especially in children, it may be possible to use a single fasting urine sample. This possibility is still being investigated to evaluate the precision of such indices in measuring protein deficiency which has no other clinical manifestation.

Studies of the biological value of cereal proteins and the effect of supplementing them with amino acids were also continued, using different cereals and varying levels of supplementation. This work appears to indicate a need to keep track of the quantities and proportions of all the amino acids in a given protein in estimating the most adequate levels of supplementation with those which are lacking.

In the second year of investigation of the interrelationship between infections and nutritional status, evaluation of the effect of spontaneous infections or infections provoked by live-virus vaccines on ingestion, absorption, excretion, and serum levels of various nutrients continued. On the epidemiological side, studies continued in Guatemala to determine the effect on disease, mortality, and the nutritional status of children of environmental sanitation and infection control measures in one village, and of improvement of the nutritional state in a second. A third village serves as a control.

With respect to studies of the relationship between diet and chronic illness, the Inter-American Atherosclerosis Project has stimulated interest in many parts of the world and has taken on an international character. The object of this epidemiological study is to determine the prevalence of atherosclerotic lesions in different population groups and to establish their relationship with environmental and genetic factors. New laboratories within and outside the Americas were included, increasing the number of professionals cooperating in the Project to 28 by the end of 1961. Coronaries and aortas are being collected in Brazil, Chile, Colombia, Guatemala, Jamaica, Mexico, Puerto Rico, the United States, and Venezuela, as well as in India, Italy, Japan, Norway, the Philippines, South Korea, and the Union of South Africa. The Project recently joined forces with another investigating group, interested in cerebral arteries, and arrangements are being made for some laboratories that originally cooperated in developing the Atherosclerosis Project to collect these as well. More than 4,000 cases were studied in 1961, and a preliminary analysis was made of the first 3,000 cases studied.

Vegetable mixtures have been studied in which the corn or millet of INCAP Vegetable Mixture 9 can be replaced by rice or other cereals, and other mixtures in which various protein concentrates such as soybean derivatives can be totally or partially substituted for cottonseed flour. Finally, a small farm was given to INCAP by the Government of Guatemala and has been reconditioned for animal and agricultural experiments. Some investigations have already been initiated to determine the effect of various methods of cultivation and the use of different fertilizers and minor elements on the nutritive value of key foods in the customary Central American diet. The farm also permits the use of cattle, hogs, and poultry for human nutrition studies.

Publications and Meetings

In 1961 a total of 57 articles in English and 45 in Spanish were prepared, including translations. Eleven articles were published as "Papers from the Institute of Nutrition of Central America and Panama" (*Amer J Clin Nutr* **9** (2):141-210, 1961). The history of INCAPARINA was published in the *Revista del Colegio Médico de Guatemala* **12**:1-29, 1961. INCAP professional staff participated in 24 Latin American and international congresses and regional meetings concerning nutrition and related fields during 1961.

DENTAL HEALTH

In 1961 the dental program of the Organization shifted its main attention from public health dentistry to dental education. The regional center for dental public health training at the University of São Paulo, established with assistance from the Organization and the W. K. Kellogg Foundation, now had sufficient national staff for the dental health courses formerly given by Organization personnel. Current consultant services to the center were related to new courses, new field training areas, staff development, and field research. The Organization continued to devote attention to the recruitment of fellows for dental public health training in São Paulo. Fourteen fellows were sponsored in 1961.

The Organization rendered assistance to Venezuela in planning for a program for the training of dentists in public health. The foundation was laid for a training program, including undergraduate dental education and courses for postgraduate public health training, at a one-week workshop in which the Organization participated.

The recommendations of the workshop served as the basis for a training program planned for implementation in 1962. Venezuela now has five dentists who were trained in São Paulo, three as fellows of the Organization.

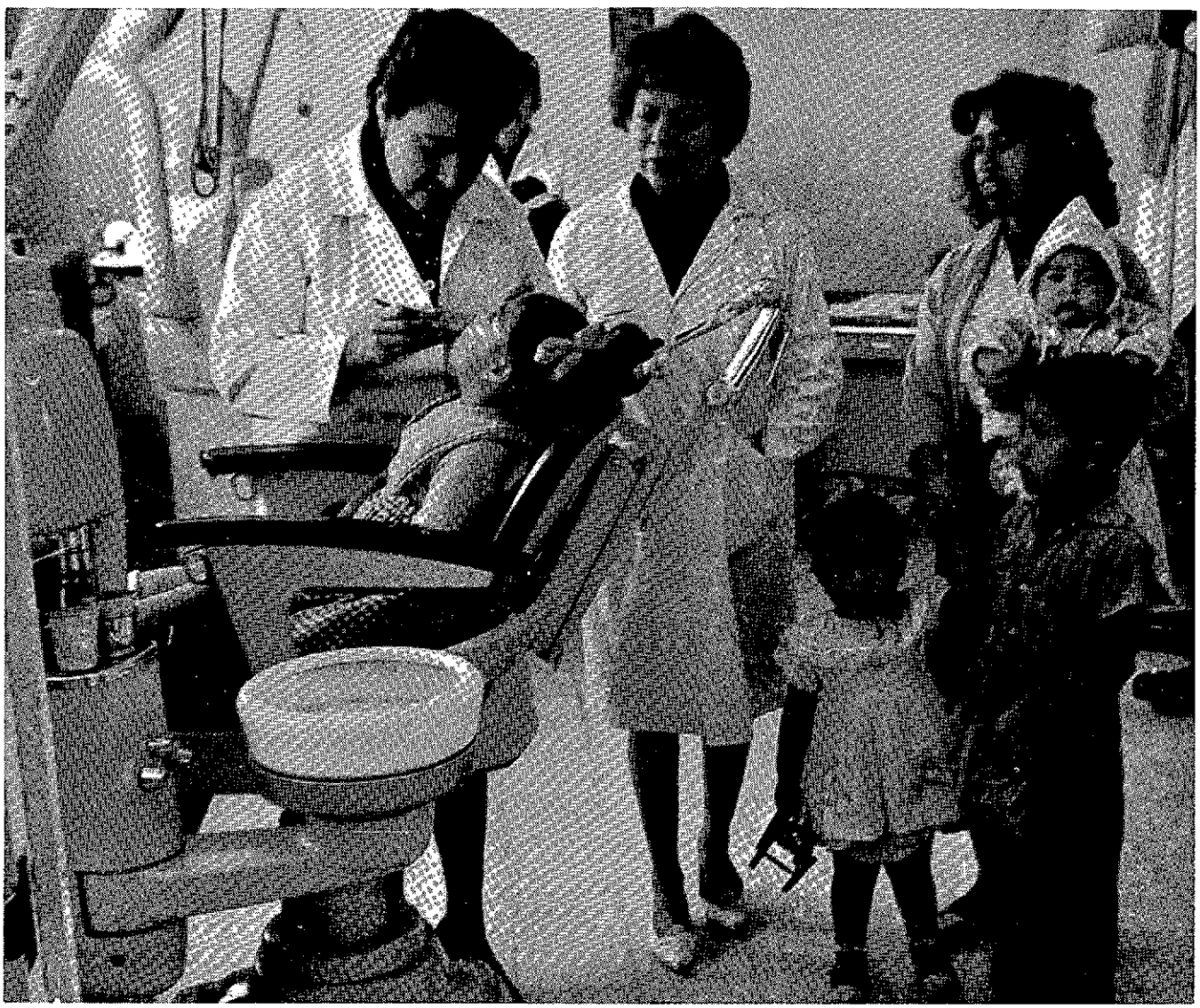
A former fellow of the Organization, also trained at São Paulo, is now full-time professor of dental public health at the School of Public Health in the University of Buenos Aires, where seven Argentine dentists took the course in 1961.

To facilitate the teaching of dental public health in other schools of the Region, the Organization undertook the publication in Spanish of the manual on dental public health [1] developed by the University of São Paulo, with financial assistance from the Kellogg Foundation. The book was translated by former fellows from 13 different countries, each being responsible for one chapter, and is to be published in 1962.

The Organization provided a 20-hour course on dental public health in Montevideo, Uruguay, on invitation of the Dental School and of the authorities of the Argentine-Uruguayan International Dental Congress. The course was attended by more than 30 dentists from Argentina, Chile, Paraguay, and Uruguay. A mimeographed outline was distributed to public health dentists interested in giving courses of this type, to be used as a source of ideas on method and course content.

Reflecting the new emphasis on dental education, the teaching of the preventive, public health, and social

[1] *Odontologia sanitaria. Scientific Publication PAHO* **63**, 1962.



DENTAL CARE AT THE HEALTH CENTER IN PUEBLA, MEXICO.

aspects of dentistry was promoted by aiding in the establishment of a pilot department at the dental school of the University of Antioquia, in Medellín, Colombia. A five-year agreement between the Government of Colombia, the Organization, and the W. K. Kellogg Foundation for the development of a pilot Department of Preventive and Social Dentistry was signed.

The Organization also worked to raise the over-all level of dental education. As a starting point, it was decided to sponsor a series of seminars on dental education in collaboration with the Kellogg Foundation. The first seminar, the preparation of which began in 1961, will be held in Bogotá, Colombia, in 1962 and will include participants from 17 dental schools in Bolivia, Chile, Colombia, Ecuador, Peru, and Venezuela. It is expected that the recommendations of the seminar will provide a basis for specific country projects for assistance to dental schools. Assistance was given to the Latin American Association of Dental Schools in planning a Latin American Congress of Dental Education to be held in Bogotá, immediately following the PAHO seminar. Talks on dental education problems were given in dental schools in Pelotas, Brazil, Montevideo, Uruguay, and Buenos Aires, Argentina. Consultation was given to the curriculum commission of the Dental School in Pelotas and to the *ad hoc* commission in charge of the organization of a dental school in Corrientes, Argentina. A round-table discussion on dental education problems was held with students and faculty members at the Dental School of the University of Uruguay.

In the field of water fluoridation, engineering assistance was given in Colombia, Costa Rica, El Salvador, and Guatemala. The Organization is particularly interested in the utilization of fluorspar, the cheapest available source of the fluoride ion, and the technical assistance has been oriented with this aim in view. It is hoped that a pilot project on fluorspar utilization will be established somewhere in the Region, to demonstrate its economic advantages. A final report on a survey of the status of water fluoridation was completed for publication in the *Boletín de la Oficina Sanitaria Panamericana.*

MENTAL HEALTH

In this relatively new field of the Organization's activity, field trips were made to countries in Zones I, II, III, and IV to collect background information on needs and resources. It was planned that available information on mental health in Latin America be centralized at Headquarters.

In cooperation with the National Health Service of Chile, the papers resulting from the 1960 Latin American Seminar on Alcoholism were published in Santiago in 1961 and are to be distributed in 1962.

Preparatory work was begun for the 1962 Seminar on Mental Health in Mexico.

The Organization was represented at the Third Caribbean Conference on Mental Health organized in Kingston, Jamaica, by the World Federation for Mental Health, and at the World Congress of Psychiatry held in Montreal, Canada.

Documentation on planning national mental health programs, the subject of the Technical Discussions at the Fifteenth World Health Assembly, was distributed in the Americas.

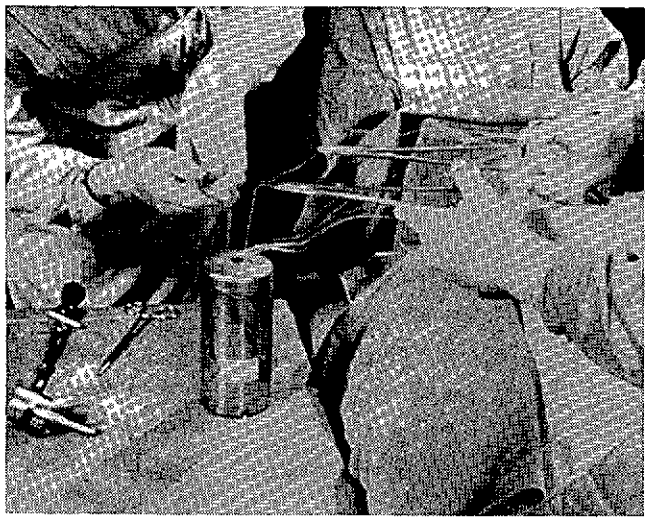
RADIOLOGICAL HEALTH

As a result of the increasing use of ionizing radiation in the Americas, both from nuclear energy sources and from X rays, the Organization has provided assistance to the departments of health in Latin America since late 1960. The radiation program comprises four main fields: stimulating national health services to develop procedures and regulations and adopt international standards for radiation protection and for the disposal of radioactive wastes; promoting the teaching of basic health physics, radiobiology, and radiation protection in medical, veterinary, dental, nursing, and public health schools; fostering the use of radioisotopes for medical diagnosis, therapy, and research; and encouraging research in applications of radiation which may have medical, public health, and veterinary significance.

Assistance was given to the Government of Chile in establishing a teaching center at the University of Chile for clinical training in the use of isotopes, with financial support from the W. K. Kellogg Foundation. The training program is due to start in 1962 and continue for five years. Special radiation detection and measuring equipment and ancillary supplies were provided, and arrangements were worked out for the purchase of some $1,000 of radioisotopes each year for five years for use in clinical instruction.

Discussions were held with ministries of health in the Americas concerning the need to establish radiation protection units to determine the extent of the radiation problem, and to point out that the medical use of X rays and radium accounts for the greatest portion of ionizing radiation that reaches the public.

Regulatory agencies controlling the import of medical



Long-Handled Forceps Are Used in an Operating Room to Remove Radioactive Iridium from a Shielded Lead Container. The Iridium Seeds Are Attached to Nylon Threads for Implantation in a Tumor.

isotopes were visited and their methods of control were examined. Medical schools and hospitals were also visited to assess the problem of registration of sources of ionizing radiation, the training of personnel necessary for the task, and the probable acceptability of such a program to the medical community.

The adequacy of Spanish-language training facilities for both professional and subprofessional personnel was surveyed, and facilities for medical and biological use of isotopes in research were visited.

A 500-curie source of cobalt-60 was supplied to the Institute of Scientific Research of Venezuela for studies of the practicability of sterilizing the vector of Chagas' disease. The Organization cooperated with the Government of Brazil in a meeting on problems related to areas of high background radiation in that country.

The Third Meeting of the Inter-American Nuclear Energy Commission (IANEC) (Washington, D. C., 1961) recommended that the closest coordination possible be observed in the development plans of the various institutions in all matters concerning their common fields of study, promotion, and development, and that national health services develop procedures and regulations and adopt international standards for radiation protection. To implement these recommendations, the Organization made the services of short-term consultants available to Governments for surveying radiation problems, drafting laws and regulations to provide the administrative and legal bases for protection measures, and advising on safety programs for the application of radiation protection procedures, including atomic waste control. Fellowships for the long-term training of physicians or engineers to head the national radiation protection services were also made available.

The Organization participated in the Conference on Education in the Nuclear Sciences, jointly sponsored by the IANEC, the International Atomic Energy Agency (IAEA), and the United Nations Educational, Scientific, and Cultural Organization (UNESCO) at Bariloche, Argentina, and contributed a paper, "Teaching of Applied Nuclear Science in the Healing Arts." Lectures on radiation were given to medical and radiology societies, hospital staffs, and public health, medical, and veterinary school classes in a number of Latin American countries. Training films were provided in order to explain the nature of biological damage from ionizing radiation, its proper use, and measures to be used in decreasing the radiation received while still obtaining the objective of a medical exposure. One film dealt with X rays, while the other dealt largely with the use of isotopes in hospitals. A contract for the preparation of a Spanish sound track was issued. Projection equipment was also obtained.

In cooperation with the United States Public Health Service (USPHS), arrangements were worked out for providing some countries in Latin America with fallout monitoring equipment (loaned by the USPHS). Air and milk samples from these countries were to be sent to USPHS laboratories for analysis of their radioactivity content, which would then be reported to the cooperating country.

PUBLIC HEALTH LABORATORIES

Public health laboratories are one of the basic elements of a general health program. Their work is important in environmental sanitation and in the diagnosis, epidemiology, and control or eradication of communicable diseases. They help to maintain standards for drugs, foods, and biological products. In some countries they are concerned with the manufacture of vaccines, sera, and biological reagents and with new fields of action (e.g., the early diagnosis of cancer and diabetes) relating to noncommunicable diseases. For the effective operation of general health services, and of medical care in particular, it is necessary for central and regional laboratories to contribute to improved performance in clinical diagnostic laboratories, such as hospital laboratories, through evaluation, technical assistance, and training.

In addition to its specific activities described below, the Organization has continued to cooperate in the improve-

ment of general laboratory services in a number of countries.

In Argentina, the Organization's consultant services and fellowship program have contributed to the improvement of work methods and to the development of investigations in the National Microbiology Institute. The Organization also cooperated in plans for expanding the Central Laboratory of San Juan Province.

In Paraguay, the Organization analyzed the work of the Central Laboratory and made recommendations for its future development. A manual for laboratory technicians was prepared, the third departmental training course for laboratory technicians was held, and chemistry and bromatology sections of the Laboratory were organized.

In Haiti, the Organization cooperated in organizing the Central Laboratory, in training personnel, and in drafting rules for the operation of various sections. The Organization also aided in the establishment of a laboratory animal colony that is now in active operation, and in planning laboratories projected for the Cul-de-Sac demonstration area.

The services of the Dominican Republic Health Laboratory are being reorganized, with three regional laboratories installed during 1961. The Organization is aiding in the selection of equipment to be provided by UNICEF and in the training of technicians.

Preparation and Control of Biological Products

The Organization has continued to offer reference laboratory services to countries for testing vaccines and other biological products. The verification of tests made in production laboratories and comparisons with reference tests serve to encourage the application of the most appropriate techniques for the control of immunizing agents and frequently make possible improvements in manufacturing techniques. During the year, 36 vaccine and toxoid specimens were submitted to reference laboratory tests of safety and efficacy.

A significant number of countries are showing interest in local production of the antigens needed in immunization programs; pertussis, typhoid, diphtheria toxoid, tetanus, staphylococcus, BCG, and animal vaccines for rabies, brucellosis, and anthrax. The Organization provided the strains and reference standards needed for their manufacture and control.

The Organization provided the National Institute of Microbiology of Argentina with consultant service on techniques for the economical production of diphtheria toxoid and pertussis vaccine, and on organization of the production laboratory. Short-term consultation in the same fields was given to the Bacteriological Institute of Chile.

The Organization is cooperating actively with the Government of Mexico in planning and organizing the National Biological Production Laboratory. It provided technical information on the care and breeding of laboratory animals, awarded a travel grant for study of the organization and installation of European and American laboratories, and furnished model plans for animal colonies and production and control laboratories, together with a detailed analysis of the functional characteristics of these buildings.

In connection with the intensive vaccination program against diphtheria, tetanus, and pertussis planned by Mexican health authorities, consultant services were given in training technicians and in the installation of a laboratory for producing pertussis vaccine. The Organization also cooperated with the Mexican Institute of Livestock Study in the production of live-virus rabies vaccine.

In Guatemala, assistance was given in the production of biological reagents, particularly in the development of methods for producing rabies vaccine for human use.

Technical assistance was also offered to the smallpox vaccine production laboratory of the Oswaldo Cruz Institute of Rio de Janeiro, Brazil, in the use of methods for purifying the pulp used in preparing dried vaccine. Equipment for the lyophilization of smallpox vaccine in large quantities was provided.

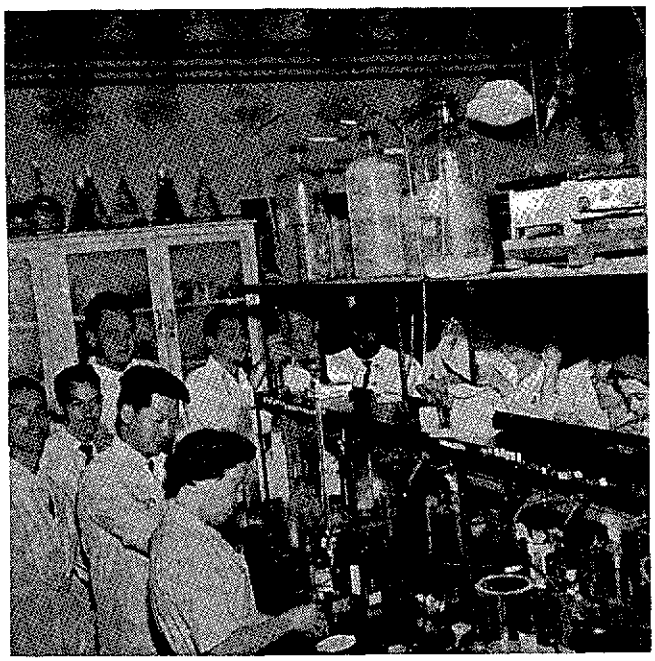
Two other laboratories which will be producing dried smallpox vaccine for the Brazilian eradication program were also supplied with equipment, and a travel grant was awarded to the chief of the Pôrto Alegre laboratory.

Biological Reagents and Laboratory Animals

One of the most frequent services requested by national health laboratories is for various biological reagents, such as bacterial or virus strains, antigens and typing sera, material for the production of vaccines and sera, and standards and normalized reagents for controlling biological products. In 1961, a total of 411 items were provided to laboratories in the Americas.

Guidance was provided on the diagnosis and typing of bacterial agents, the classification of viruses, other diagnostic tests, and the preparation and use of antigens for skin tests.

Among the requirements for an efficient laboratory operation is a good supply of healthy, homogeneous laboratory animals of the right genetic characteristics. The Organization provided animals for starting new colonies and cooperated with various laboratories to improve the quality and productivity of existing colonies.



IN-SERVICE TRAINING—BIOCHEMISTRY CLASS FOR LABORATORY TECHNICIANS AT THE ADOLFO LUTZ INSTITUTE, SÃO PAULO, BRAZIL.

Training of Laboratory Technicians

The shortage of adequately trained personnel is one of the factors that limits progress in public health laboratories. The training of technicians to perform a variety of laboratory operations under professional supervision is one of the most useful means for raising the quality and quantity of laboratory work. The Organization has promoted the establishment and improvement of courses for technicians in national laboratories, paying particular attention to practical aspects without ignoring basic principles and rigorous quality standards.

The second training course for laboratory technicians, held at the Adolfo Lutz Institute of São Paulo, Brazil, was attended by 23 health service workers. The course, in which a PAHO consultant participated, devoted 250 hours to classroom teaching and 870 to practical laboratory work. This course is now firmly established on an annual basis.

Virology Laboratories

The growing importance of viruses as identifiable agents of disease has stimulated interest in virology in several countries, despite the prolonged training required and the high cost of installations and equipment. The shortage of international consultants has prevented a more active support of virology programs by the Organization. In certain cases, assistance was limited to consultation by regular PASB staff and to the awarding of fellowships for training specialists in recognized laboratories.

The tissue-culture laboratory of the University of Valle, in Cali, Colombia, continued to receive aid from the Organization until September 1961, when the isolation and the classification of viruses in suspected polio cases occurring during the surveillance period of attenuated live-virus vaccination programs in Costa Rica and Colombia were completed.

The Organization cooperated in organizing a National Virus Laboratory in the Oswaldo Cruz Institute of Rio de Janeiro, Brazil. The laboratory has been fully installed, in part with equipment chosen by PASB experts and provided by the United Nations Technical Assistance Fund. The training of local personnel is already well advanced and diagnostic work is being carried out, especially on enteroviruses. This laboratory titrated and diluted the live-poliovirus vaccine used in the oral vaccination program in the second half of the year in various parts of Brazil. Also under way are several investigations on continuous-culture cell lines, micromethods for measuring polio antibodies, and simplified techniques for the isolation of enteroviruses.

Beginning in July 1961 the Organization, with the cooperation of the University of Minnesota, cooperated in the research and training program of the National Virology Laboratory of Mexico on the ecology of pathogenic ARBO viruses in Tlacotalpan, Veracruz, and Lago Coatetelco migration centers for birds that fly from the tropics to the Neoarctic Zone.

Other Activities

Information was distributed on the characteristics of various pathogenic and immunizing preparations and on the use of international pharmacological-immunological standards for strains causing influenza epidemics. Security measures for laboratories working with highly pathogenic germs and methods for transporting labile biologic materials were also analyzed.

ADMINISTRATIVE PRACTICES

The Organization continued to assist Governments in the improvement of administration in their health establishments. During the first quarter of 1961 a survey was made of the administrative services of the Ministry of Public Health and Population of Haiti.

Consultant services were provided to assist the National Health Service of Chile in a study of personnel procedures and possible improvements.

A short-term consultant assisted the Government of Argentina in a review and revision of public health legislation, and a full-time consultant on administrative methods continued service to the Government of Paraguay.

Courses in administrative practices were given at the Malaria Eradication Training Center, Kingston, Jamaica, and preparatory work for a seminar on organization and administration of public health services, in cooperation with the Division for Public Administration, of the United Nations, continued.

An Administrative Consultative Service Unit was created at Headquarters to coordinate activities in assistance to public health establishments in matters related to administrative practices. Visits were made to Costa Rica, El Salvador, Guatemala, and Panama with a view to establishing relations with appropriate authorities and investigating the possibilities for training in various areas of administration. A basic collection of material in English, French, Portuguese, and Spanish is being developed for use in training programs in administrative practices.

HEALTH EDUCATION

Health education activities of the Organization during 1961 were directed toward two main areas of interest—health education training, and research in social sciences basic to the development of health programming.

Studies were undertaken of health education training needs for the Bahamas, Brazil, Colombia, and Peru. In the latter three countries, first steps were taken toward the development of coordinated research projects involving national social and behavioral scientists, ministries of health, and the Organization. Consultant services were also provided in planning and carrying out health education aspects of training related to expanded water supply programs, malaria eradication, and communicable disease control.

Particular effort was directed toward stimulating long-term plans for the selection and training of national health education staff, the development of additional advisory posts in health education, and the recruitment of candidates for such positions. The Organization participated in planning a WHO/PAHO Inter-Regional Conference on Postgraduate Health Education Preparation of Health Personnel, to be held in Philadelphia, U.S.A., in July 1962, and in developing certain of the program aspects of the Conference.

The Organization also acted as a clearinghouse for materials on health education for transmittal to staff of national ministries of health, distributing more than 3,000 documents to be used in the health education training of health personnel and others involved directly or indirectly in health programs, such as teachers and agricultural extension agents.

Advisory services in health education to Governments included participation in the training of health staff, assistance in the development and evaluation of health education materials, selection of national staff for health education training, planning health education aspects of health services developed by the Governments, promotion of social science research in health programs, design of survey materials for use in planning health programs, studying and evaluating health education resources, and development of bibliography suitable for various categories of training activities.

In Mexico, the Organization participated in courses offered by the Ministry of Health and Welfare at the School of Public Health, in short courses held by various branches of the Ministry, and in an international seminar on nutrition education held in Guanajuato. Advisory services were also provided to the national malaria eradication program, including a survey of audio-visual resources and a study of the numbers and functions of health education personnel assigned to malaria work.

In Cuba, major efforts were devoted to health education training of health personnel at the professional level through courses at the Carlos J. Finlay Institute of Havana, to the training of auxiliary personnel for local health programs, and to general advisory services related to the Integrated Health Project.

In Jamaica, services were provided to the national malaria eradication service and the international Malaria Eradication Training Center. Course outlines developed in the Center for health education training were distributed to countries in other Regions as a prototype for the development of similar training. Advice was given on planning health education training for students in the courses given by the Center and on general educational methods used in the over-all training program. The Organization participated in a seminar on health education held in Trinidad for personnel of various British territories of the Caribbean, and short-term consultant service was provided to Surinam.

Advisory services were provided to Costa Rica, Guatemala, and British Honduras. An experimental course was developed for health education training of nurses in the School of Nursing, Guatemala City. In British Honduras, a survey of health education resources was completed and a tentative long-term plan for the development of health education services was prepared in cooperation with the Medical Department.

Special interest was shown in the development of health education activities as part of water supply programs. Short-term consultant services were provided in Bolivia and Colombia. As a result, a health education unit was established in the Colombian program.

Four additional health education consultant posts were created or re-established in 1961, bringing the total in the Americas to 10.

HEALTH STATISTICS

Much of the progress in health statistics in 1961 lay in its contribution of basic data to use for planning and analysis in several fields of health. The most significant development was the initiation of a research program in the field of mortality statistics.

Research

The first major step in the research program in health statistics was the launching in 1961 of a study designed to obtain comparable data on causes of death in selected cities of the Americas and to serve as a basis for epidemiological research on cancer and cardiovascular diseases. The study, financed by a grant from the United States Public Health Service National Institutes of Health is to be carried on over four years, during which records will be obtained of 40,000 fatal illnesses. Work began in 1961 in Bogotá and Cali, Colombia; Caracas, Venezuela; Guatemala City, Guatemala; La Plata, Argentina; Lima, Peru; Mexico City, Mexico; Santiago, Chile; and São Paulo, Brazil, after a Planning Conference held in Washington in May. Pilot testing and a review of the first 275 questionnaires were carried out in the last five months of the year. The Pan American Sanitary Bureau serves as planning and coordinating agency and also as the analytical center for the study.

The XIII Meeting of the Directing Council adopted two resolutions on mortality statistics. One recommended full support to the research program on mortality statistics, so that this first intensive investigation of mortality on a regional basis might be fully utilized, not only to provide clues for epidemiological studies but also to improve the quality of mortality statistics which are essential for health planning. The other recommended the adoption of a standard form of death certificate in accordance with WHO Nomenclature Regulations No. 1 (1948), the improvement of the quality of medical certificates so that data might be available for planning and evaluation of health programs, the tabulation and presentation of mortality statistics to distinguish deaths not medically certified, and assistance by the Organization to the countries in these activities.

General Statistical Services

Work continued on the Survey of the Teaching of the Basic Preclinical Sciences in Schools of Medicine in Latin America. Final tabulations were prepared of data from 68 schools of medicine and the results were scheduled for publication in 1962. A Survey on the Teaching of Sanitary Engineering was conducted in 52 schools of engineering in Latin America. The data were compiled and analyzed for use at the Seminar on the Teaching of Sanitary Engineering in Schools of Engineering in Latin America, held in Lima, Peru in July 1961. Questionnaires were analyzed for a report evaluating the 95 schools of nursing in Latin America which met criteria established by the Organization for schools of nursing.

With increasing emphasis being placed on improving water supply and sewage disposal systems in the Americas as a major goal of the Charter of Punta del Este, several requests were received for information and statistics in this field. Questionnaires were developed to determine the numbers of sanitary engineering personnel in countries of Latin America.

The Regional Advisory Committee on the International Classification of Diseases met in Washington in January and suggested certain revisions of the classification in the fields of nutrition and infectious diseases. With the collaboration of the Latin American Center for Classification of Diseases, plans were made for testing the proposed changes in selected countries of the Americas during 1961.

Training

The Organization participated in the development of several courses in statistics in Argentina. A nine-month course on vital and health statistics, organized by the National School of Public Health in Buenos Aires and directed to statisticians at the intermediate level, was begun in August. It is planned to repeat this course until the needs of the country are satisfied. A special six-month course in statistics for administrators of biostatistics programs was given in the two Schools of Public Health in Buenos Aires. A four-week course on the design and analysis of experiments at the School of Medical Sciences of the University of Buenos Aires and a six-month course on hospital statistics at the Avellaneda Polyclinic in Buenos Aires, were given with the assistance of PASB staff. A three-week course was given by staff of the Latin American Center for Classification of Diseases on the classification of causes of death.

Assistance was given to the three schools of medicine

TABLE 1. STUDENTS IN COURSES ON CLASSIFICATION GIVEN BY THE LATIN AMERICAN CENTER FOR CLASSIFICATION OF DISEASES (VENEZUELA), BY COUNTRY OF ORIGIN, 1961

Country	1961
Argentina	41
Bolivia	2
Brazil	1
Colombia	56
Costa Rica	3
Guatemala	3
Honduras	2
Nicaragua	2
Venezuela	4
Total	114

in Bolivia in relation to the introduction in the curriculum of courses on statistics and the training of statistical personnel.

With the Organization providing a short-term consultant to aid in organization and teaching, and with financial support from the United States Public Health Service National Institutes of Health, the first of two courses in statistics applied to medical sciences was given at the School of Hygiene and Public Health of the University of São Paulo, Brazil, in 1961. Of the 52 students from 12 countries participating in the course, 28 were from Brazil, of whom 21 were in the medical, dental, and veterinarian professions and 7 in related fields.

The Organization continued to provide fellowships and other assistance for courses in vital and public health statistics at the School of Public Health, Santiago, Chile. In 1961, 10 students from five South American countries attended the 15-month course leading to a degree in public health with specialization in biostatistics. Attendance at the five courses given by the Latin American Center for Classification of Diseases in Argentina, Colombia, and Venezuela in 1961 is shown in Table 1.

A statistical consultant was appointed to assist the Carlos J. Finlay Institute of Cuba in the development of courses on vital and health statistics at the intermediate level. Instruction material was also provided.

The Organization continued to provide instruction in statistics at the Malaria Eradication Training Center, Kingston, Jamaica.

Assistance to Governments

Assistance in the field of morbidity reporting and vital statistics registration was provided in Argentina. For morbidity statistics, a system of reporting on cards and forms for mechanical tabulation, designed to obtain more specificity for certain diseases and age groups, was developed in the Province of San Juan. A pilot study was begun in the Province of Buenos Aires which includes the division of the Province into districts, the selection of one district as a pilot area, coordination of statistical departments within each hospital or medical care establishment, and coordination within the provincial central statistical office. The program in the field of vital statistics relies on the coordination of the Provincial Health Service, the Civil Registration Office, and the Department of Statistics. In the Province of San Juan, vital statistics and demography are the responsibility of the Health Service and are supported by the Department of Statistics and the Civil Registration Office. In the Province of El Chaco the three services were already coordinated. Sets of forms for certificates of births, deaths, and fetal deaths, and manuals for their use, were prepared at the national level. A consultant was assigned to further the development of a demonstration center in a hospital in Buenos Aires for the training program in hospital records and statistics.

In Bolivia, a certificate of death in accordance with international recommendations is to be tried in La Paz.

A statistical consultant was assigned to the Organization's public health services project in Colombia in September 1961.

The Organization submitted recommendations for certain aspects of public health records and statistics to the Governments of five territories in the Caribbean. Emphasis was given to birth and death registration and to hospital records and statistics. Aid was given in the planning and conduct of a sample survey of the work of public health nurses and sanitary inspectors in Jamaica. A draft questionnaire on causes of infant mortality was tested in the field. Advice was also provided to hospitals on the operation of the newly established record system.

Assistance was given to the National Institute of Nutrition in Quito, Ecuador, with regard to the statistical and epidemiological aspects of nutrition research. With assistance from the Organization, a study of the health conditions of the Central Region of Panama began with a survey of the resources, equipment, working conditions, problems, and principal activities in the health centers and hospitals. A seminar on vital and health statistics for the countries of Central America and Panama was organized in Panama in January 1961.

The Organization continued to collaborate in plans for the improvement of vital statistics in Paraguay. A revised system of collection of birth and death data was tried in three areas served by health centers, accompanied by a campaign to enlist the support of all the local authorities. The system of reporting of communicable diseases was improved through coordination between the Departments of Biostatistics and of Epidemiology. Progress was made

in the national program for collection of hospital morbidity statistics. A statistical unit was organized in one health center in Paraguay which will serve as a demonstration and training center. The statistical program of the Andrés Barbero Institute is being revised. Statistical courses will be initiated in the School of Medicine in the next academic year.

In Peru, the Organization provided consultant services to the Biostatistics Program in the Ministry of Health and Welfare. In order to improve the quality of the basic data, the Program has taken the following steps: new instructions and standardization of the reporting forms used by hospitals, local health units, and physicians; interviews with units supplying basic data; and short courses in the various services to persons in charge of statistics. Within the Biostatistics Program, a survey of public opinion was carried out in Arequipa to gather data to be used in an educational campaign as a step toward the development of a self-financed plan for water and sewage works.

The Organization participated in a meeting of the Committee for the Betterment of Civil Registration in Latin America, in Uruguay, which adopted recommendations on registration, training, realization of a comparative study of legislation, and scheduling of a second Inter-American Seminar of Civil Registration for 1963.

Publications

The publication *Facts on Health Problems*,[1] containing data on costs and needs for basic health services, communicable diseases, environmental health, other specific health problems, and education and training, was prepared for the Punta del Este Meeting of the Inter-American Economic and Social Council, together with a paper, "Goals for Health Programs." The report of the first meeting of the Regional Advisory Committee on the International Classification of Diseases was published in English and in Spanish.[2]

The *Weekly Epidemiological Report*, which contains statistical data on quarantinable and other notifiable diseases, was altered during the year to provide information

TABLE 2. REPORTED CASES OF QUARANTINABLE DISEASES IN THE AMERICAS, 1961

Country or other political unit	Plague	Jungle yellow fever	Smallpox	Louse-borne typhus	Louse-borne relapsing fever
Argentina	–	–	4	–	–
Bolivia	20	2	–	1	3
Brazil	106	2	1,411 [a]	–	–
Colombia	–	9	16	–	–
Ecuador	140	–	491	356	–
Mexico	–	–	–	80	–
Peru	68	54	–	30	1
United States of America	3	–	–	–	–
Uruguay	–	–	1 [b]	–	–
Venezuela	6	14	–	–	–
British Guiana	–	–	–	–	–
Total	343	83	1,923	467	4

– None.
[a] State of Guanabara.
[b] Imported.

for 13 diseases. Reported cases of quarantinable diseases in the Americas in 1961, as published in the *Weekly Epidemiological Report*, are reproduced in Table 2. Monthly data on communicable diseases were published in the quarterly publication *Health Statistics*. Tabular data on the *Aëdes aegypti* eradication campaign in the Americas were published currently in the *Boletín de la Oficina Sanitaria Panamericana* and in the *Weekly Epidemiological Report*. Data were prepared for publication in *Reported Cases of Notifiable Diseases in the Americas—1959 and 1960*.[3] Preliminary tabulations were prepared for the *Summary of Four-Year Reports on Health Conditions in the Americas* [4] for the XVI Pan American Sanitary Conference. A Spanish version of the *International Classification of Diseases, Adapted for Indexing of Hospital Records and Operation Classification*, was prepared by the Latin American Center for Classification of Diseases and issued as PAHO Scientific Publication No. 52.

[1] *Miscellaneous Publication PAHO* **63**, 1961.
[2] *Scientific Publication PAHO* **53**, 1961.
[3] *Scientific Publication PAHO* **58**, 1962.
[4] *Scientific Publication PAHO* **64**, 1962.

III. ENVIRONMENTAL SANITATION

Among the objectives of the Charter of Punta del Este designed to accelerate economic and social growth in the Latin American countries, it was stated that the improvement of individual and community health would, in the next decade, require providing potable water and sewerage facilities for at least 70 per cent of the urban and 50 per cent of the rural population, an increase in the construction of inexpensive housing for low-income families and the replacement by such housing of inadequate and deficient dwellings, and the provision of necessary public services for urban and rural population centers. The need to train a minimum adequate number of professional and auxiliary personnel, to intensify scientific investigation, and to make more effective use of the knowledge thus gained was also recognized.

The Organization continued to increase its services to Governments in the field of environmental sanitation, with special reference to the provision of potable water. The problems of water, sewage, refuse, and other public services depend basically on adequate planning, organization, administration, and financing. This fact has been given recognition in the priority which various international lending institutions have granted to the requests of countries of the Americas for loans to construct new water supply and sewage systems.

The Organization also continued to assist almost all the countries of the Hemisphere in technical and administrative matters related to water supply as well as in the training of sanitary engineers and auxiliary personnel. Continued assistance was also provided in other areas of environmental sanitation such as the removal of waste water and refuse, industrial hygiene, the pollution of rivers and streams, food hygiene, and the general strengthening of sanitary engineering departments not only in health ministries but also in public works and development agencies having responsibility for water and sewage.

During 1961 the permanent professional environmental sanitation personnel of the Organization reached a maximum of 28 sanitary engineers and 5 sanitarians, as shown in Figure 1. The post of Regional Adviser in Industrial Hygiene was created, and for the first time the six Zone Offices and the El Paso Field Office each had a consultant sanitary engineer. During 1961 short-term water program consultants were used on 23 occasions, 20 temporary consultants were used in courses and seminars, and 8 others provided consultant services in other fields of environmental sanitation.

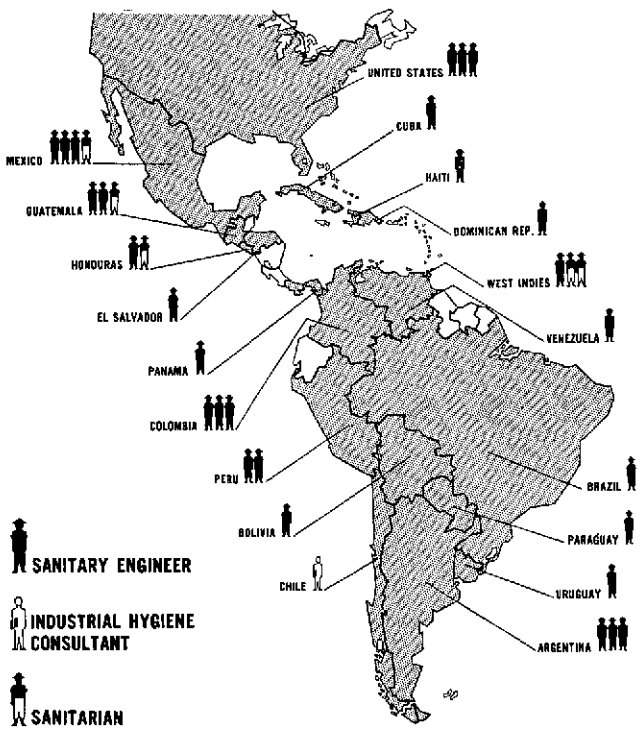


FIG. 1. ENVIRONMENTAL SANITATION STAFF AT HEADQUARTERS AND IN THE COUNTRIES OF THE AMERICAS, 1961.

WATER SUPPLY

Continuing the program begun in 1960, the Organization granted high priority in 1961 to advisory and training activities in water supply. These activities were aided by the 1961 contribution of the United States of America to the Special Community Water-Supply Fund.

In conformity with the goals set by the Organization at the outset of the program the attention of Governments continues to be drawn to the need for planning and organ-

izing water supply services in a systematic, financially stable manner in order to be able to obtain local and international funds for use in constructing new systems or expanding existing systems. The value of this policy was demonstrated when the Inter-American Development Bank granted loans valued at almost $65,000,000 for water supply in 1961. National contributions totalled more than $47,000,000. The loans granted by the Export-Import Bank for this purpose were over $10,000,000.

During 1961 the organization provided consultant services on the legislation, organization, administration, and financing of public water supply services in Bolivia, Chile, Colombia, Costa Rica, El Salvador, Haiti, Panama, Peru, Venezuela, and the islands of St. Lucia and Grenada.

New legislation creating national agencies or centers for water and sewage was approved in 1961 in Bolivia, Costa Rica, El Salvador, and Honduras. Legislation is pending in Panama, Paraguay, and Peru. In all these cases, the Organization assisted the countries in the preparation or revision of the legislation through special consultants or regular staff. This assistance also fulfilled another objective of the water program—promoting the creation of agencies to plan, supervise, and administer public water services. In some of the countries indicated, the new legislation and organization has facilitated the obtaining of loans from international credit institutions.

The Organization provided services relating to the financing of expansion or of new construction in eight countries during 1961. In many cases, the assistance provided concerned the preparation and presentation of loan requests to international lending agencies. Aid was given in preparing financing schedules, water rates, and other aspects of financing such projects, and the Headquarters Office provided staff assistance to representatives of Governments making their presentations before the lending institutions.

In April 1961, the Third Training Course on Administration, Management, and Financing of Water Supplies was held in São Paulo, Brazil, with the cooperation of the School of Hygiene and Public Health of the University of São Paulo. This course was attended by 65 engineers from Argentina, Bolivia, Brazil, Chile, Ecuador, Paraguay, Peru, and Uruguay.

The Organization printed and distributed a manual on water rates [1] containing the conclusions of the 1960 water rate seminar, statistical data on systems presently in use, and information on various types of systematic water rate structures.

The Organization also provided assistance on the technical and design aspects of water supply systems in Chile, Colombia, Cuba, Ecuador, Guatemala, Haiti, Mexico, Peru, and Venezuela. Full-time consultant services on system design were made available directly to agencies responsible for such public works in Colombia, Mexico, and Peru. In Colombia, a pilot aqueduct project for the city of Cúcuta was completed. The Cúcuta project has been selected by the Colombia Planning Board as a model for other institutions that must prepare projects to be submitted to international lending institutions.

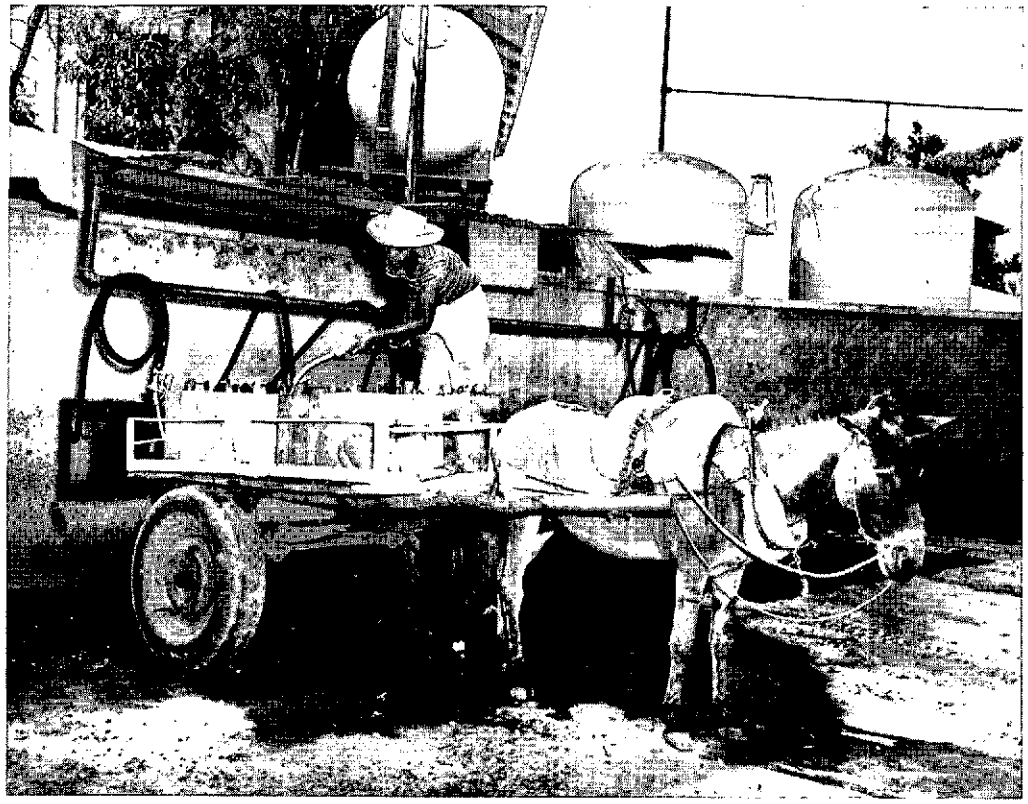
The Organization provided consultant services to carry out studies on the possibilities for water supply, sewage, and hydraulic filling in Puerto Cortés, Honduras, and for water and sewage in Belize, British Honduras. Assistance was obtained from the United Nations Technical Assistance Board for the financing of definitive studies in Puerto Cortés in 1962.

A short course in the design of public water supply systems was organized at the School of Sanitary Engineering of the National University of Mexico, with the participation of that institution and the Ministry of Hydraulic Resources of Mexico, for 30 engineers engaged in waterworks design in Colombia, Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, and Mexico.

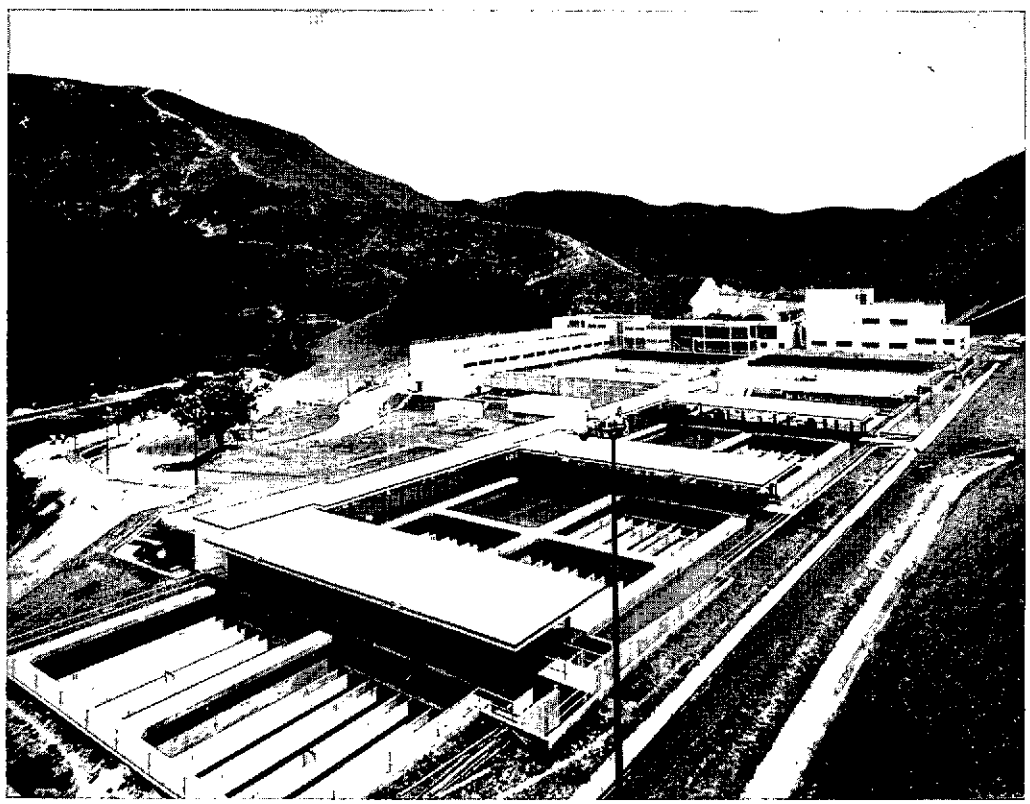
Two courses on well-drilling and the utilization of subterranean water were held at the Universities of Minnesota and of Costa Rica, and a course on the operation of water supply plants was given for local personnel in Uruguay, with consultant services and fellowships provided by the Organization. A close relationship was maintained with international lending agencies, especially the Inter-American Development Bank to which the Organization named a sanitary engineer as liaison officer on water and sewage matters. In 1961 the various international lending institutions granted credits to provide potable water to approximately 3,620,000 persons in the Americas. The loans were long-term with favorable interest rates, and in the majority of cases amortization and interest as well as operating and maintenance costs will be covered by revenue from the water rates. Changes in the traditional system of rate administration have been accompanied by considerable reforms in the water agencies of cities concerned, as specified in the objectives enunciated by the Organization at the beginning of the water supply program.

When new rates and the use of water meters are introduced, it is necessary to announce the changes in advance and prepare the community for them. In this connection, the Organization provided assistance in 1961 to Colombia, Peru, and Venezuela, in education of the public as well as in organizing health education units and preparing personnel for these activities.

[1] *Tarifas de agua. Scientific Publication PAHO* **54**, 1961.



BEFORE AND AFTER IN VENEZUELA—THE MODERN TREATMENT PLANT BELOW HAS A CAPACITY OF 40,000 GALLONS PER MINUTE.

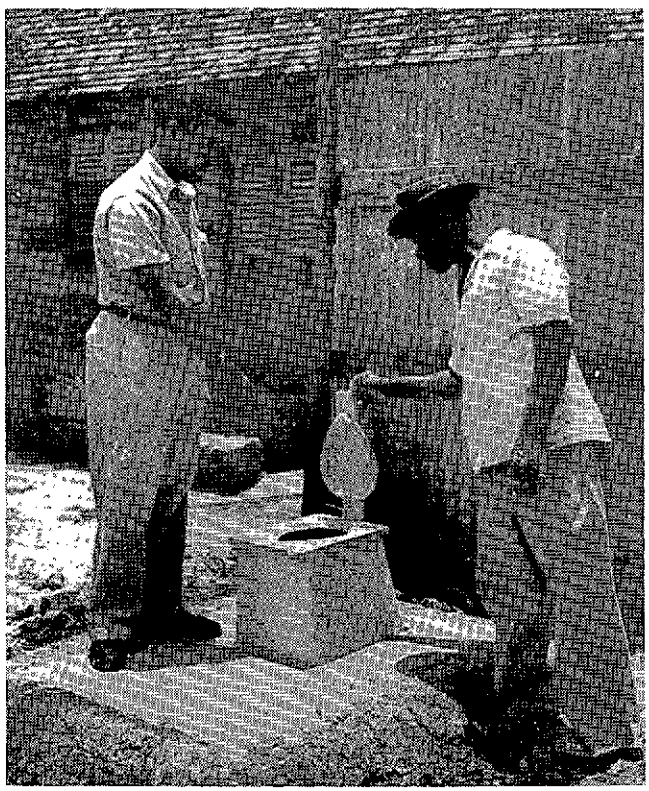


SEWERAGE AND WASTE WATER DISPOSAL

Even though first priority was given to water supply, Governments have been advised to consider the preparation of sewerage projects at the same time, although for financial reasons these may be left for later completion. Their construction in stages can also be considered after completion of water supply projects.

Credits for the construction or expansion of sewage disposal systems in several cities were approved by international lending agencies. Among countries receiving funds or whose requests are under consideration are Colombia, El Salvador, Peru, and Uruguay. In one case, the Organization is cooperating in the establishment of a new rate system for sewage services that contemplates providing sufficient revenue to cover amortization and interest as well as operation and maintenance costs.

In view of the growing interest in new methods for treating waste water, the Organization began preparations for a symposium to review such methods, especially the so-called oxidation ponds. This method, by its simplicity and low initial cost, could be the ideal solution to the problem of waste water disposal in small and medium-sized cities of the Americas.



EXCRETA DISPOSAL IN BARBADOS—A FARMER RECEIVES INSTRUCTIONS ON THE USE AND MAINTENANCE OF A NEW CONCRETE SLAB WITH RISER.

RURAL SANITATION PROGRAMS

The Organization continued to cooperate in rural sanitation programs through consulting sanitary engineers in integrated health service projects and special projects in Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Mexico, Panama, Paraguay, Peru, and Caribbean territories. Activities related to the construction of rural water supply systems, the installation of latrines, improvement of rural housing, refuse removal, and the training of auxiliary sanitation personnel.

During the year UNICEF approved requests for well-drilling machinery and other equipment and material for programs of rural sanitation in Argentina, Brazil, British Guiana, Chile, Colombia, Honduras, Panama, Paraguay, Peru, and Uruguay. This additional equipment contributed considerably to well-construction and latrine-installation programs aided by the Organization.

Colombia and Venezuela completed national rural sanitation plans with principal emphasis on water supply systems. Venezuela received a $10,000,000 loan for a rural sanitation program, with the country contributing additional funds as well as personnel and equipment. With the help of funds provided by the Alliance for Progress, considerable activity is expected in the field of rural sanitation in the next decade.

WASTE AND REFUSE

During 1961 several countries and territories requested the cooperation of the Organization in studying administrative aspects of waste and refuse collection and disposal. Advisory services in this field were provided to Bermuda, Colombia, Cuba, Curaçao, Jamaica, Peru, Trinidad, and Venezuela. In Venezuela, the nation-wide program to solve the problem of garbage collection and disposal in small rural communities is believed to be the first national effort of this type in the Americas.

The Organization has cooperated in solving problems of waste and refuse collection and disposal in cities and rural areas in many countries. Special emphasis was given to the sanitary landfill method as the most prac-

ticable for small and medium-sized cities. In Resistencia, Argentina, the city has experimented successfully for three years with sanitary landfill to eliminate refuse while at the same time reclaiming presently unusable land. Lima, Peru, began to use the same system in 1961.

INDUSTRIAL HYGIENE

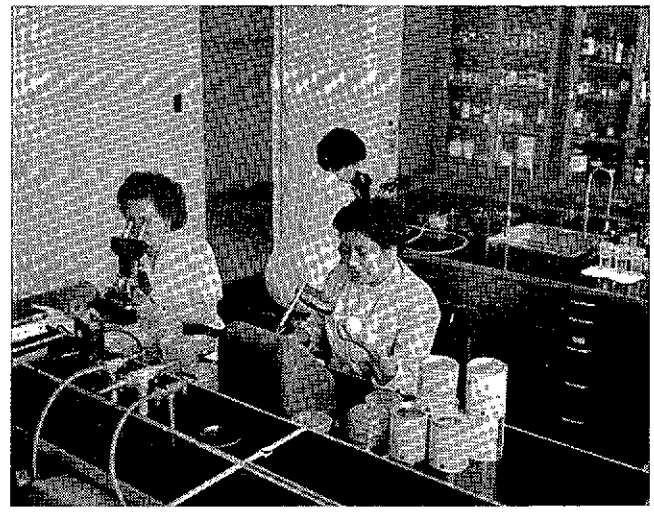
With the naming of a permanent Regional Consultant in Industrial Hygiene, the Organization intensified its activities over the level of previous years, when assistance was limited to fellowships and occasional short-term consultant services. This field is growing in importance owing to the industrialization of many countries of the Americas.

Industrial hygiene services in the majority of countries were visited to observe needs, step up existing programs, and initiate programs in countries that did not carry out such activities in an organized fashion. Aid was provided to Chile and Peru in drafting plans to increase activities in their Institutes of Occupational Health. Assistance was provided in presenting a request to the United Nations Special Fund for the expansion of the Institute of Occupational Health of Chile, converting it at the same time into a training center that could be used by other countries. Chile was also aided in the preparation of a Ten-Year Industrial Hygiene Plan as well as in the review of existing programs and activities.

FOOD HYGIENE

Assistance was continued in this field through integrated health service projects in which cooperation was provided in local programs of control of food handling and the training of sanitary inspectors. In Guatemala a two-month course was developed to prepare personnel for a pilot food hygiene program in the capital, and some of the students were sent to Texas for further observation and practice. In the Dominican Republic four short courses in food handling were held for 80 students.

In connection with the preparation of a manual for food hygiene programs, a consultant visited Chile, Colombia, El Salvador, Guatemala, Panama, and Peru. The manual is designed to help countries unify and improve their food control programs.



FOOD HYGIENE—TESTING POWDERED MILK FOR BACTERIAL CONTENT AT THE PUBLIC HEALTH LABORATORY, TLALPAN, MEXICO.

EDUCATION AND TRAINING

The Organization continued to provide assistance to universities and public health and public works agencies in the Americas, with the goal of increasing the number of sanitary engineers and auxiliary personnel. The Seminar on the Teaching of Sanitary Engineering in Schools of Engineering in Latin America was held in Lima, with the collaboration of the National University of Engineering of Peru, and was attended by deans and professors of sanitary engineering from 19 countries of the Americas. A report containing the conclusions of the Seminar was distributed to universities and government agencies.

The Organization continued to aid sanitary engineering schools in Argentina, Brazil, Chile, and Mexico, as well as the recently created School of Sanitary Engineering of the University of Valle, Colombia. It cooperated with the National Universities of Argentina, Colombia, and Mexico in preparing requests for assistance to be presented to the United Nations Special Fund.

Sanitary engineering personnel assigned to integrated health service projects continued to cooperate with local authorities in training sanitary inspectors. Courses for sanitary inspectors continued to be held in most Latin American countries, some of which now have fairly substantial numbers of qualified inspectors. In 1961 courses were given in Argentina, British Guiana, Colombia, El Salvador, Guatemala, Honduras, Mexico, and Panama for a total of 250 students. The Organization continued to cooperate with countries in preparing supervisory and

teaching personnel through fellowships for special courses for sanitary inspectors in the Schools of Public Health, of Santiago, Chile, and São Paulo, Brazil.

The Organization cooperated in 1961 in carrying out a survey to evaluate the kind and quality of work being done by auxiliary personnel in the Caribbean area, particularly in the English-speaking territories. The survey was designed to determine the work sanitary inspectors were performing and what duties they should carry out in the future.

HOUSING

During 1961 the importance of the public health aspects, especially those of environmental sanitation, in constructing low-cost housing, was stressed. A trip was made to a number of Latin American countries to observe housing activities and to make recommendations and suggestions on the role of public health agencies in this field. The Advisory Committee on Environmental Sanitation, at its November 1961 meeting, also made recommendations on the role of the Organization in relation to the health problems of housing. Arrangements were completed to hold a preparatory meeting in 1962 for an Inter-Regional Seminar on Health Aspects of Housing.

PAHO ADVISORY COMMITTEE ON ENVIRONMENTAL SANITATION

The third meeting of the PAHO Advisory Committee on Environmental Sanitation was held in November 1961. After reviewing the goals set by the Charter of Punta del Este, the Committee noted that the countries of the Americas could successfully supply water and provide sewage and refuse disposal for Latin American rural and urban populations. The Committee formulated suggestions for the continuation of the water supply program and the initiation or strengthening of other environmental sanitation activities in Latin America.

OTHER ENVIRONMENTAL SANITATION ACTIVITIES

The Organization assisted several countries in presenting requests for assistance to the United Nations Special Fund for projects related to environmental sanitation and the teaching of sanitary engineering. Help was provided to the National Universities of Argentina, Colombia, and Mexico in preparing the documentation necessary to obtain aid to improve and expand sanitary engineering in these countries.

Assistance was also provided in preparing requests to the United Nations Special Fund for carrying out a project to extend the water supply system of Monterrey, Mexico, and for investigating water resources, including potable water, in various parts of the West Indies. A request by Ecuador for a project to investigate water resources in one region, with the support of the Organization in locating adequate water sources, is pending.

Excellent coordination was attained with the Agency for International Development (AID), which cooperated in numerous activities of the Organization, especially the development of courses and seminars on design, administration, and financing of water supply systems.

Engineering staff of the Organization cooperated with the Organizing Committee for the VIII Congress of the Inter-American Association of Sanitary Engineering (AIDIS), to be held in Washington, D. C., in June 1962, and in the III Seminar of Sanitary Engineering of Central America and Panama (Tegucigalpa, Honduras, November 1961), organized by local chapters of AIDIS primarily to discuss aspects of national programs of water supply and the participation of public health agencies in these programs.

IV. ERADICATION OR CONTROL OF DISEASES

MALARIA ERADICATION [1]

Progress of Eradication Programs

Substantial progress of the malaria eradication program is reported for the year 1961. The last two countries in the Region without eradication programs in 1960, Cuba and Haiti, entered the preparatory phase. In Brazil, preparatory-phase operations were extended to all malarious states. Population living in consolidation-phase areas in 1961 increased by 79 per cent over the 1960 figures, as more areas were withdrawn from the attack phase. Among the areas in the maintenance phase, approximately 157,500 square miles in Venezuela were entered in the PAHO register of areas where malaria has been eradicated. The general status of malaria eradication in the Americas by population is shown in Table 3, and the status by geographical area is shown in Figure 2.

Progress was not uniform throughout the Region. Administrative and financial deficiencies impeded the progress of the campaign in several countries and resulted in parts of the malarious area being returned to the preparatory phase in the Dominican Republic and in Paraguay. As the attack phase progressed and case-detection activities increased, special problems of persisting transmission arose which required special attention and which may prolong the attack phase in certain areas. Supplemental measures may be required in instances.

Malaria eradication activities in the Americas may be grouped as follows:

Programs where success seems assured—Argentina, Bolivia, British Honduras, Dominica, Grenada, Guadeloupe, Guatemala, Honduras, Jamaica, Mexico, Panama Canal Zone, Peru, St. Lucia, Surinam, Trinidad and Tobago, and Venezuela.

Programs where prospects appear good but where technical or administrative difficulties have still to be overcome—Colombia: total coverage not yet achieved throughout the entire malarious area. Costa Rica: a form of transmission persists along the Pacific coast, and additional measures are being undertaken. Dominican Republic: additional financial support is being sought. El Salvador: the means of achieving interruption of transmission must be studied in coastal areas where the vector is resistant to both groups of chlorinated hydrocarbon insecticides. Nicaragua: special antilarval measures are being undertaken in four areas in which the vector is resistant to both groups of chlorinated hydrocarbon insecticides. Panama: adequate financial support and administrative flexibility are being sought. Paraguay: adequate financial support is being sought.

Programs where prospects appear good but where more time will be required before an accurate assessment may

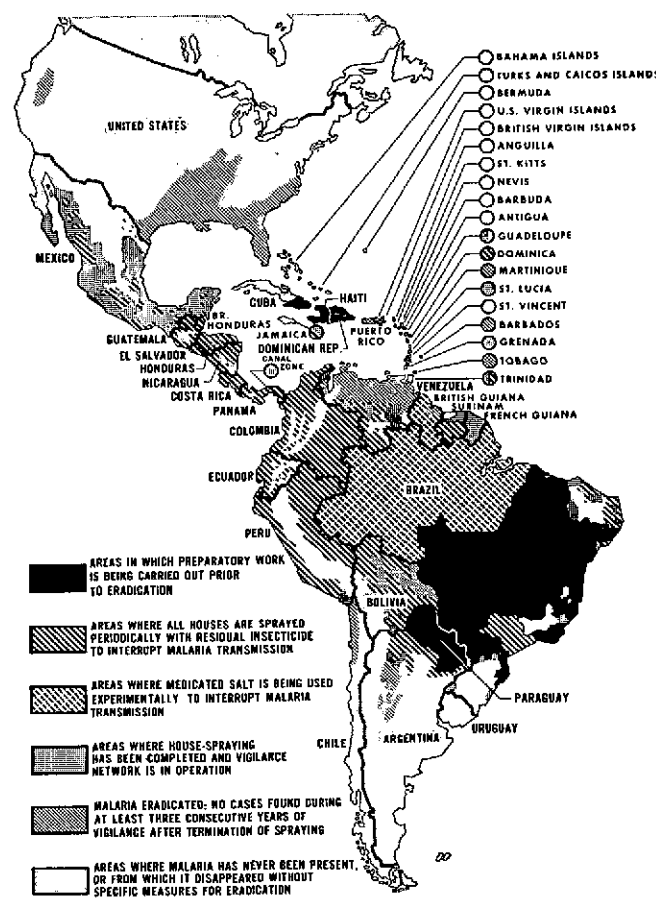


FIG. 2. STATUS OF MALARIA ERADICATION IN THE AMERICAS, DECEMBER 1961.

[1] For further details on malaria eradication, see XVI Pan American Sanitary Conference (1962), X Report on the Status of Malaria Eradication in the Americas.

TABLE 3. STATUS OF MALARIA ERADICATION IN THE AMERICAS BY POPULATION IN THE SAME AREAS, 1961
(Population in thousands)

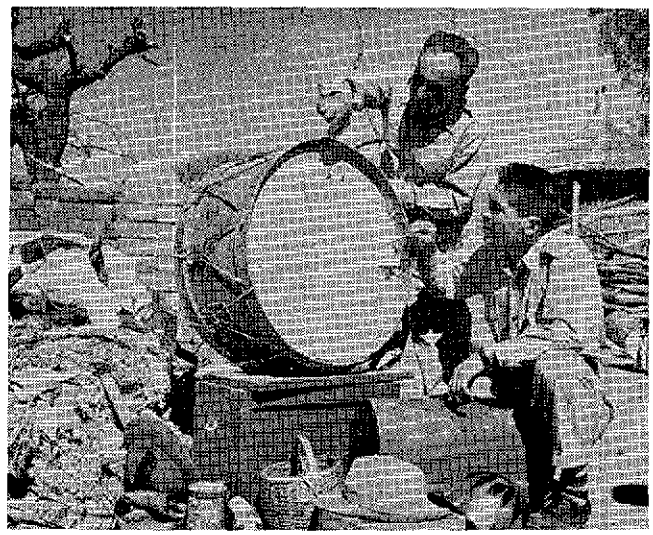
Country or other political unit	Total[a]	Originally malarious areas	Areas with malaria eradication claimed	Areas with eradication program in progress[b]		
				Consolidation phase	Attack phase	Preparatory phase
Argentina	21,746	2,363	924	41	1,398	–
Bolivia	3,538	1,250	–	461	789	–
Brazil	70,528	36,957	3,622	4,000	3,831	25,504
Colombia	14,446	10,188	–	[c]	10,188[c]	–
Costa Rica	1,225	409	–	–	409	–
Cuba	6,827	1,836	–	–	–	1,836
Dominican Republic	3,137	2,552	–	–	1,276	1,276
Ecuador	4,743	2,227	–	–	2,227	–
El Salvador	2,706	1,885	–	–	1,885	–
Guatemala	3,886	1,770	–	–	1,770	–
Haiti	4,247	3,276	–	–	–	3,276
Honduras	2,018	1,409	–	–	1,409	–
Mexico	35,572	18,592	–	11,721	6,871	–
Nicaragua	1,552	1,486	–	–	1,486	–
Panama	1,076	1,033	–	–	1,033	–
Paraguay	1,808	1,521	–	–	[d]	1,521[d]
Peru	11,191	3,019	–	47	2,972	–
Venezuela	7,604	5,696	5,203[e]	173	320	–
British Guiana	575	575	515	–	60	–
British Honduras	93	93	–	–	93	–
Dominica	59	10	–	[f]	10[f]	–
French Guiana	32	32	–	27	5	–
Grenada	89[g]	37	–	37	–	–
Guadeloupe	270	244	58	186	–	–
Jamaica	1,650	1,045	–	761	284	–
Panama Canal Zone	42	42	–	41	1	–
St. Lucia	86	72	–	72	–	–
Surinam	300	185	–	115	70	–
Trinidad and Tobago	868	868	37	197	634	–
Total	201,914	100,672	10,359	17,879	39,021	33,413

– None.
[a] Population is estimated at mid-1961 unless otherwise indicated.
[b] The distribution of the population by phase of the eradication campaign reflects the status of the campaigns as of 30 September.
[c] Spraying is suspended in some areas in large cities which are not considered to be in the consolidation phase.
[d] 135,000 persons, protected for three months of the year, are included in the preparatory phase.
[e] Of the figure shown, 4,271,271 persons live in the malaria-eradicated area registered at PAHO.
[f] Population in areas in the consolidation phase included in figure shown for attack phase.
[g] Mid-1960 estimate.

be made—Brazil: preparatory-phase activities began in many states only in 1961. (Prospects for success seem assured in the State of São Paulo, where the attack phase is going well.) British Guiana: the attack phase in the interior began in 1961, using medicated salt. Cuba: the preparatory phase was completed in 1961. Ecuador: reorganization of the program was completed in 1961. French Guiana: attack-phase activities in part of the territory were recently reinitiated. Haiti: the preparatory phase was completed in 1961.

Case-Detection and Epidemiological Evaluation

Over-all progress in epidemiological operations was reported in 1961. Particular attention was devoted to the problems of assessment of the origin of infection in areas of reduced or interrupted transmission, and of prompt classification of cases. In some instances, nonprofessional personnel were employed for initial screening of cases. Efforts were made to reduce the time interval between the



SPRAYMEN OF THE NATIONAL MALARIA ERADICATION SERVICE POINT OUT THE INSECT VECTOR OF CHAGAS' DISEASE ON A DRUM REMOVED FROM A HOUSE BEFORE SPRAYING IN NECRO PUJRU, BOLIVIA.

laboratory confirmation of a positive slide and the investigation of the case.

The efficacy and achievements of the case-detection process vary from country to country. In Bolivia, Guatemala, Jamaica, Surinam, and others, the opportune development of the process has confirmed the interruption of transmission in all or part of the malarious area in advance of the original plan, thus permitting withdrawal of spraying. In other cases, sufficient evidence has not been accumulated, and spraying has had to be continued until such time as the amount and character of the evidence from case-detection activities improve.

During 1961, following an intensive study of data presented by the Government of Venezuela, the PAHO registered an area of approximately 157,500 square miles of that country as an area where malaria was eradicated, as noted above. The population of this area as of 31 December 1961 was calculated as 4,271,271. These figures represent, respectively, 68 per cent of the originally malarious area and 75 per cent of its population. A full report on the findings was published by PAHO.[1] The XIII Meeting of the Directing Council of PAHO took note of this entry, and urged Governments to intensify surveillance activities during the consolidation phase of their programs, and to organize their epidemiological data in such a way as to facilitate the future registration of areas. The Directing Council also recommended that adequate rural health services be developed as one of the necessary elements in the maintenance phase of eradication, once eradication has been achieved.

[1] *Erradicación de la malaria en Venezuela—Registro de un área de malaria erradicada.* PAHO/WHO, Washington, D.C., June 1961. 201 pp.

Entomological Problems

With reference to insecticide resistance, four countries reported new findings of resistance. In Brazil, *Anopheles strodei* was reported resistant to DDT; in Colombia, *A. albitarsis* to DDT and dieldrin; in the Dominican Republic, *A. albimanus* to DDT; and in Venezuela, *A. nuñez-tovari* to DDT and *A. pseudopunctipennis* to dieldrin. The findings for *A. nuñez-tovari* mark the first report of resistance in that species.

Increased attention was paid to the ecology of vectors, both in areas of apparent interruption of transmission and in those in which it still persists. A number of long-term studies were begun in Mexico, Central America, Colombia, and Paraguay.

Malathion was employed in two pilot areas in 1961. In Nicaragua, it was utilized on a sugar plantation in an area in which the vector is resistant to both groups of chlorinated hydrocarbon insecticides and where the housing is primarily of wood. In El Salvador, it was employed in the coastal region, also in an area in which the vector is doubly resistant. Evaluation of the results is to be both entomological and epidemiological.

A "new" old insecticide, Paris green, was utilized in larviciding operations around Lake Managua and in several other localities in Nicaragua. Chlorthion was employed in Guatemala as a larvicide, with good results in the Sanarate area, where *A. albimanus* is resistant to both DDT and dieldrin, and at the Finca Mocá, a coffee estate outside the malarious area, where imported cases coincided with a high anopheline density and touched off a malaria outbreak. In Mexico, in the Valdeflores River in Oaxaca State, chlorthion was employed experimentally as a larvicide.

Drug Resistance

Resistance to chloroquine of a strain of *Plasmodium falciparum* from the Magdalena Valley of Colombia was reported in 1961. The strain was later shown to be resistant to amodiaquine and to hydroxychloroquine. The results have been confirmed by the National Institute of Allergy and Infectious Diseases (USPHS), which serves as a Reference Laboratory for the Organization.

Reports of resistance or of increased tolerance of chloroquine by *P. falciparum* in the Amazon Valley of Brazil were the subject of a special cooperative study by the Government and the Organization during the latter half of 1961.

Technical Problems

Technical problems of persisting transmission received increased attention during 1961. Entomological activities were increased with a view to obtaining more precise baseline information regarding the ecology of vectors, and relating this to the behavior habits in areas which continue to give trouble. The exact role of resistance in the picture of persisting transmission is under study. Attention was focused on problems of migratory population groups using rustic shelters in areas in which this phenomenon has been thought to have produced unfavorable complications in the epidemiological picture. Efforts were intensified to provide basic epidemiological information about cases at the earliest possible date following their discovery, so that maximum advantage might be taken in adapting attack-phase strategy.

Special investigations of persistent transmission were carried out both by national malaria services and by the Organization. In Mexico, great attention is being given to areas in which transmission persists following four years of the attack phase. In Guatemala, special studies are being carried out in four areas which, although comprising less than 2 per cent of the malarious area, produced 70 per cent of the cases detected during 1961. In El Salvador, a special long-term study of persisting transmission is being conducted by the Government and the Organization. In Nicaragua, supplementary measures including larviciding are being studied in four areas of persisting transmission, while special entomological studies are under way in Costa Rica to elucidate the reasons for persisting transmission in the Pacific coast region. In Venezuela, studies continue in the areas still with refractory malaria.

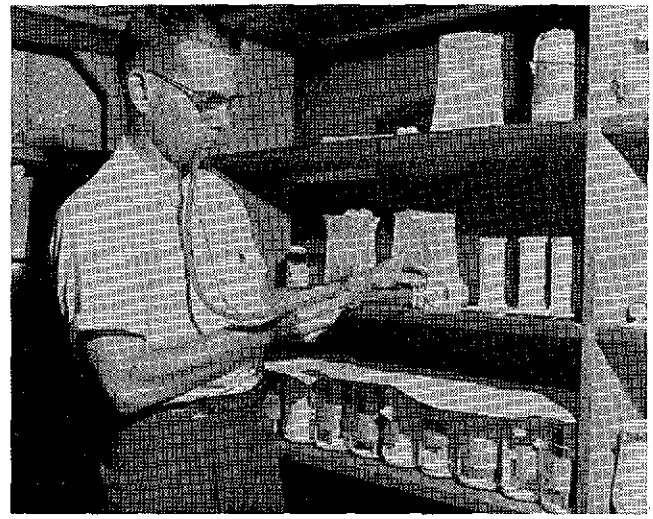
Research

The Department of Medical Entomology of the Johns Hopkins University School of Hygiene and Public Health, with the support of the Organization, continued to maintain colonies of *A. albimanus* and to furnish material to other groups interested in the problems of mosquito resistance. Results of cytogenetic studies were published during 1961.

A country-wide evaluation of pressure regulator units for compression sprayers was performed in 1961 with the cooperation of the Government of Guatemala and the United States Public Health Service Communicable Disease Center.

Two field entomology units continued to operate during the year, one in El Salvador and one in Bolivia. Tests of the effectiveness of DDT at different dosages and on different types of wall surfaces were performed.

In collaboration with the Government of El Salvador, a special study was begun in 1961 to evaluate the epidemiological factors in an area of continuing transmission. Two study sites were selected—one in an area in which the vector is resistant to both groups of chlorinated hydrocarbons, and the other in an area in which it is still susceptible. The studies are expected to span both the rainy and the dry seasons.



RESEARCH FOR MALARIA ERADICATION—PERFORMING SUSCEPTIBILITY TESTS AT THE INSECTARY OF THE NATIONAL MALARIA ERADICATION SERVICE, EL SALVADOR.

Meetings

The Ninth Annual Meeting of Directors of Malaria Services of Central America, Panama, and Mexico was held in Guatemala City, from 8-13 May. A meeting of the Organization's consultant personnel in Zones II and III was held the following week.

Border meetings, at which malaria problems were discussed, were held on 13-14 January between Guatemala and Mexico, and on 20-24 August by Argentina, Brazil, Paraguay and Uruguay.

YELLOW FEVER CONTROL AND AËDES AEGYPTI ERADICATION

Yellow Fever

During 1961, 83 cases of jungle yellow fever were notified in the Americas from Bolivia, Brazil, British Guiana, Colombia, Peru, and Venezuela. Their geographical distribution is shown in Figure 3.

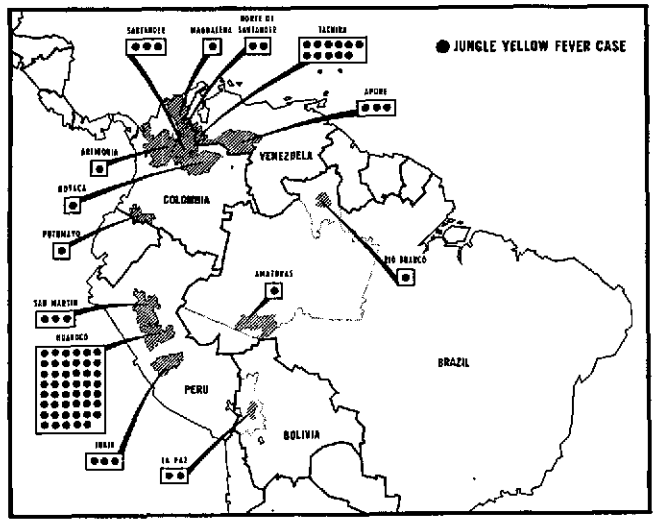


FIG. 3. REPORTED CASES OF JUNGLE YELLOW FEVER IN THE AMERICAS, 1961.

(Subsequent to the preparation of Figure 3, two cases were reported to have occurred in Essequibo County, British Guiana, in October and November 1961.)

The Organization continued the financial and technical assistance provided since 1950 to the Carlos J. Finlay Institute for Special Studies of Bogotá, Colombia. During the first 11 months of 1961, the Institute prepared 723,935 doses of 17D yellow fever vaccine, of which 112,143 were administered in Colombia and 328,925 were supplied to British Guiana, Chile, Cuba, Ecuador, Ethiopia, Guatemala, Jamaica, Liberia, Mexico, Netherlands Antilles, Panama, Peru, and Venezuela.

On the occasion of the yellow fever epidemic which occurred in the Province of Gamu-Gofa, Ethiopia, in 1961, the World Health Organization prepared controlled studies of yellow fever vaccines. The satisfactory results which the Carlos J. Finlay Institute had obtained with administration of 17D vaccine by scarification led to its inclusion in the studies, since it can be used in situations when refrigeration is not available and administration of vaccine by injection is not practicable. The vaccine for Ethiopia was specially tested for stability and given to the WHO by the Colombian Government.

The Carlos J. Finlay Institute also undertook epidemiological studies of yellow fever, and its work on ARBO viruses has made an important contribution to the epidemiology of this group of pathogens.

The Organization assisted the Oswaldo Cruz Institute of Rio de Janeiro, Brazil, in the production of 17D vaccine and the provision of free diagnostic service to other countries of the Americas. The Institute maintains a reserve of over 3.5 million usable doses, and produced 2,648,800 doses in 1961. In Brazil, 1,143,000 doses were used during 1961, while 50,000 were supplied to Bolivia, 65,000 to Peru, 100,000 to Portugal, 20,000 to Uruguay, and 570,000 to Venezuela.

Aëdes aegypti Eradication

The Governing Bodies of the Organization have repeatedly emphasized the need for countries still infested to make every possible effort to eradicate *Aëdes aegypti* as the only way of preventing eradication programs in the Americas from becoming indefinitely prolonged or risking the loss of what has been achieved. This becomes increasingly important as the number of *aegypti*-free areas increases. This was recognized at the XIII Meeting of the Directing Council of PAHO (Washington, October 1961). It recommended that *aegypti*-infested countries and territories that had not initiated eradication campaigns do so at the earliest possible date, and that those whose campaigns were progressing satisfactorily or were in the final stage accelerate their activities in the hope that all might complete eradication within a five-year period and be able so to report to the XVII Pan American Sanitary Conference in 1966.

During 1961, Chile and Costa Rica were added to the list of countries and territories that had eradicated *A. aegypti*. The list already included Bolivia, Brazil, British Honduras, Ecuador, El Salvador, French Guiana, Guatemala, Honduras, Nicaragua, Panama, the Panama Canal Zone, Paraguay, Peru, and Uruguay.

Infestation with *A. aegypti* persists in parts of the United States and the Caribbean, where for geographic, economic, and administrative reasons it has not yet been possible to achieve the necessary coordination for conducting the programs at more or less the same time.

The following summary indicates, except for the *aegypti*-free areas, the present status of the programs in each country and territory.

Argentina. The Government has substantially increased the budget for the campaign; the aim is to finish the survey and first verification by mid-1962. Considering the number of teams available until recently, progress has been satisfactory and the results good. *A. aegypti* has already been eliminated from the Provinces of Catamarca, Corrientes, El Chaco, Entre Ríos, Formosa, Jujuy, Misiones, Salta, Santiago del Estero, and Tucumán, all of which are located in the tropical and subtropical areas where conditions favor the development of the vector. Work is also fairly advanced in the Provinces of Córdoba, La Rioja, Santa Fe, and in the Federal District, which includes Buenos Aires and surrounding areas.

The initial survey covered 3,181 localities, 165 of which were found with *A. aegypti;* of those, 149 have already

been freed of the vector, 10 have been found negative twice and two once, while four need verification.

As the work advanced southward, the infested areas became fewer, and data for the last few months suggest the probability that no *A. aegypti* will be found beyond the 35th parallel, south of the present area of work. If this should be the case, eradication in Argentina may be achieved by the end of 1963.

Colombia. The campaign has reached its final phase, but in September 1961, after two years of negativity, *A. aegypti* were found again in the city of Cúcuta, near the border with Venezuela. With the assistance of the Organization, the Government of Colombia took steps to eliminate this reinfestation.

Cuba. With the exception of some almost uninhabited coastal areas and the highest mountainous parts, conditions for the development and propagation of *A. aegypti* are favorable, and available data indicate that most of the island may be considered heavily infested. Eradication activities have increased considerably since the provision of a larger campaign budget in 1959. Work in the Province of Havana should be finished in 1962 and the campaign will be extended to the neighboring Provinces of Pinar del Río and Matanzas.

Although over-all progress has been satisfactory, dieldrin was substituted for DDT in December 1961 because of low susceptibility to DDT in some areas of Greater Havana.

Between 1954 and the end of 1961, 325 localities were surveyed; of the 242 found infested and treated, 58 are now negative. If work progresses at the same rate and no major problems arise, Cuba may be free of the vector by the end of 1964.

Dominican Republic. Eradication activities in this country began in 1952 but progress has been very slow owing to administrative difficulties. The facilities needed to intensify the program are expected to be available early in 1962 so that eradication may be completed within a reasonable period of time.

Haiti. The program was interrupted for financial reasons in 1958. Ecologic conditions are favorable to *A. aegypti*, and, on the basis of the situation existing when the activities were suspended, it is believed that the infestation rate is high.

Mexico. The eradication program is in its final stage. The initially infested areas in the southern and central parts of the country are now considered free of the mosquito, but the initial survey has yet to be carried out in small northern areas in the vicinity of the United States border.

In October 1961 the Government, in collaboration with PAHO, began the special verification of the entire originally infested area, which was to be completed by the end of 1962. Preliminary results showed that the city of Mérida, after being found negative in 1960, had been reinfested.

United States of America. According to the latest data available, *A. aegypti*-infested areas included the States of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, South Carolina, Tennessee, and part of Texas, as well as Puerto Rico and the U.S. Virgin Islands. A pilot project started in Pensacola, Florida, in 1957, continued studies on work methods, unit costs, and the feasibility of implementing a large-scale program.

Venezuela. Work is progressing well. The initial survey was finished in the States of Aragua, Carabobo, and Mérida, but was still going on in Trujillo, Guárico, Zulia, Lara, Yaracuy, Barinas, and Apure. Of 876 localities initially surveyed in 1961, 27 were found positive. Thirty-three were treated, and verifications were made in 196, of which 21 were found still positive. It is expected that eradication of the vector will be completed in Venezuela by 1964.

British Guiana. This territory is considered negative. It lacks only the special verification to confirm eradication.

French Guiana. After the 1959 reinfestation of French Guiana was eliminated that same year, the territory was again found reinfested in 1960, the vector possibly originating in Surinam. The 1960 reinfestation was eliminated the same year, and during 1961 no positivity was found.

Surinam. A preliminary survey made in 1960 by the Government in collaboration with PAHO revealed extensive and high infestation in this territory. An eradication campaign plan was prepared, but financial reasons prevented implementing the program in 1961. *A. aegypti* resistance to DDT was verified in Paramaribo.

Jamaica. Because the eradication activities were inadequate and the results not satisfactory, the Government suspended the program. It is to be resumed after reorganization, which is now under study.

Bahamas. The funds and personnel necessary to cope with the *A. aegypti* problem in all the islands of the group are lacking, and the results being achieved therefore were not satisfactory. The vector showed some resistance to DDT.

Bermuda. The entire territory is considered negative, lacking only the special verification to confirm eradication.

Trinidad and Tobago. These islands had been considered negative for some time, but in April and August 1961, *A. aegypti* was found in one locality in a house in

TABLE 4. STATUS OF THE AËDES AEGYPTI ERADICATION CAMPAIGN IN THE AMERICAS, 1961

Country or other political unit	Date campaign began	Date of latest available report	Area assumed initially infested (*square kilometers*)		Localities inspected since beginning of campaign					Present stage of campaign
					Number	Initially positive				
						Total	Treated	Verified		
			Total	Inspected (*per cent*)				Number	Still positive	
Argentina	June 1953	Dec. 1961	1,500,000	54.0	3,181	165	165	161	–	A
Bolivia	June 1932	Dec. 1961	100,000	100.0	282	65	65	65	–	E
Brazil	Jan. 1931	Dec. 1961	5,358,822	100.0	268,576	36,119	36,119	36,119	–	E
Chile	June 1945	April 1961	104,373	100.0	301	48	48	48	–	E
Colombia	Nov. 1950	Dec. 1961	280,000	100.0	3,801	354	354	354	1	R
Costa Rica	April 1949	Dec. 1961	20,000	100.0	1,342	104	104	104	–	E
Cuba	March 1954	Dec. 1961	100,000	7.4	325	242	242	153	58	A
Dominican Republic	Oct. 1952	Dec. 1961	42,020	80.4	1,420	351	351	326	23	A
Ecuador	June 1946	Dec. 1961	69,454	100.0	2,824	337	337	337	–	E
El Salvador	April 1949	Dec. 1961	18,675	100.0	909	190	190	190	–	E
Guatemala	Jan. 1949	Sept. 1961	36,423	100.0	2,485	138	138	138	–	E
Haiti	Oct. 1953	Sept. 1958	27,750	49.4	2,379	605	602	435	27	I
Honduras	Sept. 1949	Dec. 1961	69,929	100.0	600	53	53	53	–	E
Mexico	Jan. 1951	Dec. 1961	1,000,000	98.0	4,231	600	600	596	1	A
Nicaragua	Jan. 1950	June 1961	65,263	100.0	3,126	18	18	18	–	E
Panama	Feb. 1949	June 1960	56,246	100.0	2,853	44	44	44	–	E
Paraguay	Jan. 1948	Dec. 1961	200,000	100.0	1,561	98	98	98	–	E
Peru	Jan. 1940	Dec. 1961	638,000	100.0	4,320	191	191	191	–	E
United States of America	–	–	777,000	–	–	–	–	–	–	
Uruguay	Oct. 1948	Sept. 1961	187,000	100.0	1,020	133	133	133	–	E
Venezuela	June 1948	Dec. 1961	600,000	85.0	5,234	521	504	473	22	A
France										
French Guiana	May 1949	April 1960	91,000	100.0	222	55	55	55	–	E
Guadeloupe	Jan. 1957	Oct. 1961	1,619	4.9	53	38	38	27	20	A
Martinique	Nov. 1953	June 1961	1,000	100.0	34	21	9	9	–	A
Netherlands										
Aruba	March 1952	Dec. 1961	174	100.0	9	9	9	9	–	N
Bonaire	Sept. 1952	Dec. 1961	246	100.0	6	6	6	6	–	N
Curaçao	Oct. 1951	Dec. 1961	448	100.0	155	155	155	155	[a]	A
Saba, St. Eustatius, St. Martin	July 1958	Dec. 1961	60	100.0	34	30	30	30	15	A
Surinam	–	Dec. 1960	48,000	...	231	74	–	–	–	P
United Kingdom										
Antigua	Aug. 1954	Dec. 1961	283	100.0	50	47	47	47	1	A
Bahamas	June 1954	Dec. 1961	11,396	1.3	13	11	11	11	10	A
Barbados	March 1954	July 1961	171	100.0	95	95	95	95	27	A
Bermuda	Jan. 1951	Dec. 1951	53	100.0	59	9	9	9	–	N
British Guiana	March 1946	Dec. 1961	4,662	100.0	93	21	21	21	–	N
British Honduras	Oct. 1950	April 1961	22,965	100.0	84	2	2	2	–	E
Cayman Islands, Turks and Caicos Islands	–	–	689	–	–	–	–	–	–	P
Dominica	Feb. 1951	Oct. 1956	789	90.0	136	66	66	66	16	I
Grenada	Nov. 1952	July 1959	311	100.0	8	8	8	8	–	N
Grenadines	Nov. 1952	Sept. 1961	65	100.0	7	5	5	5	2	A
Jamaica	Feb. 1950	Nov. 1961	11,424	77.3	82	61	61	42	22	A
Montserrat	May 1956	Dec. 1961	83	100.0	33	16	16	16	–	N
St. Kitts-Nevis-Anguilla	May 1950	Dec. 1961	396	100.0	62	33	33	33	18	A
Saint Lucia	May 1953	Aug. 1961	259	100.0	50	50	50	50	3	A
Saint Vincent	March 1953	Sept. 1961	332	100.0	8	8	8	8	–	N
Trinidad and Tobago	Jan. 1951	Aug. 1961	3,108	100.0	128	122	122	122	2	A
Virgin Islands	March 1960	Dec. 1961	174	74.6	23	23	23	23	11	A
United States of America										
Canal Zone	1948	Sept. 1960	1,432	100.0	21	2	2	2	–	E
Puerto Rico	May 1950	March 1961	8,896	61.8	481	248	248	248	116	A
Virgin Islands	–	–	124	–	–	–	–	–	–	P

– = Zero or no activity.
... = Data not available.
A = Active.
E = *A. aegypti* eradicated.
R = Reinfested.
I = Program interrupted.
N = Negative for *A. aegypti*.
P = Preparatory.
[a] = Six houses positive.

the interior of Trinidad and in the dock area of Port of Spain, possibly due to importation from some other island.

Barbados. The campaign has been delayed, but renewed interest has been shown by the local health authorities. The infestation is mainly in the capital city, but small foci also exist in other parts of the island. The vector is resistant to DDT.

British Virgin Islands. The campaign in this group of islands has been in progress since 1960, with the cooperation of the Organization. If administrative difficulties can be solved, negativity may be achieved during 1962.

St. Kitts-Nevis-Anguilla. St. Kitts and Nevis continue negative. Work continues in Anguilla.

Antigua and Barbuda. These islands had been negative and under surveillance since 1958, but in June 1961 Antigua was found reinfested. Prompt measures were taken to eliminate the reinfestation.

Montserrat. After having been negative for more than a year, the island was reinfested in 1960. The necessary measures were taken and, according to the latest report, Montserrat is again negative.

Dominica. The campaign was interrupted some years ago, but the Government has shown interest in studying the situation again.

St. Lucia. The reinfestation discovered early in 1960 was promptly eliminated. The island remained negative and under surveillance until the beginning of 1961, when again it was reinfested. These reinfestations indicate the need for surveillance until the mosquito is eradicated from all neighboring islands.

St. Vincent-Grenadines. This group of islands was supposed to be free from *A. aegypti* since 1959, after inspections in Bequia (Grenadines), the last positive area, showed that its foci had been eliminated. In August 1960 Bequia was found reinfested, and surveys made in March and July 1961 still showed positivity. No treatment was done in 1961, and no other survey was made in the other islands of the group.

Grenada-Carriacou. In this group, Grenada has been negative since 1958, but Carricou and Petite Martinique continue to be positive. Resistance tests carried out in Carriacou showed that *A. aegypti* was resistant to DDT and to dieldrin, and had low susceptibility to BHC.

Martinique. There is no specific campaign against *A. aegypti* in this island. Local authorities are carrying out a campaign against insects in general, but the results against *A. aegypti* are poor.

Guadeloupe. The results of the campaign are not satisfactory, particularly from the administrative point of view. Very little progress has been made in the capital

FIG. 4. STATUS OF THE *AEDES AEGYPTI* ERADICATION CAMPAIGN IN THE AMERICAS, DECEMBER 1961.

of the island, Basse-Terre. Since the beginning of the campaign in 1956, only the communities around Basse-Terre were treated and they never reached negativity. The local strain of *A. aegypti* in Basse-Terre is resistant to DDT and shows low susceptibility to BHC, but is susceptible to dieldrin. The French part of the island of St. Martin was treated in 1959, and latest reports show that it has continued negative.

Netherlands Antilles. Conditions are generally satisfactory. The islands of Aruba, Bonaire, and Saba continue to be negative, lacking only the special verification to certify eradication. However, the Dutch part of St. Martin and the St. Eustatius islands were found reinfested in 1961. St. Eustatius was treated, and the results of the first inspections have been negative.

Table 4 shows data for the campaign in each country and territory, and the map in Figure 4 indicates the results thus far obtained and what remains to be done to eradicate *A. aegypti* in the Americas.

SMALLPOX

The Organization continued to give special attention to the problem of smallpox in the Americas in 1961.

Material aid continued to be given in limited quantities where circumstances warranted it, and the services of the Serum Institute of Copenhagen were available to countries desiring to verify the degree of purity and potency of vaccines prepared in their laboratories. The Organization also continued its efforts to achieve more effective coordination of national vaccination programs aimed at eradicating the disease from the Americas.

The XV Pan American Sanitary Conference asked the PASB to prepare criteria for smallpox eradication, for uniform application. After the necessary studies and consultation, the following text was approved by the XIII Meeting of the Directing Council in October 1961:

From a practical viewpoint, countries in which smallpox is endemic may consider the disease eradicated when no new cases of smallpox occur during the three years immediately following the completion of a suitable vaccination campaign.

Although the particular conditions in individual countries may require a change in the manner of conducting the vaccination program, it is generally accepted that the correct vaccination of 80 per cent of each of the sectors of the population, within not more than five years, will result in the disappearance of smallpox.

Countries where smallpox has been eradicated should adopt measures to maintain such eradication through either a permanent immunization program or, in the event of the disease being reintroduced into the country, the combined application of isolation and immunization measures. In countries exposed to the risk of the introduction of smallpox —for example, when the disease is endemic in neighboring countries—it is recommended that an attempt be made to maintain suitable levels of immunity in the population through: (a) the vaccination of all new members of the population; and (b) the periodic revaccination of the population, especially of the more exposed sectors.

In view of increasing international travel, the strict application of the pertinent provisions in the International Sanitary Regulations is recommended as a measure to protect countries free from the disease until such time as smallpox eradication is accomplished throughout the world.

Smallpox was present in 15 countries and territories of the Americas in 1951, in seven in 1958, and in only five in 1961. The trend in five South American countries is shown in Figure 5. With the development of national vaccination programs, the disease disappeared or declined rapidly in those areas where it had previously been prevalent, and continued only in countries where eradication programs had not yet been started, had been interrupted, or had not been pursued vigorously. Brazil and Ecuador are the two most important foci remaining in the Americas.

Countries that have already eliminated smallpox must continue efforts to maintain the percentage of immune persons achieved in eradication programs so long as the disease exists in the Hemisphere. In Central America, Panama, and the Caribbean, where the greater part of

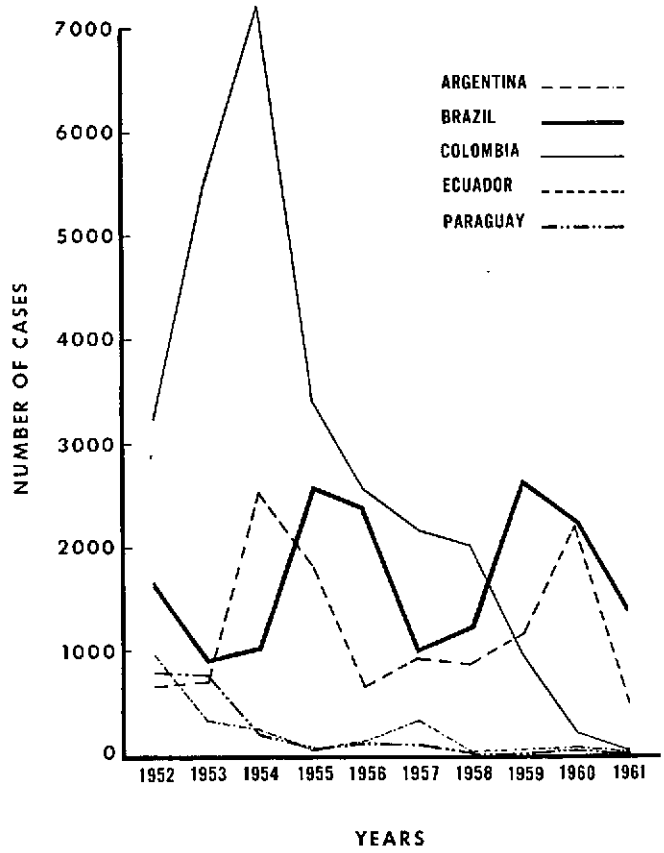


FIG. 5. CASES OF SMALLPOX REPORTED IN FIVE SELECTED COUNTRIES OF SOUTH AMERICA, 1952-1961.

the population is susceptible to smallpox, it is recommended that measures be adopted to raise the percentage of immune population so as to avoid outbreaks and epidemics caused by imported cases.

Table 5 shows estimated population (1960) and vaccinations in the Americas in the period 1960-1961, and Table 6 indicates the production of vaccine during the same period.

With aid from the Organization, Argentina began an intensive vaccination program covering 15 provinces of the north and central parts of the country, which will eventually include the Province of Buenos Aires and other southern areas as well. From the start of the program in October 1960 through December 1961, 5,174,108 persons were vaccinated.

Of the 1,923 smallpox cases reported to the PASB in 1961, 1,411 were in the city of Rio de Janeiro, Brazil. There is no information on the smallpox situation in the rest of the country. At the end of 1961, the Government reaffirmed its intention to start a national smallpox eradication program shortly. The Organization had helped in previous years by supplying equipment to pro-

TABLE 5. REPORTED NUMBER OF SMALLPOX VACCINATIONS IN THE AMERICAS, 1960-1961, AND ESTIMATED POPULATION IN THE SAME AREAS, 1960

Country or other political unit	Vaccinations		Estimated population 1960 (*thousands*)
	1960	1961	
Argentina	1,608,597	4,407,020	20,956
Bolivia	42,603	34,215[a]	3,462
Brazil	4,910,091	...	65,743
Chile	1,276,000	131,966	7,627
Colombia	1,988,386	1,250,685	14,132
Costa Rica	14,657	79,553	1,171
Cuba	38,635[b]	129,647	6,797
Dominican Republic	26,057	10,000	3,014
Ecuador	507,361	535,668	4,298
El Salvador	29,383	24,554[c]	2,612
Guatemala	58,160	120,590[a]	3,759
Haiti	441	3,135	3,505
Honduras	17,843	9,509[c]	1,950
Mexico	3,637,334	2,588,149	34,626
Nicaragua	8,803	19,385	1,475
Panama	24,835	31,596	1,053
Paraguay	122,897	41,734	1,768
Peru	884,392[c]	969,808	10,857
Uruguay	214,360	188,674	2,700[d]
Venezuela	920,969	1,140,842	6,709
Antigua	1,859	1,246	54
Bahamas	...	17,941	105
Barbados	10,741	14,070	235
British Honduras	4,050	4,900	90
Curaçao	3,665	...	190
Dominica	...	1,351[e]	59
Grenada	3,402	1,350	89
Jamaica	79,060	70,129	1,607
Martinique	14,094	...	277
Montserrat	1,204	...	12
St. Kitts-Nevis-Anguilla	3,300	2,979	57
Surinam	3,665	8,400	270
Trinidad and Tobago	3,839	...	832

... Data not available.
[a] January-November.
[b] Partial information.
[c] January-October.
[d] 1958.
[e] January-August.

TABLE 6. REPORTED PRODUCTION OF SMALLPOX VACCINE IN THE AMERICAS, 1960-1961
(*doses*)

Country or other political unit	1960		1961	
	Glycerinated	Dried	Glycerinated	Dried
Argentina	6,600,000	...	19,300,000	–
Bolivia	...	310,000	...	122,500
Brazil	11,792,304	889,700	...	...
Chile	960,000	530,000	1,050,000	360,000
Colombia	...	2,473,240	...	2,809,865
Cuba	1,360,000	–	518,500	...
Ecuador	...	1,055,740	41,020	1,095,220
El Salvador	60,300	–	127,650	–
Guatemala	484,400	–	283,400	–
Honduras	20,200	–	20,000	–
Mexico	10,477,800	...	7,880,480	...
Nicaragua	15,300	–	40,000	–
Peru	563,465	1,362,300	433,400	1,299,900
Uruguay	1,982,000	68,500	1,480,000	70,000
Venezuela	3,925,000	316,000	4,600,000	278,000
Surinam	–	–	15,000	...

– None.
... Data not available.

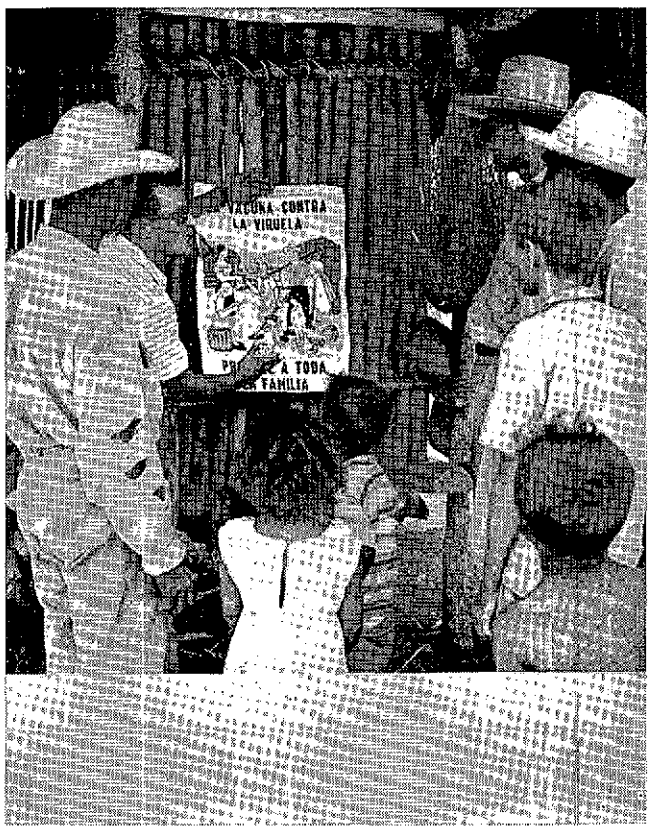
SMALLPOX VACCINATION IN A COLOMBIAN SCHOOLROOM.

duce dried vaccine in the States of Rio Grande do Sul and Pernambuco. In 1961 additional equipment for the same purpose was given to the Oswaldo Cruz Institute to expand its laboratory in Rio de Janeiro.

Smallpox eradication activities in Colombia, which began in 1955, were suspended for a brief period in 1961 because of economic difficulties. From the beginning of the program through 1961, 11,082,002 persons were vaccinated, 1,250,685 in 1961. In order to complete the campaign, 273,152 persons still must be vaccinated. The

success of this well-conducted program is illustrated by the progressive reduction of smallpox cases as shown in Figure 5. A special surveillance and case notification system covers the entire country, and every suspect case undergoes clinical, laboratory, and epidemiological examination.

In Ecuador, the economic and administrative difficulties cited in previous years continued to affect the smallpox eradication program in 1961. The number of people vaccinated grew slowly, and 491 cases were reported during the year. From the resumption of the program in May 1958 through 1960, 1,355,064 persons had been vaccinated against smallpox, of which 330,000 were vaccinated for the first time. In the first 10 months of 1961, the number of vaccinations totalled 450,557, including 148,069 primary vaccinations. In order to complete the campaign within the next two years, the Government of Ecuador requested special aid from the contingency reserve for technical assistance of the United Nations Special Fund for equipment and supplies, as well as to obtain two experienced inspectors to aid in the organization, development, and supervision of field activities. Since the contingency reserve for technical assistance was not in a position for the full amount to be granted in 1962, it was agreed that the UN Special Fund and PAHO would share the cost of the aid requested. The Government has promised to provide the necessary local funds in its 1962 and 1963 budgets, and to modify administrative procedures, especially with respect to the delivery of funds, to facilitate the program.



HEALTH EDUCATION FOR SMALLPOX VACCINATION.

YAWS ERADICATION

The surveillance phase of the yaws program in Haiti continued to progress satisfactorily in 1961. Thirty-five sanitary inspectors, divided into seven work groups under the direction of two chief inspectors, examined 2,436,889 persons for infectious forms of yaws. Of the 275 suspect cases reported, infectious yaws was diagnosed in only 33—14 cases each in the Northern and Western Departments, four in the Northwestern, and one in the Southern Department.

The incidence of infectious forms of yaws in the population examined, expressed per 100,000 inhabitants, has been progressively reduced from 100 in 1959 to 30 in 1960 and 1.3 in 1961. During the reporting year, clinical diagnosis continued to be confirmed by laboratory examination of samples from suspect lesions. In specimens from the 275 suspect cases, 242 came from lesions caused by *Borrelia vincenti* and other microorganisms distinct from *Treponema pertenue.*

The activities of the yaws eradication program were integrated with the public health services in Poté Colé, in the Northern Department, on an experimental basis in an attempt to determine future lines of action for the next stages of the program. The Organization continued to provide technical assistance to Haiti through a medical consultant and a sanitary inspector, and the Organization's laboratory consultant also assisted in the campaign.

In the Dominican Republic, the surveillance re-examination started in February 1960 and was completed in May 1961. This examination covered 157,069 persons in 1961 and revealed 69 cases of infectious yaws. With the objective of eliminating the foci of infection discovered during this examination, a new investigation of affected areas was begun in July 1961. Through December 1961, 135,142 persons were examined and 27 were found with infectious yaws. The incidence of infectious yaws in 1961 was calculated to be 30 per 100,000 inhabitants.

The yaws eradication programs in Haiti and the Dominican Republic are well advanced. If the present pace is continued, residual foci will be eliminated in the near future. An international team will be in charge of the

verification surveys. Ecuador and Colombia have asked the assistance of the Organization for a similar verification.

In Trinidad and Tobago, St. Kitts-Nevis-Anguilla, and Montserrat, the future of yaws eradication programs is promising so long as surveillance activities continue as they have up until the present. No cases were reported in these territories during 1961. In Grenada there were five cases of infectious yaws in 1961. It is expected that the changes introduced in the program will make it possible to eliminate the disease in a short time. In St. Lucia there were 66 reported cases of yaws in 1961, with 197 cases reported in St. Vincent. There were 275 cases reported in Jamaica.

VENEREAL DISEASE CONTROL

Despite the availability of improved techniques of diagnosis and treatment, venereal disease remained a serious problem in the Americas. The following progress, however, was achieved in 1961.

Progress continued during the year in the Dominican Republic in the training of personnel in techniques and methods for the control of venereal diseases. Two courses on venereology for physicians were attended by 45 professionals; a course for contact investigators was attended by 12 sanitary inspectors; and a course on serologic techniques for the diagnosis of syphilis was held for 12 laboratory technicians. The chief of the Serology Section of the National Public Health Laboratory was given a fellowship to attend a course on serology techniques for the diagnosis of syphilis at the USPHS Communicable Disease Center at Atlanta, Georgia.

Coordination of the various medical institutions for better control of venereal disease through fuller use of available resources was substantially improved in the cities of Santo Domingo, San Cristóbal, and Santiago de los Caballeros. In Santo Domingo a special center for investigation of contacts was created, and a special clinic for their treatment was set up. Three new serology centers for the diagnosis of syphilis were equipped in Santo Domingo, and one was equipped in each of the Provinces of Santiago de los Caballeros, Monte Cristi, María Trinidad Sánchez, Barahona, San Pedro de Macorís, La Romana, and Baní.

Short-term consultant services on the study and control of venereal diseases were provided in Colombia and Venezuela. A Venezuelan physician was awarded a fellowship for participation in a traveling seminar on venereal diseases in which WHO collaborated, in the Soviet Union, and a Brazilian physician also attended.

The El Paso Field Office increased its promotion of international cooperation in the control of venereal diseases on the border between Mexico and the United States. The Field Office has continued to function as an epidemiological center for the reporting of cases and contacts. This reporting is made directly from service to service for cases in the border area proper, and through the Field Office for cases and contacts from more distant areas of both countries.

In the El Paso-Ciudad Juárez area it was agreed to report infectious syphilis cases from one city to the other by telephone, while continuing to use the standard international reporting form as well.

POLIOMYELITIS

The papers presented at the Second International Conference on Live Poliovirus Vaccines (sponsored by PAHO/WHO in cooperation with the Sister Elizabeth Kenny Foundation in 1960)[1] and the experience accumulated by then, established the effectiveness and practicability of attenuated poliovirus vaccines administered orally. The requirements for their production and control with strains developed by Sabin have already been defined in several countries, and those aspects which still need to be investigated before the use of the vaccine can be extended throughout the world are very few. Among them the most important is the need to prevent the contamination of the vaccine with foreign agents which, although apparently harmless in oral administration, may have long-term effects on man. In particular, it has been necessary to study methods for obtaining vaccines free from SV40 virus, which may be present in the monkeys whose kidney tissue is used for growing attenuated poliovirus; this problem is already on the way to a successful solution. Other aspects, such as the need to continue observation for longer periods in order to ascertain the duration of the immunity conferred by the vaccine and the factors influencing such duration can be studied during regular vaccination programs and need not delay the general use of this new immunizing agent. The task the Organization had taken on in planning and carrying out field studies has thus come to an end.

With assistance from the Organization, the virus laboratory of the University of El Valle (Cali, Colombia) completed the serological studies connected with the field trials carried out in Colombia and Costa Rica in 1960. The Government of Brazil expressed early in the year

[1] *Scientific Publication PAHO* **50,** 1960.

ADMINISTERING ATTENUATED LIVE VIRUS POLIO VACCINE IN COLOMBIA.

its interest in carrying out vaccination programs in various parts of the country and especially in the States of São Paulo and Guanabara. The Organization took part in planning a preliminary study in the municipality of Santo André, São Paulo, where about 25,000 children between the ages of six months and three years were vaccinated. A PAHO consultant assisted in planning the serological work connected with that study, which once again demonstrated the harmlessness and efficacy of the vaccine. Assistance was also given to a preliminary program in Jacarépaguá, a suburb of Rio de Janeiro, where 2,500 children were vaccinated. After these trial programs, the Federal Government and several state governments continued to administer the vaccine orally and had immunized more than half a million children by the end of 1961.

LEPROSY

In most of the countries of the Americas where leprosy exists, programs for control are in various stages of progress. There are old ones which have been reoriented and adapted to modern principles, while others have been initiated recently or are about to begin functioning. No longer does any program, old or new, insist on compulsory isolation of the leprosy patient. Instead of leper colonies, there should be hospitals for special leprosy patients, with treatment mainly domiciliary and ambulatory. The surveillance of patients and their contacts is a basic element, and the physical and social rehabilitation of leprosy patients is beginning to receive increased attention.

The Organization has assigned four consultants to collaborate with Governments in the planning, organization, development, and evaluation of leprosy control programs. During 1961 the Governments of Brazil, Mexico, and Panama submitted for the consideration of the PASB draft agreements for the development of control programs.

The development of the leprosy program, by country, was as follows:

A tripartite agreement between the Government of Argentina, PAHO/WHO, and UNICEF was signed in 1961. By November of that year a large part of the initial phase of the program had been carried out. The Provinces of Tucumán, Misiones, and Entre Ríos, and the north of the Province of Buenos Aires, were chosen as pilot areas. Courses were given for physicians, social workers, and nursing auxiliaries. Information on the objectives and importance of the program was distributed widely among all social groups in the cities and towns of the provinces affected. The recording of data on patients and contacts and on operations was mechanized and considerable progress was made in culling and bringing up-to-date the records on patients and contacts. The status of the disease was reviewed early in 1961. The results obtained should be interpreted with caution because the information is not yet complete. It was found that the endemic area comprises 12 provinces and the Federal District, that endemicity is low, and that prevalence for the entire country amounts to roughly 54 per 100,000 population. The percentage distribution of the 11,374 known patients, by clinical form of the disease, is as follows: lepromatous forms, 48.5 per cent; tuberculoid forms, 33.6 per cent; indeterminate forms, 10.5 per cent; dimorphous forms, 1.7 per cent; not stated, 5.7 per cent. The annual incidence, estimated on the basis of the cases reported during the last decade, is approximately 2.3 per 100,000 inhabitants. It is expected that, as the campaign is intensified, the incidence will be determined more accurately.

During 1961, the efforts to integrate control of leprosy in Paraguay through the regular work of health centers continued. After using this system experimentally in a pilot area, preliminary steps were taken to extend its

application. The director of the program received an Organization fellowship. The Ministry provided personnel to achieve greater coordination with institutions which have approximately 700 cases under surveillance. An analysis of endemicity during the last 10 years showed 3,485 known cases and that prevalence for the entire country was 190 per 100,000 population. The density of endemicity was 0.8 patients per 100 square kilometers, with 1.5 male cases per female case, and 84 per cent of the cases occurring in persons over 20 years of age. Considerable progress has been made since 1959. In that year, 39 per cent of known cases and about 6 per cent of contacts were under surveillance, compared with 65 per cent of the cases and 14 per cent of contacts in 1961. Other signs of progress are the greater proportion of incipient forms of the disease among new cases detected and the discharge of the first cured patients.

A tripartite agreement for a national leprosy control program was signed by the Government of Brazil, PAHO/WHO, and UNICEF. Prepared by the Government with assistance from the Organization, the new program represented the expansion and modification of a former national program, according to modern concepts and trends in leprosy control.

The Organization continued to provide consultant services in Colombia. The 24 dermatological clinics, eight of which were established in 1961, examined 68,517 persons and discovered 1,703 new cases. Congress approved a law granting persons with leprosy full civil and political rights and social security, which they had not previously enjoyed. Training courses on leprosy work were organized for physicians, and two leprologists were given PAHO/WHO fellowships for studies in public health.

Since 1960, following recommendations of a PAHO consultant on the leprosy problem in Mexico, the Organization has provided assistance in the organization, development, and evaluation of a national leprosy control program. A first step in the organization of the program was to merge the two existing control services into a single leprosy control program under the Ministry of Public Health and Welfare. For program purposes, the country is divided into two regions, with headquarters at Mexico, D.F., and Guadalajara, Jalisco, each with a number of dermatological centers and mobile brigades. Two pilot zones were established in highly endemic areas. After reconnaissance of the areas and training of personnel, the pilot control program began operations. The training of personnel is continuing, and the second course in "dermatoleprology" for physicians and nurses began in October 1961. The experience gained will help determine the course to be followed in the rest of the country. The incomplete figures available do not yet permit conclusions to be drawn.

Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama made significant progress in the organization, development, and evaluation of leprosy control programs, intensifying the pace of the work, expanding the areas under control, and training professional and auxiliary personnel. When necessary, the policy and operations of establishments for assisting leprosy cases were reviewed and changed. The Organization provided consultant services in Central America and Panama on various aspects of leprosy control, giving special emphasis to the training of personnel. In Guatemala, lectures on leprosy were given to students of dermatology, in the sixth year of the medical course at the University of San Carlos. In El Salvador, four courses were prepared for physicians from health units.

A seminar on leprosy and its control was held in Guatemala City in December 1961 under the auspices of the Government of Guatemala and with the technical and financial collaboration of the Organization. Eight physicians in responsible positions in the leprosy control programs of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama participated.

The study begun by the Organization in 1951 to determine the extent and magnitude of the problem of leprosy in the Americas has been completed except for Cuba and Haiti. The survey of the Dominican Republic was made in 1961.

TUBERCULOSIS

The Organization's policy in the field of tuberculosis control, as in other fields of public health, has evolved with the years. Periodic policy revisions have occurred as new control measures have been introduced, established measures improved, and increasing experience gained in their application.

In the past, when a direct attack on the tubercle bacillus was not possible, the goal of tuberculosis control was to increase the resistance of susceptible individuals against the consequences of unavoidable infection. During the late 40's and early 50's the main emphasis in internationally-assisted tuberculosis control activities was necessarily placed on mass BCG vaccination, both because of the substantial increase in the community resistance that could be obtained through its use on a mass scale and because of its comparatively inexpensive and easy application.

Specific antituberculosis drugs have now become avail-

able for attacking the tubercle bacillus directly. Tuberculosis control should therefore emphasize the development of a comprehensive public health program in which reliance is placed not on the independent application of any given control measure, such as vaccination or treatment, but on the most effective integration of all control means that can be deployed on a community basis.

The aim of the Organization's policy is to attack tuberculosis effectively and economically by the most rational application of available knowledge and resources within a comprehensive public health program.

The specific control measures used should attack the chain of transmission of tuberculosis at its critical points by reducing the risk of primary infection and the development of disease in persons already infected. Potent antituberculosis drugs permit a direct attack on the tubercle bacillus in the reservoir of human infectors, their prophylactic use checks the development of the disease in infected contacts, and vaccination increases resistance in the noninfected population.

The application of control measures must be based on knowledge of the local situation—where the infecting agent exists in the community, how it is transmitted, and how the infection develops into disease. The control measures must be applied on a community-wide scale owing to the wide distribution of unrecognized infected persons and potentially infectious cases. Because of the epidemiological dynamics of tuberculosis, control must be planned as a continuous, long-term activity.

The methods and techniques used in tuberculosis control must be suitable for effective application on a mass scale under local technical and socioeconomic conditions. All antituberculosis measures should be integrated in a single program within the operational framework of the general public health services, to secure the optimum impact on the tuberculosis problem with existing resources. Only through such integration can the tuberculosis services be expected to operate effectively on a community basis.

Although the control of tuberculosis should be based on a comprehensive attack on the chain of transmission, the emphasis to be given to the different program components and methods of application will depend on local circumstances such as prevalence of the disease, topography, cost, and the level of development of the health services in general. It is therefore not generally advisable to implement large-scale control programs before an objective evaluation has been made of all their operational components in a pilot area.

If tuberculosis control is to achieve its purpose, it must be both operationally and technically adapted to the particular conditions prevailing in a country. To permit such adaptation, a step-by-step approach to country-wide tuberculosis control by means of so-called national project areas has been developed.

The purpose of project areas is to establish locally applicable control methods in well-defined areas where public health services already exist, with a view to the development of country-wide programs. The general objectives of local projects are: (a) To study the extent of the tuberculosis problem in the area and to provide a reasonably precise estimate of the prevalence of tuberculosis in the different sections and population groups of the area. (b) To establish a base line for future assessment of the tuberculosis control measures adopted in the area. (c) To study how the pattern of organized tuberculosis services can usefully be adapted to local conditions, taking into consideration the actual possibilities of the country and the degree of development of the public health services. (d) To train national personnel. (e) To assess the cost of specific control measures and their value in reducing the extent of the tuberculosis problem in the country, in terms of financial resources.

The pilot area and its population must not be so large as to hinder operational assessment of control approaches applied throughout the area, though it should be sufficiently large to permit a realistic prediction to be made of the consequences of expansion to the national level of the approaches tested. Further, the pilot area should reflect the general socioeconomic and health situation in rural and urban areas.

Once a control approach projected for the national tuberculosis program has been proved successful in the pilot area, it can gradually be extended to other areas with similar operational conditions. The national program should, however, be expanded only to the extent that local resources permit each phase of the program to be maintained at a satisfactory level of efficiency. The discussion of the problem of tuberculosis held at the XIII Meeting of the Directing Council indicated the need for detailed studies in each country to obtain additional information on the nature and scope of the problem to serve as a basis for formulating tuberculosis control programs. Consequently, the Directing Council recommended that Governments carry out tuberculosis studies in order to gain a better knowledge of incidence and prevalence; endeavor to determine the cost of specific tuberculosis control measures, their efficacy, and the country's financial possibilities of undertaking them, so as to be in a position to prepare national plans to combat the disease; establish goals to be attained in the next 10 years, in order to make it possible to eliminate tuberculosis as a public health problem in the Americas in the not-too-distant future; review and strengthen tuberculosis control programs in order to attain optimum

results with the human and material resources available, and make tuberculosis control programs a part of the regular activities of local public health services.

The Directing Council authorized the Director to attempt to obtain additional financial resources to carry out a continental plan to combat tuberculosis, including the investigation of all problems that bear a relation to the disease. The Organization is expanding its assistance to Governments, so far as the budget permits, through a Regional project and several country projects. The assistance includes training national personnel in the new techniques and procedures; surveying the tuberculosis situation in the different countries, including the study of trends in morbidity and mortality; the assessment of the available physical facilities and trained personnel that could be used for an effective program; the evaluation of needs and the possible ways to meet them; and the establishment of national pilot-project areas.

Headquarters staff provided consultant services to the Governments of Costa Rica, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Mexico, Venezuela, and several of the lesser Antilles, and consultants were recruited for projects in Colombia, Guatemala, and Mexico and began service in 1961.

In Argentina, progress was made in the organization of the national tuberculosis center at Santa Fe. The objectives of this center include the development of a demonstration program for the control of tuberculosis in an urban and a rural area of the Province of Santa Fe, the training of physicians and other technicians, the initiation of studies in the field of tuberculosis control and in education, consultation to the provinces in their plans for tuberculosis control, and stimulation and coordination of these activities with those developed by other agencies. A large part of the basic information has been collected and analyzed. Training of the personnel of the center is being developed and the physical plant has been remodeled. The National Ministry of Health has agreed to collaborate with the Province, and the plan of operation is being prepared. The study of the prevalence of tuberculosis, begun in the Province of El Chaco in 1960, was completed satisfactorily, and a document containing the pertinent statistical information and the conclusions of the consultants was prepared. A similar prevalence study in the Province of Neuquén is now well advanced.

In Cuba, the Government showed interest in a national campaign and requested the cooperation of the Organization for a pilot project. A number of hospitals were enlarged, increasing significantly the number of beds for tuberculosis.

In the Dominican Republic the BCG vaccination campaign was completed in 1961. A preliminary plan of operations was prepared for a pilot project in San Cristóbal which cannot be begun effectively until 1963. It is expected that the training of the necessary personnel will be completed in 1962. UNICEF has shown interest in cooperating in this project.

The program under way in Guatemala was continued in the Departments of Escuintla and Santa Rosa, and another one was begun in the Department of Sacatepéquez. To date 17, 961 persons have been examined, with 3,129 found tuberculous, of whom 1,960 were under regular treatment, 111 died, and 1,058 abandoned treatment. An evaluation was made of the work carried out in the Departments of Escuintla and Santa Rosa, and suggestions were made for improvement of the work in Sacatepéquez.

The Organization assisted the Government of Honduras in the preparation of a control program similar to that in Guatemala.

In Mexico, the training of project personnel and the preparation of general standards for the control of the disease were completed. The mobile X-ray units had not arrived by the end of the year, which delayed in part the beginning of the campaign in Baja California. The laboratory of the National University of Mexico continued to receive collaboration and stimulation in the investigation and study of atypical mycobacteria.

In the border area of the United States and Mexico, two different epidemiological situations influence each other. The border counties of Arizona, California, New Mexico, and Texas have higher tuberculosis mortality and morbidity rates than the states as a whole. Prevalence is also higher in the Mexican states on the border. Mobile populations, frequent border crossings, and temporary migratory labor create special problems in case- and contact-finding. This situation requires the close cooperation of services on both sides of the border and calls for the extension along the entire border of the coordination achieved by the international tuberculosis committee formed in the El Paso-Ciudad Juárez area. Coordinated programs like that of El Paso-Ciudad Juárez are being promoted in other pairs of border cities.

OTHER COMMUNICABLE DISEASES

Influenza

The year 1961 was marked by low incidence of influenza in almost all parts of the world and in the Americas in particular. Nevertheless, there were isolated outbreaks caused by Type A2 virus during the first months of the year in some cities in the United States and

in Canada. Toward the middle of the year, there were similar outbreaks of the same etiology in Brazil, Chile, and Panama, the virus having been isolated at the Oswaldo Cruz Institute, Rio de Janeiro, the Bacteriological Institute of Chile, and the Middle America Research Unit in the Panama Canal Zone.

During the second half of the year Type B was verified in various places in the Hemisphere. In August, an outbreak began in Jamaica; in October, on the Island of Aruba; and in November, in the Province of Saskatchewan, Canada. In December, numerous outbreaks occurred in eight states of the United States, from the Pacific coast to Florida, but they did not cause increases in mortality.

In addition to promoting virology studies, the Organization publishes an occasional bulletin, *Information on Influenza,* to keep Governments informed on the epidemiological situation and to provide other data of interest.

Measles

In vast areas of the world where malnutrition and other health factors tend to aggravate the severity of measles, the respiratory complications that accompany and follow the disease are among the most important causes of death. Moreover, post-measles encephalitis, often in a subclinical form, occurs more frequently than was formerly believed and has cerebral sequelae whose effect on the functioning of the nervous system, although not yet fully known, is not to be doubted. For these reasons, the Organization has given particular attention to studies carried out on the etiology and immunology of measles since 1954, when Enders and his co-workers succeeded in isolating the virus in primate tissue cultures.

Two types of vaccine for parenteral administration are being studied at present—vaccine prepared from inactivated virus, several doses of which are needed in order to provoke a suitable antigenic response in most of the persons vaccinated, and vaccine prepared from attenuated virus (Edmonston B strain), a single dose of which has shown itself to be effective in 95 per cent of the children to whom it was administered. The attenuated-virus type appears most promising at the moment, despite the fact that its administration is often accompanied by febrile reactions which, although not dangerous, may not make the vaccines very acceptable in certain sociocultural environments.

The Organization has helped to disseminate information about the present status of measles immunization, and plans are at present being made for controlled studies in several countries in Latin America to ascertain the effects of immunization, determine its acceptability, and test the use of gamma globulin as a means of reducing the reactions.

A meeting of experts, organized by the World Health Organization, was held at PASB Headquarters, Washington, D.C., following the International Conference on Measles Immunization (7-9 November 1961). At that meeting, the conditions were established for studies aimed at ascertaining the effects of the attenuated virus vaccines on human beings (Edmonston B strain and others being developed) in various epidemiological situations and nutritional states.

PLAGUE

Plague is enzootic in Argentina, Bolivia, Brazil, Ecuador, Peru, the United States of America, and Venezuela. Table 7 shows the number of cases reported in the Americas in 1960 and 1961, and Figure 6 shows the cases which occurred in 1961 by area within each country.

Outbreaks of plague in Ecuador and Peru continue to cause serious concern. In this region, there are two principal foci of sylvatic plague. One is the border area where the Department of Piura, Peru, adjoins the Province of Loja, Ecuador. A considerable outbreak occurred in this area in the summer of 1960-1961, and later in 1961 the number of cases in the rural areas of the Province of Huancabamba, Peru, increased significantly. The city of Huancabamba was not affected, though cases occurred on the outskirts. The other focus is the Province of Riobamba, Ecuador, where there have been no important recent outbreaks. In August and September 1961, an outbreak of more than 70 cases occurred at the international port of Manta, Ecuador, and at the same time there were two cases in Quito. It is believed that in both cases the disease was brought from the Riobamba focus. A consultant of the Organization, after a careful

TABLE 7. REPORTED CASES OF PLAGUE IN THE AMERICAS, 1960-1961

Country	1960	1961
Bolivia	12	20
Brazil	28	106
Ecuador	77	140
Peru	139	68
United States of America	2	3
Venezuela	–	6
Total	258	343

– None.

FIG. 6. REPORTED CASES OF PLAGUE IN THE AMERICAS, 1961.

study of the epidemiological and ecological aspects of these two foci of sylvatic plague, made recommendations for the control of the disease in the area.

There was an increase in the number of cases of plague in Brazil in comparison to previous years. The 106 cases of 1961 occurred in known foci in the States of Alagoas, Bahia, Ceará, Paraíba, Pernambuco, and Minas Gerais.

In the United States, three cases of plague resulting in two deaths originated in the State of New Mexico, in an area near the city of Santa Fe.

CHAGAS' DISEASE

A PAHO/WHO consultant collaborated with the Government of Uruguay for two months in 1961 in a study of the problem of Chagas' disease and methods for its control, and made recommendations for research to clarify various aspects of the disease.

Inquiries were made to see if one or more laboratories in the Americas would undertake to study the preparation of a uniform antigen for the diagnosis of Chagas' disease by complement fixation and assume the subsequent responsibility for distributing the antigen to other countries on request.

PARASITIC DISEASES

Parasitic diseases are important in many countries of the Americas. Their prevalence and severity vary from area to area rather than from country to country, and are usually closely related to socioeconomic conditions. During 1961 the Organization provided technical information on a variety of conditions, including polyparasitosis, trichinosis, cysticercosis, hydatidosis, ancylostomiasis, fascioliasis, leishmaniasis, trypanosomiasis, onchocerciasis, filariasis, and schistosomiasis. Malaria is discussed separately.

Onchocerciasis

An ophthalmologist experienced in onchocerciasis assisted the Government of Guatemala in a preliminary survey of eye involvement in this disease and collaborated in preparing the plan of operations for a study which will attempt to correlate ophthalmological changes in onchocerciasis with nutritional status. Another entomologist spent four months in Venezuela to assist in the identification and classification of the *Simulium* flies, in the delineation of areas where the vectors of onchocerciasis exist, and in a study of the bionomics of the vectors. Because an appraisal of the problem and control of onchocerciasis in the Americas revealed the lack of sufficient knowledge on the living habits of the vectors, plans for ecological studies that will serve as a basis for effective control programs were made.

The Organization collected and tabulated 567 bibliographic references on onchocerciasis, which were made available in October 1961 as Miscellaneous Publication No. 67, Supplement No. 1 to Publication No. 242, 1950, which contained 1,422 earlier references.

Schistosomiasis

The classification of the intermediate host snails of schistosomiasis in the Americas has been complicated because individual malacologists had developed separate taxonomic guides, so that many species of snails appeared in the literature with different designations. To help establish order in this field, six outstanding mala-

cologists met as the PASB/WHO Working Group for the Development of Guidance for Identification of American Planorbidae Involved in Schistosomiasis.

The Group members made comparisons of their snail collections and reduced markedly the number of recognized species involved. Plans were made to continue taxonomic coordination, including a review procedure to be followed before naming new species. An outline was prepared and work begun on the development of a snail identification guide. The guide will cover techniques and basic malacological concepts and include keys to freshwater snail families and planorbid genera, synopses and keys to *Australorbis, Tropicorbis,* and *Taphuis* species, and a bibliography.

The Group recommended that a Schistosomiasis Snail Identification Center for the Americas be established with the responsibilities of accumulating preserved and live snail material, storing material for research in the Center or by other recognized institutions or workers, distributing information and available snail and shell material, identifying medically important snails (or snails suspected to be so), and doing research on their taxonomy, variability, ecology, population dynamics, and susceptibility to molluscocides.

Research in schistosomiasis is fundamental to the development of effective means of control. A diagnostic technique, reliable therapeutic drugs, and a practical method for snail control are needed. The Organization distributed a questionnaire to ascertain existing research sites and programs and appraise potential for research. Follow-up visits to the countries of the Americas with schistosomiasis were planned for a WHO Bilharziasis Advisory Team in 1962, and arrangements were made with the interested countries for the gathering of needed data. The objectives and services of the team are to appraise the status of the schistosomiasis problem in the countries visited; determine if prevalence is increasing or decreasing; investigate relations between infection and water resource development, agricultural methods, and seasonal and ecological factors; analyze present and future programs and methods for control; study legislation on land and water resource developments; and advise on up-to-date control methods applicable to local conditions, coordination of activities by various agencies, and long-term plans for control, with special emphasis on economic and engineering aspects.

VETERINARY PUBLIC HEALTH SERVICES

A large share of the responsibility for the program of the Organization in this field rests on the Veterinary Public Health (VPH) Advisers located in the Zone Offices. Besides the activities described in specific sections elsewhere in this report, a variety of general services were provided.

National and Local Services

Except for the countries of Zones I and VI, the Organization is assisting in the establishment and development of veterinary public health services. In Colombia, Panama, and Peru, veterinary units were developed in the national ministries of health and public health veterinarians were assigned at the regional level and in large cities. VPH Advisers assisted in program planning and development and in the training of personnel. Fellowships were provided for training abroad of key personnel. A veterinary public health consultant was added in 1961 to the staff of the Organization's public health services project in Panama.

Epidemiology and Disease Reporting

The Organization stimulated work on the determination of animal sources of human diseases and the significance of these infections as ascertained from disease-reporting data. The organization of disease-reporting systems involved the collaboration of physicians, veterinarians, hospitals, and clinics, as well as between ministries of health and agriculture.

Zoonoses Control Programs

The Organization collaborated in programs to control or eradicate zoonoses in animals as the most practical means of protecting man. Emphasis was placed on interministerial committees (health and agriculture) within countries and the coordination of programs between countries. Joint planning and coordination of programs, sharing of diagnostic facilities, and collaborative surveys facilitated a more thorough attack on the zoonotic diseases. National activities in which VPH Advisers assisted included testing cattle for tuberculosis and killing reactors, testing and vaccinating cattle for brucellosis, treating dogs for the tapeworm of hydatidosis, and vaccinating dogs for rabies. In addition, the Zone III Office provided coordination for the rabies program of the countries of Central America and Panama, while the El Paso Field Office provided a similar service for the Mexico-United States border area. Reported cases of anthrax, brucellosis, and rabies in 1961 are shown in Table 8.

Laboratory Services

Two important problems of antizoonoses programs were the lack of reliable diagnostic laboratory facilities

TABLE 8. REPORTED CASES OF SPECIFIED ZOONOSES IN SELECTED COUNTRIES OF THE AMERICAS, 1961

Country or other political unit	Anthrax		Brucellosis		Rabies	
	Man	Animals	Man	Animals	Man	Animals
Argentina	94	19[a]	917	5[a]	12	...
Canada	1	...	123	21,023[b]	1	784
Chile	252	...	3[c]	...	3[c]	554
Colombia	2	...	13	...	20	...
Cuba	...	...	16	...	1	...
Ecuador	...	...	...	...	16	261
El Salvador	...	...	...	...	9	168
Guatemala	...	...	...	...	1	65
Haiti	72	...	...	...	6	1
Honduras	...	...	...	...	3	48
Mexico	...	...	1,266[d]	...	28	...
Nicaragua	...	...	...	...	1	47
Panama	1	...	1	...	–	2
Paraguay	...	...	...	...	1	3
Peru	...	...	1,477	...	17	...
United States of America	9	67[e]	580	136,816	3	3,389
Uruguay	49[f]	...	–[f]	...	–	–
Venezuela	1	...	...	...	7	5
British Guiana	...	...	...	...	–	8
British Honduras	...	...	...	...	–	42
Puerto Rico	–	...	–	...	–	29

– None.
... Data not available.
[a] Number of foci in December.
[b] Positive cattle, April-November.
[c] January-June.
[d] April-September.
[e] Number of outbreaks.
[f] January-September.

and of potent and safe biologicals. The Organization provided advice and technical materials to help national laboratories. Services included the provision of standard strains and vaccines, production and testing strains, and outlines of testing and production techniques, as well as the reference testing of specimens, antigens, and vaccines.

Food Hygiene

The Organization assisted countries to revise legislation and to establish, extend, or improve national and local food hygiene programs. Programs included the supervision of milk supplies; the appraisal of fresh cheese for brucellosis and typhoid; the examination of meats for trichinosis, taeniasis, and salmonellosis; and the supervision of canneries and other food and beverage processing plants for health hazards, including the use of food additives.

In many countries, laboratory examination of food for salmonella increased, while in Mexico and Argentina in particular, work progressed in the appraisal of animal sources of human brucellosis. A study in Chile revealed that in 23 slaughterhouses, 15 per cent of 190,000 pigs had taeniasis (cysticercosis). Of 145 patients treated for this disease at the Institute of Neurosurgery in Santiago, 66 per cent came from rural areas and 75 per cent were between the ages of 20 and 50. This study showed the need to extend VPH services to supervision of food supplies in rural areas—in this case, slaughterhouses.

Training

PAHO/WHO fellowships enabled key public health veterinarians to obtain postgraduate public health training or specialized training in specific phases of their work in other countries. The Organization also aided local training courses and the teaching of public health in schools of veterinary medicine. The Pan American Zoonoses Center offered a special course in the laboratory aspects of leptospirosis, and received three long-term trainees for studies in various phases of zoonoses control.

The Organization provided advisory services and teaching aid to the schools of public health in São Paulo and Rio de Janeiro, Brazil, and collaborated with the Massachusetts Institute of Technology in the development of a new course leading to a postgraduate degree in food science and technology for veterinarians, which was to begin in September 1962.

The eleventh edition of *Standard Methods for the Examination of Dairy Products* (APHA) was translated into Spanish, as was a guide for the postmortem examination of meat animals.[1]

Comparative Medicine and Biomedical Research

The Organization aided a number of research activities, among which were studies in Peru on the cardiovascular system and related problems, mainly in cattle, and the preparation of plans for the establishment of research stations for the study of medicobiological problems related to high altitudes. Aid was given in the initial planning for a tropical animal disease center in Panama. Information on the latest surgical techniques for transplanting organs and limbs was distributed to schools of veterinary medicine, together with information on the use of dogs in experimental surgery and radiation studies. Tumors and leukemias in animals were studied in a number of schools, and research was also in progress on the influence of various nutrients in controlled diets on the development of atherosclerosis in pigs. Studies of the reaction of animal and bird lung cells to disease

[1] Scheduled for publication in 1962.

organisms, now under way, may lead to the development of aerosol vaccines for human use.

In most medical research institutes and schools of medicine and veterinary medicine, there was a great need for veterinary specialists in laboratory animal medicine. Many research and diagnostic services depend on the health and quality of the laboratory animals used. Each laboratory animal colony, from mice to primates, represents an extremely complicated field of work, for each species of animal has its own set of nutritional and disease problems. The medicine of mice can be as complicated as the medicine of man. During the year, the Organization assisted countries in many phases of this problem. Advice was given on construction of buildings, the operation of colonies, breeding, nutrition, and disease problems, and basic breeding stock of various animals were provided. Fellowships were made available for training in this field. An exhibit on "A Laboratory Animal Production Center" was prepared, and work on a pamphlet with the same title was begun. Technical advice was given to university and institute officials in São Paulo, Brazil, where plans were prepared for the establishment of a central laboratory animal production center for the area.

Rabies

Rabies remained a problem in all countries of the Americas but Uruguay. In countries with broad and active national programs, the incidence of both human and animal rabies dropped, while in others, where rabies was handled as an agricultural problem with little or no participation by the public health agencies, the situation retrogressed from the previous year.

No major outbreak of rabies for which the Organization's technical assistance and guidance were requested occurred during the year. Increasing interest in the problem of rabies in the Caribbean area, however, was cause for a request to the Organization that a specialist be assigned for consultation to a number of islands and territories. Budgetary limitations caused this assignment to be postponed to 1962.

The large epidemic of canine rabies in northern Baja California, Mexico, and southern California, U.S.A., in 1960, was followed in 1961 by a program of control of predatory animals, coordinated by the Organization. Officials of Mexico and the United States met in Mexico City and in San Diego, California, to analyze the problem and plan a joint campaign against the disease. The meetings concluded *inter alia* that the various antirabies programs would be more effective if they were coordinated from a single point and in such a way as to result in a single program for the border area, and that this coordination should be provided by the Pan American Sanitary Bureau through its El Paso Field Office.

The Organization continued to provide Governments with technical consultation, guidance, and assistance. This included furnishing various strains of rabies virus, standard vaccine, and serum and the reference testing of rabies vaccines. The pamphlet *Rabies—Treatment of Man*[1] was distributed in three languages and arrangements were made for purchase of a new 16-mm. film on laboratory techniques in rabies with a Spanish sound track.

The rabies control measures advocated by the Organization depend on the nature of the outbreak or the endemic conditions in the country, but in general include: establishment of advisory committees in affected areas with representatives from all groups concerned directly or indirectly with rabies; promotion of energetic publicity campaigns to gain full support for the rabies program; establishment of dog control legislation and programs, with the continuous removal of stray or ownerless dogs; conduct of a dog vaccination program; strict quarantine of all dogs imported into countries free of canine rabies; control of predatory animals and surveillance of rabies in areas where it is endemic in wildlife; establishment of laboratory diagnostic services; and the prompt treatment of human contacts.

The research activities of the Pan American Zoonoses Center included studies of an attenuated virus vaccine for dogs and of a similar vaccine for cattle, cats, and puppies. Studies at the Center were also directed to the development of a single vaccine for use in all animals, which would reduce production costs and simplify application.

Pan American Zoonoses Center

The Pan American Zoonoses Center, during its fifth year of activity, continued its program of research, educational, and technical services in support of the increasing antizoonoses efforts of the countries of the Americas.

Research

Research work was aimed at providing new information for the development of practical and efficient zoonoses control programs. The research activities formed the basis for cooperation with scientific institutions engaged in work with the zoonoses, and also served for the training of graduate students.

Laboratory and field studies were made of the preparation and potency of Sterne anthrax vaccine, preparatory

[1] *Miscellaneous Publication PAHO* **62.**

to recommending it as a safe, stable, and potent weapon against the disease in domestic animals.

Research in brucellosis resulted in the first isolation of *Brucella melitensis* from sheep reported in the Americas, as well as in the isolation at the Center of *B. ovis*, a pathogen not previously confirmed in South America.

The evaluation of a fraction of cystic fluid as a possible immunogenic substance in protecting sheep against hydatidosis was completed, comparative studies on tests for diagnosing human hydatid disease were continued, additional data were accumulated in the survey of the disease in wildlife, and receipt late in the year of a special research grant made it possible to intensify the search for an improved method of treating dogs infected with *Echinococcus granulosus*. A short-term consultant spent one month at the Center assisting with the hydatidosis research work.

In the field of rabies, studies were carried out on the antibody response to human pre-exposure vaccination, on the comparative potency of liquid and lyophilized pheno-killed vaccines for human use, and on the keeping quality of modified live-virus vaccines.

Epidemiological studies on leptospirosis, conducted at the request of several Governments, produced new information on the natural history of that disease. The leptospirosis work of the Center was aided by a short-term consultant for three months. Serological surveys of Q fever in animals and man, using the Luoto capillary tube test, were continued in Argentina, Brazil, Chile, Colombia, Peru, and Uruguay, through the cooperation of national institutions. The role of *Salmonella* organisms was studied in a new series of cases of infant diarrhea.

Education

The Fourth Annual Postgraduate Course on Zoonoses Control was conducted in January and was attended by nine veterinarians and physicians from Argentina, Brazil, Colombia, Guatemala, and Peru. Eight of these students were PAHO/WHO fellows. With the completion of this course, a total of 66 professionals, from 13 countries, had completed postgraduate courses at the Center on the principles and practice of zoonoses control. The courses have emphasized the need and the methods for close cooperation between human and animal health services and have trained students to plan, conduct, and evaluate national zoonoses programs.

A course on laboratory methods in leptospirosis was conducted in February, for nine physicians, veterinarians, and bacteriologists from Argentina, Brazil, and Chile. With a short-term consultant in leptospirosis laboratory methods assisting the Center, emphasis was given to practical laboratory diagnosis, although round-table discussions and field demonstrations were also included.

A PAHO/WHO fellow from Mexico began a one-year program of advanced studies. Two graduate students, from Argentina and Nicaragua, completed their study programs during the year.

Special students were received for shorter periods. A Venezuelan health official worked on methods for the study and control of hydatidosis. An investigator from the Uruguayan Animal Health Laboratory and another from the Medical School of the University of Buenos Aires studied laboratory techniques for leptospirosis. Four scientists from Argentine laboratories studied the production and standardization of *Brucella* antigen. A research worker from the Tuberculosis Center, Santa Fe, Argentina, studied the care and breeding of laboratory animals. A group of final-year students of the Medical School, University of Salvador, Buenos Aires, was given training on the natural history, socioeconomic aspects, and control of zoonoses.

PAHO/WHO fellows from Argentina, Brazil, Chile, Colombia, and the United States of America spent periods of varying length at the Center for discussion of zoonoses problems and observation of techniques.

Important additions were made to the collections of library references and audiovisual training aids, many of them through gifts from individuals or agencies.

Technical Services

The Center continued to offer a variety of services to the countries of the Americas, including consultation, demonstration of methods for study and control programs, distribution of technical information, and a number of laboratory services. Most of the consultation was provided through correspondence, with occasional visits by staff members.

Field demonstrations and evaluation studies on the use of avianized vaccine for bovine rabies, of avirulent vaccine for the control of anthrax in sheep, and of bacterin for controlling bovine leptospirosis, were continued in collaboration with the Governments of Argentina and Paraguay. Progress was made in demonstration projects for eradicating bovine brucellosis and tuberculosis from a group of ranches. A pilot program of brucellosis control in a three-county area of the Province of Buenos Aires was begun in July, with the Center providing technical advice and carrying out laboratory work. During the first six months of the program, 70,273 bovine serum samples were tested.

The quarterly bulletin *Zoonosis*, published in Spanish, continued to provide summaries and reviews of articles published in the Americas and brief notes on the activities of the Center. Three papers were prepared in the Tech-

nical Note series, giving detailed descriptions of proven techniques. Information and bibliographic data on a variety of aspects of different zoonoses were distributed.

Standard and special strains of rabies virus, anthrax bacillus, and *Brucella* were supplied to Argentina, Brazil, and Venezuela for the preparation and testing of vaccines and antigens. In addition, type collections of leptospiral cultures were provided to Argentina, Brazil, and Uruguay to prepare antigens for the agglutination-lysis test.

Reference antigens for brucellosis, hydatidosis, and Q fever were provided for research and standardization purposes to Argentina, Brazil, Chile, Colombia, Panama, Peru, Uruguay, and Venezuela. The demand for the Center's brucellosis antigen was particularly great, because of its adoption for testing in several countries. Human and ovine hydatidosis serum was provided to a research institution in the United States for experimental purposes.

Rabies vaccines were submitted to potency tests for Argentina, Brazil, and Ecuador, and brucellosis vaccines were tested for official agencies in Argentina. Reference diagnostic services were provided for human and animal brucellosis, rabies, and leptospirosis. Table 9 shows the number and type of samples received from other institutions and processed in the Center's laboratories during 1961.

Selected breeding stock of different species of laboratory animals was supplied to institutions desiring to start or renew their colonies.

Personnel and Physical Facilities

The international staff, as in previous years, consisted of three scientists and one administrative staff member. The local personnel, comprising auxiliary, paraprofessional, semiskilled, and unskilled workers, totalled 38 at the end of the year.

A new single-story wing, consisting of garages and a general workshop, was completed by the Government of Argentina during the year. Laboratory-animal quarters, additional laboratories, study rooms for students, library space, and additional staff, are still needed.

TABLE 9. SAMPLES RECEIVED AT THE PAN AMERICAN ZOONOSES CENTER LABORATORIES, 1961

Type of sample	Number of lots	Number of individual specimens
Material for diagnosis		
Whole animals	514	2,853
Other specimens	1,147[a]	73,230
Biological products for testing	33	66
Etiological agents for identification	19	93
Total	1,713	76,242

[a] Includes 650 lots, consisting of 70,273 samples, from the pilot program of brucellosis control, Buenos Aires Province, Argentina.

Pan American Foot-and-Mouth Disease Center

Two minor setbacks in the foot-and-mouth disease situation occurred in 1961. In September there was an outbreak in the Rupununi Savannah of British Guiana and in November an outbreak on the island of Curaçao. British Guiana had been considered free of the disease up to that date, and the previous outbreak in Curaçao was in early 1957. North America, Central America, and the remainder of the Caribbean continued free of the disease, and in South America there was continued progress in the planning and initiation of control programs.

In an expansion of the Center's program, one staff member was transferred to Bogotá, as consultant to field programs in Colombia, Ecuador, and Venezuela, and another to Lima, as consultant in laboratory programs in Bolivia, Ecuador, and Peru. New staff members were recruited during the year to fill the vacancies created by these changes and to fill new posts.

Research

Field work with the Center's Type O modified live-virus vaccine was continued in Brazil. In collaboration with the Board of Agriculture of the State of Rio Grande do Sul, further experiments were conducted in cattle of European breeds for comparison with the work being done in the neighborhood of the Center with cattle predominantly of the Zebu breed.

The adaptation and modification of a Type A strain reached a point at which it could be tried as a modified live-virus vaccine. After obtaining promising results at the Center and in experiments in collaboration with the Biological Institute of the Board of Agriculture of São Paulo State, 5,000 doses of the vaccine were administered during the September outbreak in the Rupununi Savannah of British Guiana. Field observations were encouraging and antibody studies are to follow.

Collaboration with the Ministry of Agriculture of Venezuela was continued, and an experiment with the Center's Type A modified strain was scheduled for January 1962 in the isolation stables of the Veterinary Research Institute in Maracay.

Despite the progress in the development of the live-virus vaccines, it was important to continue the study of techniques for the preparation of inactivated virus vaccines, since, as long as the live-virus vaccines remained

experimental, their application was indicated only in situations where the disease was enzootic or of relatively high incidence. Both the Frenkel system of growing virus in slices of normal cattle-tongue epithelium in suspended cultures and cultures of cattle- or pig-kidney cells are used by the Center to produce virus for the preparation of inactivated virus vaccines.

In connection with the field application of both live- and inactivated-virus vaccines, a pilot scheme to control the disease by the systematic application of vaccine was approved by the Ministry of Agriculture of Brazil, to be operated in collaboration with the Center in the State of Minas Gerais. This will involve the regular vaccination of about 50,000 cattle and will provide facilities for field trials of new vaccines.

The large number of virus samples received for examination in 1961 provided valuable material for continuing the investigation of subtypes. It was possible to advise a number of vaccine-producing laboratories on the selection of the most suitable strains.

Training

A four-week course on the preparation and control of foot-and-mouth disease vaccines was held in the Center's laboratories. It was attended by two students from Argentina, 10 from Brazil, and two from Uruguay.

A training course was again held in Bogotá, Colombia, with the collaboration of the Ministry of Agriculture, the School of Veterinary Medicine of the National University, and the Zooprophylactic Institute. Like the 1960 course (but extended to three weeks instead of the previous two), its objective was the demonstration of foot-and-mouth disease to veterinary officers from areas free of the disease. Students came from Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Panama, and the United States of America. Two fellows from Ecuador, with long-term awards, also attended the course after having studied the organization of the foot-and-mouth disease campaign in Venezuela.

Five long-term fellowships were awarded in 1961 and two fellows who had received fellowships in 1960 completed their studies. Four studied at the Center, one from Argentina, two from Colombia, and one from Ecuador. In collaboration with the Ministries of Agriculture of Venezuela and Colombia, one fellow from Panama visited these two countries to study the disease and the organization of control programs. All fellows were veterinarians employed in the animal health services of their countries.

Technical Services

Reference diagnostic services. Over 900 samples of virus were received for examination from Argentina, Brazil, British Guiana, Colombia, Costa Rica, Curaçao,

DIAGNOSTIC SERVICE OF THE PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER, BRAZIL—A SPECIMEN FROM BRITISH GUIANA IS PREPARED FOR EXAMINATION.

Ecuador, El Salvador, Panama, Peru, and Venezuela. The samples from Central American countries proved to be from outbreaks of vesicular stomatitis, but the ones from British Guiana and Curaçao were from new outbreaks of foot-and-mouth disease.

About 3,000 samples of serum were examined in connection with the selection of cattle for vaccination experiments and with study of the development of antibodies after vaccination. Distribution of reference strains of virus and serum for diagnostic work to laboratories continued. The services of the diagnostic section of the Center were put at the disposal of the Ministry of Agriculture of Argentina until the laboratory in their new foot-and-mouth disease campaign was inaugurated.

Field consultations. The Chief of Field Services of the Center was assigned to Buenos Aires for four months to assist the national foot-and-mouth disease campaign. The Government of Argentina contracted the services of a consultant in vaccine control to work under the supervision of the Center, and new regulations for the control of foot-and-mouth disease vaccine production were approved by the Minister of Agriculture and later implemented.

In continuation of the Center's policy of coordinating campaigns of neighboring countries, a joint campaign was planned for the Colombia-Venezuela border area. The plan was approved by the Ministries of Agriculture of the two countries, and the joint campaign will have

its own budget and director, separate from the respective national campaigns.

Arrangements were made for a meeting on foot-and-mouth disease with the participation of Argentina, Brazil, Chile, Paraguay, and Uruguay in 1961, which had to be postponed to 1962.

The Center also assisted national authorities in Brazil, Chile, Peru, and Uruguay in the intensification of foot-and-mouth disease control programs. New regulations for the control of vaccine production were established in Brazil, and a compulsory vaccination law was adopted in Uruguay.

Scientific Publications

Papers prepared in 1961: "Consideraciones sobre fiebre aftosa"; "Nuevas perspectivas en las campañas antiaftosas en las Américas."

Papers published during the year: Proceedings of the Maracay Second Regional Conference on Foot-and-Mouth Disease (in Spanish).[1] "Foot-and-Mouth Disease and Related Vesicular Diseases," *Advances in Veterinary Science* **6**:19-77, 1960. "Foot-and-Mouth Disease Virus: I. Propagation of Three Immunologic Types of Virus in Chicks," *Amer J Vet Res* **22**:518-526, May 1961; and II. "Propagation and Modification of Three Immunologic Types of Virus in Embryonating Chicken Eggs," *Amer J Vet Res* **22**:527-532, May 1961,

[1] *Miscellaneous Publication PAHO* **64**.

The preparation of regular bulletins and reports in Spanish was greatly increased during the year. As a supplement to the training courses organized by the Center, fellows are provided with leaflets giving details of various laboratory techniques. The first three chapters of a Manual on Foot-and-Mouth Disease were printed in Spanish during 1961, based on a revision and expansion of the leaflets.

Physical Facilities

The building program undertaken by the Government of Brazil was reinitiated and two isolation stables for 84 cattle were inaugurated by the Minister of Agriculture in October. The lack of stables had been a great obstacle to the development of the Center's research program.

Financing of the Center

Since its establishment, the Center has been financed by the Program of Technical Cooperation of the Organization of American States. The budget for 1961 was US$520,663. The Government of Brazil provides an additional allocation for the construction of installations, approximately 12.5 million cruzeiros having been spent by the Department of Works of the Ministry of Agriculture in 1961. The Ministry of Agriculture also provides a sum for the maintenance of the buildings, for which 3 million cruzeiros were allocated in 1961.

V. EDUCATION AND TRAINING

FELLOWSHIPS

In the period under review, 517 fellowships were awarded. This figure includes 48 extensions, made at the request of the institutions responsible for training the fellows concerned. The average duration of the fellowships was slightly more than six months.

The distribution of fellowships among the countries of the Americas varied with the needs of the health services for specialized personnel and the interest of the different countries in sending personnel abroad for training.

Table 10 shows the fellowships awarded in 1961 by country of origin of fellows and by type of training. It will be seen that 42 per cent of the fellowships were

TABLE 10. FELLOWSHIPS AWARDED IN THE AMERICAS BY COUNTRY OF ORIGIN AND TYPE OF TRAINING, DECEMBER 1960-NOVEMBER 1961

Country of origin of fellows	Type of training				Total
	Courses organized or assisted by PAHO/WHO		Regular academic courses	Travel grants	
	Special	Academic			
Argentina	9	13	17	15	54
Bolivia	4	6	10	7	27
Brazil	15	5	4	13	37
Canada	–	–	3	1	4
Chile	–	–	4	17	21
Colombia	6	20	23	15	64
Costa Rica	7	–	1	5	13
Cuba	3	2	3	4	12
Dominican Republic	4	3	4	–	11
Ecuador	5	2	4	4	15
El Salvador	6	–	2	14	22
Guatemala	15	–	5	5	25
Haiti	3	3	1	7	14
Honduras	5	2	3	3	13
Mexico	5	3	1	11	20
Nicaragua	7	2	6	5	20
Panama	7	2	2	1	12
Paraguay	2	4	5	5	16
Peru	–	6	12	3	21
United States of America	–	–	1	16	17
Uruguay	6	1	–	1	8
Venezuela	5	6	11	6	28
British territories	2	–	9	21	32
Departments of France in the Americas	–	1	1	1	3
Surinam and the Netherlands Antilles	6	–	2	–	8
Total	122	81	134	180	517

–None.

TABLE 11. FELLOWSHIPS AWARDED IN THE AMERICAS BY FIELD OF STUDY AND COUNTRY OF ORIGIN, DECEMBER 1960-NOVEMBER 1961

Field of study	Country of origin of fellows																								
	Argentina	Bolivia	Brazil	Canada	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	El Salvador	Guatemala	Haiti	Honduras	Mexico	Nicaragua	Panama	Paraguay	Peru	United States of America	Uruguay	Venezuela	British territories	Departments of France in the Americas	Surinam and the Netherlands Antilles	Total
Health organization																										
Public health administration	6	2	3	1	–	2	1	3	1	3	5	2	–	2	2	1	1	1	4	2	1	–	1	–	–	44
Hospital and medical administration	–	1	–	–	–	10	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	2	–	–	–	14
Other	–	1	–	–	4	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7
Sanitation																										
Sanitary inspection	9	–	–	–	2	4	–	–	–	–	4	3	2	–	–	–	–	3	–	–	–	–	7	–	–	34
Sanitary engineering	3	4	–	–	1	8	1	1	5	1	1	2	4	–	5	1	–	1	4	–	–	10	5	–	–	57
Nursing	5	3	3	–	4	3	3	1	–	1	2	13	–	3	1	5	2	2	3	7	1	1	7	–	2	72
Maternal and child health	5	–	1	1	–	1	–	–	2	–	–	–	1	–	–	–	–	5	1	1	2	–	–	–	–	20
Other health services																										
Mental health	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	3
Health education	3	2	1	–	–	2	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9
Occupational health	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–	–	3
Nutrition	3	3	–	–	–	4	–	–	1	2	–	1	–	–	2	5	–	–	–	2	4	–	–	–	–	27
Health statistics	4	2	4	–	–	7	3	1	–	–	–	3	–	3	–	2	–	–	–	–	–	–	–	–	–	29
Dental care	4	–	–	1	–	5	–	–	–	1	–	–	–	1	1	–	–	–	1	–	–	1	–	–	–	15
Rehabilitation	1	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	4
Control of pharmaceutical preparations	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Communicable diseases																										
Malaria	1	2	1	–	–	3	3	4	1	3	2	–	2	2	2	4	1	3	1	–	–	1	10	–	6	52
Tuberculosis	1	–	1	–	–	2	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	5
Zoonoses, general	–	–	2	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	4
Foot-and-mouth disease	2	–	10	–	–	–	1	1	1	3	1	1	–	1	2	–	2	–	–	–	2	–	–	–	–	27
Leprosy	1	1	–	–	–	3	–	–	–	1	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	8
Rabies	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Poliomyelitis	–	–	1	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	3
Other communicable diseases	–	–	1	–	–	1	–	–	1	–	–	–	–	–	3	–	–	–	–	–	–	1	–	–	–	7
Laboratory services[a]	1	1	3	–	–	1	–	–	–	1	–	–	3	–	2	1	–	1	–	–	–	–	2	–	–	16
Veterinary public health	1	1	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1	–	2	–	–	–	–	–	–	6
Medical science and education[b]	2	4[c]	4[c]	1[c]	8	4[c]	–	–	–	–	5	1	–	1	–	4	–	–	–	5	–	4	–	–	–	43
Clinical medicine	–	–	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	1	–	2	–	7
Total	54	27	37	4	21	64	13	12	11	15	22	25	14	13	20	20	12	16	21	17	8	28	32	3	8	517

–None.

[a]Malacology, public health laboratory, parasitology, bacteriology, medical entomology, serology, vaccine preparation, microbiology, helminthology, mycology, virology.

[b]Of these, 19 fellowships were awarded to professors of schools of public health and 24 to professors of schools of medicine.

[c]One studied nutrition.

TABLE 12. FELLOWSHIPS AWARDED IN THE AMERICAS BY FIELD OF STUDY, TYPE OF TRAINING, AND COUNTRY OF ORIGIN, DECEMBER 1960–NOVEMBER 1961

Field of study and type of training	Country of origin of fellows																								
	Argentina	Bolivia	Brazil	Canada	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	El Salvador	Guatemala	Haiti	Honduras	Mexico	Nicaragua	Panama	Paraguay	Peru	United States of America	Uruguay	Venezuela	British territories	Departments of France in the Americas	Surinam and the Netherlands Antilles	Total
Public health administration																										
Academic courses	4	2	2	1	–	10	–	2	1	3	2	2	–	2	–	1	1	1	5	–	–	2	1	–	–	42
Travel grants	2	2	1	–	4	4	1	1	–	–	3	–	–	–	2	–	–	–	–	2	1	–	–	–	–	23
Sanitation																										
Sponsored courses[a]	7	2	–	–	–	6	1	1	5	1	1	1	4	–	–	–	–	1	4	–	–	3	–	–	–	37
Academic courses	1	1	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7	5	–	–	15
Travel grants	4	1	–	–	3	5	–	–	–	–	4	4	2	–	5	1	–	3	–	–	–	–	7	–	–	39
Nursing																										
Sponsored courses[a]	1	–	1	–	–	3	2	1	–	–	2	10	–	3	1	3	2	1	–	–	1	–	–	–	–	31
Academic courses	3	3	1	–	2	–	1	–	–	1	–	3	–	–	–	–	–	1	3	1	–	1	3	–	2	25
Travel grants	1	–	1	–	2	–	–	–	–	–	–	–	–	–	–	2	–	–	–	6	–	–	4	–	–	16
Maternal and child health																										
Sponsored courses[a]	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	2	–	–	–	–	8
Academic courses	–	–	–	1	–	1	–	–	2	–	–	–	1	–	–	–	–	3	1	–	–	–	–	–	–	9
Travel grants	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	3
Other health services																										
Sponsored courses[a]	8	5	5	–	–	12	3	–	–	2	2	3	–	3	1	4	5	–	1	–	2	4	–	–	–	60
Academic courses	7	2	–	1	–	6	–	1	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	–	–	19
Travel grants	2	–	1	–	2	–	1	–	–	–	–	–	1	–	–	–	–	–	–	2	–	2	–	1	–	12
Communicable diseases																										
Sponsored courses[a]	2	1	13	–	–	3	1	3	2	4	1	1	2	1	6	2	2	2	1	–	2	3	2	–	6	60
Academic courses	1	2	–	–	–	5	–	–	1	–	–	–	–	–	1	1	1	–	2	–	–	–	–	–	–	14
Travel grants	4	2	6	–	–	3	3	3	–	4	2	–	4	2	4	2	1	2	2	–	–	–	10	–	–	54
Medical science and education																										
Sponsored courses[a]	–	2	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3
Academic courses	1	–	1	–	2	–	–	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–	8
Travel grants	1	2	3	1	6	3	–	–	–	–	5	1	–	1	–	–	–	–	–	5	–	4	–	–	–	32
Clinical medicine																										
Sponsored courses[a]	–	–	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	4
Academic courses	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	2
Travel grants	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1
Total	54	27	37	4	21	64	13	12	11	15	22	25	14	13	20	20	12	16	21	17	8	28	32	3	8	517

–None.
[a]Organized or assisted by PAHO/WHO.

for academic courses; this type of fellowship is usually long-term and is intended for the training of professionals who form the backbone, as it were, of the health services. Fellowships for special courses organized or assisted by PAHO/WHO accounted for 24 per cent of all fellowships. The number awarded in 1961 declined 34 per cent from 1960 because fewer special malaria courses were held in 1961. Fellowships for academic courses, however, increased by 2 per cent, from 211 to 215. More significantly, travel grants, which account for 34 per cent of all fellowships in 1961, increased by 50 per cent, from 120 to 180. The latter increase indicates the interest of many countries in having experienced officials and teachers travel abroad to acquaint themselves with the most recent advances in their particular fields. Most of the travel grants were made for observation of activities in health administration, medical and public health education, and environmental sanitation.

Table 11 shows the fellowships awarded, classified by field of study. Of the fellowships awarded in the field of communicable diseases, 52 were for malaria and 27 for foot-and-mouth disease, in which special programs are being undertaken. In 1961, 91 fellowships—the largest amount in a single field—were awarded for environmental sanitation. Fellowships for malaria were 43 per cent below the peak figure for 1960. The number of fellowships in health administration increased 27 per cent from 1960 to 1961; in nursing, 22 per cent; in maternal and child health, 150 per cent; in other health services (including mental health, health education, occupational health, nutrition, health statistics, dental health, rehabilitation, and control of pharmaceutical products), 23 per cent. The increase of 34 per cent in fellowships in nutrition, from 7 in 1960 to 31 in 1961, deserves special mention, as does the 48 per cent increase in the number of fellowships in medical and public health education.

The classification of fellowships by field of study is difficult because of the overlapping of different fields. To avoid duplication, each fellowship is classified under the special field of study, so that a fellow who is studying health administration with special reference to communicable diseases is classified under communicable diseases. As a result, many of the fellowships that appear under communicable diseases, environmental sanitation, etc., involve the study of health administration, and the fellows may subsequently be called on to serve in an administrative capacity in public health services outside their special field of study.

Table 12 shows the fellowships awarded in each country by field of study and type of training. The information complements that given in Tables 10 and 11.

Table 13 lists fellows by occupation. Thirty-eight per cent of the fellowships were awarded to physicians, followed by nurses, 14 per cent; engineers, 12 per cent; veterinarians, 7 per cent; dentists, 4 per cent; and other professionals, 10 per cent. Fifteen per cent of the fellowships were awarded to nonprofessionals, of which one third were sanitary inspectors. Compared with 1960, fellowships for professionals increased 5.5 per cent, while those for nonprofessionals fell 22 per cent. There is a close correlation between these changes and the increase in fellowships for academic studies and travel grants, which are used almost entirely by professionals. The fall in the number of fellowships for nonprofessionals is due largely to the decrease in the number of malaria courses.

Most of the observation visits were made and most of the training was received in this Hemisphere, the countries making all possible facilities available to the Organization, as may be seen from Table 14. Countries with teaching institutions that accept foreign students naturally received a larger number of fellows than other countries.

In view of the experience acquired in recent years in the administration of the fellowship program, everything possible was done to send fellows to countries where living conditions and health problems were similar to those in their own countries. The advantage of having the fellows study in countries with the same or a related language was also borne in mind. Accordingly, 70 per cent of the studies were made in Latin American countries; 21 per cent in the United States of America and Canada; and 9 per cent in other parts of the world. This last group includes some interregional fellowships, awarded to enable fellows to take part in study tours or in special courses organized by WHO Headquarters in Geneva. Three fellows from the Region of the Americas took part in study tours to the Soviet Union, two in a group of specialists in venereal diseases and one in a group of health educators. One fellow from Haiti

TABLE 13. NUMBER OF FELLOWSHIPS AWARDED IN THE AMERICAS BY OCCUPATION OF FELLOWS, DECEMBER 1960-NOVEMBER 1961

Occupation	Number
Physician	196
Dentist	18
Engineer	63
Veterinarian	37
Nurse	73
Other professional	52
Sanitary inspector	29
Other nonprofessional	49
Total	517

TABLE 14. FELLOWSHIPS AWARDED IN THE AMERICAS, BY COUNTRY OF ORIGIN OF FELLOWS AND COUNTRY OR REGION OF STUDY, DECEMBER 1960-NOVEMBER 1961

Country of origin of fellows	Country of study in the Region of the Americas																					Other Region of study					Total
	Argentina	Bolivia	Brazil	Canada	Chile	Colombia	Costa Rica	Ecuador	El Salvador	Guatemala	Honduras	Mexico	Nicaragua	Panama	Paraguay	Peru	United States of America	Uruguay	Venezuela	British territories	Departments of France in the Americas	Surinam and the Netherlands Antilles	Africa	Eastern Mediterranean	Europe	South-East Asia	Western Pacific	
Argentina	–	–	14	–	22	3	3	–	1	2	1	1	–	1	1	1	17	–	4	–	1	–	1	–	3	1	–	54
Bolivia	–	–	4	–	7	3	3	–	2	5	–	5	–	–	–	1	4	–	3	1	–	–	–	–	–	–	–	27
Brazil	1	–	11	2	5	4	–	–	1	1	–	3	–	–	–	1	12	–	3	–	–	–	–	–	7	–	–	37
Canada	–	–	–	–	–	–	–	–	–	1	–	1	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	4
Chile	1	–	2	1	–	3	5	–	1	–	–	–	–	–	–	–	19	–	–	–	–	–	–	1	7	1	–	21
Colombia	2	–	23	–	17	–	3	1	5	–	–	12	–	–	–	1	5	–	7	–	–	–	–	–	–	2	–	64
Costa Rica	–	–	–	–	2	1	–	–	–	4	–	1	–	1	–	–	–	–	3	–	–	–	–	1	1	–	1	13
Cuba	–	–	1	–	–	2	–	–	–	–	–	8	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	12
Dominican Republic	–	–	2	–	–	1	–	–	–	–	–	8	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	11
Ecuador	–	–	3	–	2	1	–	–	–	1	–	5	–	–	–	–	1	–	2	1	–	–	–	–	–	–	–	15
El Salvador	–	–	4	–	1	4	1	–	–	6	–	4	–	–	–	3	4	–	2	–	–	–	–	–	–	–	–	22
Guatemala	1	–	2	–	1	2	2	–	–	10	–	4	–	–	–	1	7	1	4	–	–	–	–	–	–	–	–	25
Haiti	–	–	–	–	–	–	2	–	–	–	1	9	–	–	–	–	–	–	–	–	1	–	–	–	2	–	–	14
Honduras	1	–	3	–	1	2	–	–	–	4	–	2	–	–	–	1	–	–	2	–	–	–	–	–	–	–	–	13
Mexico	1	–	4	1	1	4	1	–	–	1	–	–	1	–	–	1	6	–	–	–	–	–	–	–	3	1	1	20
Nicaragua	–	–	4	1	3	–	–	–	5	7	–	1	–	–	–	2	1	–	2	–	–	–	–	–	–	–	–	20
Panama	–	–	1	–	–	2	–	–	–	8	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	12
Paraguay	–	1	4	–	4	1	3	–	–	–	–	2	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	16
Peru	–	–	9	–	5	–	–	–	–	–	–	3	–	–	–	–	1	–	2	–	–	–	–	–	1	–	–	21
United States of America	–	–	–	–	–	–	–	–	1	1	1	1	–	–	–	–	–	–	–	–	–	–	1	2	14	1	1	17
Uruguay	–	–	3	–	4	1	–	–	–	2	–	–	–	–	–	1	–	–	1	–	–	–	–	–	–	–	–	8
Venezuela	3	–	8	–	1	5	2	–	2	4	–	4	–	–	1	–	13	–	–	–	–	–	–	–	3	1	–	28
British territories	–	–	–	5	–	–	–	–	–	8	–	2	–	–	–	–	16	–	–	8	–	1	–	–	–	–	–	32
Departments of France in the Americas	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	–	3
Surinam and the Netherlands Antilles	–	–	–	–	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–	8	–	–	–	–	–	–	–	8
Total[a]	11	1	103	10	76	39	25	1	18	71	3	76	1	2	2	15	112[b]	1	35	18	2	1	2	4	45	5	3	517

–None.

[a]When totals do not correspond to the sum of country columns, fellows studied in more than one country.

[b]27 studied in Puerto Rico.

TABLE 15. FELLOWSHIPS AWARDED FOR COURSES ORGANIZED OR ASSISTED BY PAHO/WHO IN THE AMERICAS BY FIELD OF STUDY, PROJECT,[a] AND COUNTRY OF ORIGIN OF FELLOWS, DECEMBER 1960-NOVEMBER 1961

Field of study and project[b]	Country of origin of fellows																						
	Argentina	Bolivia	Brazil	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	El Salvador	Guatemala	Haiti	Honduras	Mexico	Nicaragua	Panama	Paraguay	Peru	Uruguay	Venezuela	British territories	Departments of France in the Americas	Surinam and the Netherlands Antilles	Total
Sanitation																							
AMRO–1	7	2	–	6	–	–	3	1	–	–	3	–	–	–	–	1	4	–	3	–	–	–	30
Mexico–39	–	–	–	–	1	1	2	–	1	1	1	–	–	–	–	–	–	–	–	–	–	–	7
Nursing																							
AMRO–233	–	–	–	–	2	–	–	–	2	10	–	2	1	2	2	–	–	–	–	–	–	–	21
Colombia–4	–	–	1	–	–	1	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	4
Chile–29	1	–	–	3	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	6
Maternal and child health																							
AMRO–268	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	2	–	–	–	–	8
Other health services																							
AMRO–10	1	–	3	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7
AMRO–54	1	4	–	5	–	–	–	1	2	–	–	–	–	2	5	–	–	2	3	–	–	–	25
AMRO–72	4	1	–	5	–	–	–	1	–	–	–	1	1	–	–	–	1	–	1	–	–	–	15
AMRO–85	2	2	1	–	3	–	–	–	–	3	–	2	–	2	–	–	–	–	–	–	–	–	15
AMRO–191	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Communicable diseases																							
AMRO–77	2	–	10	–	1	1	1	2	1	1	–	1	2	–	2	–	–	2	–	–	–	–	26
AMRO–81	–	–	1	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	–	–	–	3
AMRO–92	–	–	1	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	3
AMRO–110	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	2
AMRO–134	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	2	–	6	9
AMRO–137	–	1	–	2	–	1	1	1	–	–	–	–	2	2	–	2	1	–	1	–	–	–	14
AMRO–191	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	2
Interregional malaria course	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1
Clinical medicine																							
Interregional anesthesiology course	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	4
Total	22	10	20	26	7	5	7	7	6	15	6	7	8	9	9	6	6	7	11	2	1	6	203

–None.

[a]See Table 16 for description of courses organized or assisted by PAHO/WHO.

[b]See Project List, Chapter VIII, for details.

TABLE 16. COURSES AND STUDY TRAVEL ORGANIZED OR ASSISTED BY PAHO/WHO FOR WHICH AWARDS WERE MADE IN 1961

Field of study and project number	Course or study travel	Place	Date
Sanitation			
AMRO–1	Sanitary inspectors course	School of Public Health, University of Chile, Santiago	June-Dec. 1961
	Special course for sanitary-inspectors supervisors	School of Public Health, University of Chile, Santiago	Nov.-Dec. 1961
	Sanitary inspectors course	School of Public Health, University of São Paulo	June-Dec. 1961
	Sanitary engineering course	School of Public Health, University of São Paulo	Jan.-Dec. 1962
	Sanitary engineering course	School of Engineering, National University, Mexico City	Feb.-Dec. 1962
	Sanitary inspectors course	School of Public Health, Ministry of Public Health and Welfare, Mexico City	Feb.-Dec. 1962
Mexico–39	Course on water supply design	Mexico City	2 Oct.-23 Dec. 1961
Nursing			
AMRO–233	Nursing administration and supervision course	School of Nursing, University of Guatemala, Guatemala City	Aug. 1961-Feb. 1962
AMRO–28 (for Chile-29)	Advanced nursing education	School of Public Health, University of Chile, Santiago	Feb. 1961-Jan. 1962
Colombia–4	Public health nursing	School of Public Health, National University of Colombia, Bogotá	Feb. 1961–Jan. 1962
Maternal and child health			
AMRO–268	Clinical and social pediatrics	Department of Pediatrics, School of Medicine, University of Chile, Santiago	April-July 1962
Other health services			
AMRO–10	Vital and health statistics	School of Public Health, University of Chile, Santiago	Nov. 1961-July 1962
AMRO–54	Nutrition courses	INCAP, Guatemala City	April 1961-March 1962 June-Sept. 1961 Jan.-Dec. 1961 June-Oct. 1962
AMRO–72	Public health dentistry	School of Public Health, University of São Paulo	Jan.-Dec. 1961
AMRO–85	Classification of causes of death	Caracas	4-21 Sept. 1961
AMRO–191	Health education, traveling group	USSR	May-June 1961
Communicable diseases			
AMRO–77	Foot-and-mouth disease course	Rio de Janeiro Bogotá	1-28 Oct. 1961 12-25 Nov. 1961
AMRO–81	Leptospirosis, study travel	Pan American Zoonoses Center, Azul, Argentina	10-24 Feb. 1961 April-March 1961 Jan.-Dec. 1962
AMRO–92	Poliomyelitis	Prague	May-June 1961
AMRO–110	Tuberculosis	Rome	Jan.-July 1962
AMRO–134	IV Malaria course for sanitarians	Malaria Eradication Training Center, Kingston, Jamaica	April-July 1961
	XIII Malaria course for physicians and engineers	Malaria Eradication Training Center, Kingston, Jamaica	Jan.-May 1962
AMRO–137	Medical entomology	School of Public Health, University of São Paulo	July-Dec. 1961
	VI Senior officials course	School of Public Health, University of São Paulo	Nov. 1961-Jan. 1962
AMRO–191	Venereal diseases, traveling group	USSR	Sept.-Oct. 1961
Interregional project	Malaria	Belgrade	March-June 1961
Clinical medicine			
Interregional project	Anesthesiology course	Copenhagen	Jan.-Dec. 1961 Jan.-Dec. 1962

TABLE 17. FELLOWSHIP EXPENDITURES IN THE AMERICAS, 1960 AND 1961[a]

(*U. S. dollars*)

Year	PAHO			WHO		Total
	Regular funds	Special Malaria Fund	Other funds	Regular funds	Technical Assistance funds	
1960	325,830	105,125	54,989	370,101	121,120	977,165
1961	594,470	46,200	12,217	316,730	111,332	1,080,949

[a]Figures represent amounts obligated in each year.

TABLE 18. FELLOWS FROM OTHER REGIONS WHO STUDIED IN THE AMERICAS BY FIELD OF STUDY AND TYPE OF TRAINING, DECEMBER 1960-NOVEMBER 1961

Field of study and type of training	Region					Total
	Africa	Eastern Mediterranean	Europe	South-East Asia	Western Pacific	
Public health administration						
Academic courses	4	3	2	–	5	14
Travel grants	–	–	4	1	4	9
Sanitation						
Academic courses	6	4	–	2	1	13
Travel grants	1	1	3	1	2	8
Nursing						
Academic courses	2	2	4	1	5	14
Travel grants	–	1	3	1	–	5
Maternal and child health						
Academic courses	–	–	–	–	1	1
Travel grants	–	–	–	–	–	–
Other health services						
Academic courses	3	–	–	8	–	11
Travel grants	2	–	4	–	1	7
Communicable diseases						
Courses organized or assisted by PAHO/WHO	2	2	–	1	4	9
Academic courses	1	1	–	5	–	7
Travel grants	3	3	2	1	5	14
Medical science and education						
Academic courses	–	3	1	4	–	8
Travel grants	–	1	3	–	1	5
Clinical medicine						
Academic courses	–	1	–	1	–	2
Travel grants	–	1	5	–	1	7
Total	24	23	31	26	30	134

–None.

went to Yugoslavia for the WHO French-language malaria course. Three fellows attended a course on poliomyelitis in Czechoslovakia, and four studied at the Anesthesiology Center in Copenhagen.

Tables 15 and 16 give additional information on the attendance of fellows at various courses organized or assisted by PAHO/WHO.

The cost of the fellowship program in 1961 is given in Table 17. It will be seen that it cost $103,784 more than in 1960, an increase of about 10 per cent, despite the fact that the number of fellowships was about the same. The increase was due primarily to rising costs of living and academic fees in some of the countries.

The fellowship program encountered no major difficulties in 1961. Special attention was given to the individual requirements of fellows in organizing study programs.

Fellows who came to study in the United States of America were interviewed at Headquarters and were briefed on their study programs and on the places where they would be temporary residents. Fellows who followed academic courses in the U.S.A. were visited twice during the academic year and those in Latin America once, and contact between visits was maintained by correspondence.

A study of former PAHO/WHO fellows was begun in order to evaluate their use of the training acquired. Two special forms on "utilization of services" were sent to the fellows through the Governments concerned, one six months and the other two years after completion of their fellowships. The study is still in process.

The Organization continued to assist fellowship programs sponsored by Member Governments and other international organizations. The Government of Venezuela requested the Bureau to undertake the technical supervision of 62 fellows whom it financed in 1961 (40 in the United States of America and 22 in Latin America) and to prepare study programs for many of them. Many of these fellows were personally interviewed at their place of study or at Headquarters in Washington.

The Organization again collaborated with the fellowship program of the Organization of American States by examining all requests for fellowships in health and related fields. A total of 158 requests were reviewed in the course of 1961.

Another activity that is increasing year by year is the preparation of itineraries and study programs for WHO staff members from other Regions who visit the Americas on official duty or on study leave. During the period under review, 10 such programs were prepared for study in the United States of America and in Latin America.

During the period under review, other WHO Regional Offices referred 134 fellows for studies in the Americas, and Tables 18 and 19 show the distribution of these fellows by Region of origin, field of study, and country of study. The number of such fellows rose 25 per cent from 1960 to 1961. The increase was due, for the most part, to fellows coming from the Eastern Mediterranean and the Western Pacific Regions, which increased 64 per cent and 67 per cent, respectively. The number of fellows from other Regions also increased, but only very slightly.

Of the courses followed and the observation visits made by these fellows, 78 per cent took place in the United States of America and in Canada and the remainder in the Latin American countries enumerated in Table 19. Academic courses in public health administration were followed by 80 per cent of the fellows from Southeast Asia, by 60 per cent of those from the Eastern Mediter-

TABLE 19. FELLOWS FROM OTHER REGIONS WHO STUDIED IN THE AMERICAS BY REGION OF ORIGIN AND COUNTRY OF STUDY, DECEMBER 1960-NOVEMBER 1961

Region of origin	Country of study							Total
	Brazil	Canada	Guatemala	Jamaica	Mexico	United States of America	Venezuela	
Africa	–	14	1	3	2	14	–	24
Eastern Mediterranean	–	6	2	4	3	14	–	23
Europe	–	5	1	–	1	27	–	31
South-East Asia	3	2	3	1	3	24	3	26
Western Pacific	–	6	–	4	2	24	2	30
Total[a]	3	33	7	12	11	103[b]	5	134

–None.
[a]When totals do not correspond to the sum of country columns, fellows studied in more than one country.
[b]Four of these studied in Puerto Rico.

ranean, by 40 per cent of those from the Western Pacific, and by 70 per cent of those from Africa, but only by 22 per cent of the fellows from Europe. There is a high correlation between these figures and the level of national health services in the Regions concerned.

MEDICAL EDUCATION

The Organization continued to serve Governments by providing consultants, visiting professors, and fellowships for the training of teaching personnel, by furnishing publications for use in teaching, by making surveys to determine the major problems in this field, and by holding seminars directed at the improvement of medical education.

Particular emphasis was placed on assistance in the organization of medical schools, content of the curriculum, selection of students, and teaching methods. Two consultants on these subjects advised the School of Medicine and Surgery of the National University of Honduras and aided in the organization of a seminar on medical education in that country. The Organization also made recommendations for the reorganization of the School of Medicine of the University of San Marcos in Peru and aided the School of Medicine of the University of Guayaquil, Ecuador, in its reorganization plans.

The analysis of the data on the teaching of basic medical sciences, which had been collected earlier in a survey conducted in cooperation with the Latin American Association of Physiological Sciences, was completed. It was found that more than three fourths of the professors in 67 schools of medicine devoted five hours or less per day to part-time teaching duties.

A visiting professor of physiology was provided for the School of Medicine and Pharmacy of the University of Haiti.

Two consultants observed clinical teaching at the School of Medicine of the University of El Salvador, preparatory to holding a seminar on the subject; and several professors of clinical medicine received travel grants to visit teaching centers in different countries in Latin America.

The Organization participated in a round-table discussion of the teaching of epidemiology in medical schools which was organized by the Government of Mexico.

The Medical Education Information Center (MEIC) continued to collect data on activities in medical education in Latin America for the use of interested groups. Information on fellowships provided by cooperating agencies to faculty members of medical, nursing, and public health schools in Latin America was published quarterly by the Center.

The directories of the Center were revised; these included Directories of Schools of Public Health, Dentistry, and Veterinary Medicine in the Americas, and Directories of Schools of Medicine and Nursing in Latin America.

Periodic meetings continued to bring together representatives of the institutions participating in the program of the Center to review their programs in the field of medical education in Latin America.

VETERINARY MEDICAL EDUCATION

The development of the teaching of public health and preventive medicine in schools of veterinary medicine continued in all parts of the Americas in 1961. Progress varied more from school to school than from country to country, with advances taking place particularly in the schools at the University of São Paulo, Brazil, the University of Caldas, Colombia, and the Universities of Illinois and Minnesota, U.S.A.

Teaching in this field has involved either the establishment of a department of public health, or the integration of public health into the activities of the existing departments in the schools. In Brazil it is estimated that by 1963 all eight schools of veterinary medicine will have a department of public health. The 1959 Seminar on the Teaching of Public Health in Schools of Veterinary Medicine recommended the inclusion of public health in the curriculum. Concerted planning of course content was still needed, and during 1961 preliminary plans were made to hold a seminar on this subject in 1963.

Many schools were developing research activities in the biomedical field. The study of cardiac and circulatory diseases, cancers, and rheumatic and rheumatoid conditions in animals produced information important for studies of similar conditions in man. Research activities also included studies of the ecological nature of certain zoonoses.

To foster the plans, programs, and progress of schools of veterinary medicine, the Organization provided continuing assistance in the form of coordination, guidance, technical materials, and lectures. Fellowships assisted key teaching staff members of the schools to undertake postgraduate public health studies and special studies at the Pan American Zoonoses Center.

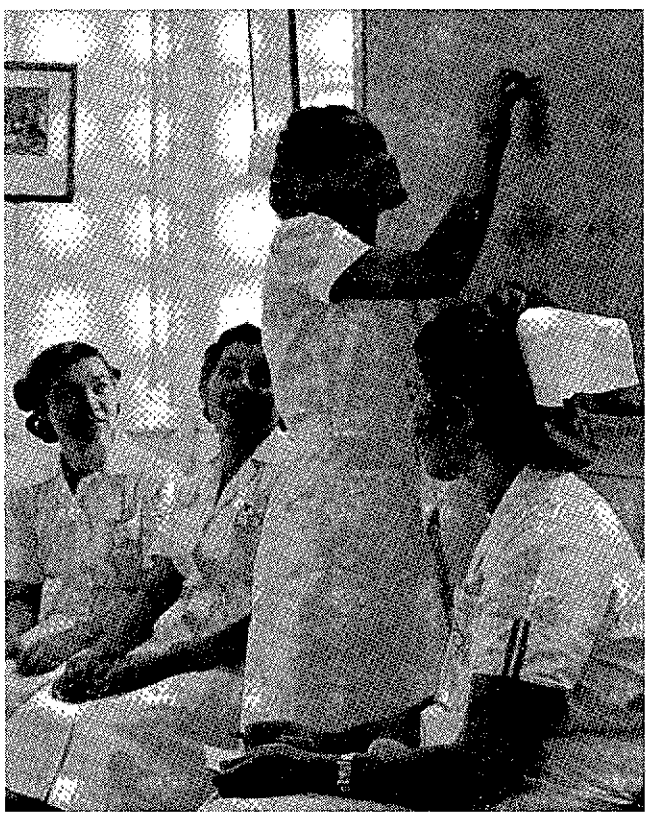
NURSING EDUCATION

The Organization continued to work for the closer integration of nursing training with the work of educational institutions. This policy was encouraged by the PAHO Directing Council, which recommended at its XIII Meeting that Governments increase their efforts to have the ministries of health and of education strengthen their programs of mutual collaboration and establish closer relationships with universities to increase and improve the training of personnel for health services.

A program to prepare nurses in a shorter period than the existing university program was initiated for students at the *bachillerato* (secondary-school) level in Chile. Plans are being made for a two-and-a-half-year course following completion of secondary school, at the end of which the graduate would receive the *bachillerato* as well as a diploma in nursing. Graduates would be prepared to function as leaders for groups of auxiliary nursing personnel.

The Organization found the greatest lack of training at the level of auxiliary nursing staff. The hospitals of most countries of the Americas are staffed mainly by auxiliary nursing personnel with practically no training. In one country, for example, there are approximately 1,000 nurses and 10,000 untrained auxiliaries in hospitals, and new untrained personnel are constantly being recruited. To improve nursing services, the ministry of health faces the problems of establishing in-service training for the 10,000 auxiliaries already employed and pre-service training for new auxiliaries. The Organization is studying whether, in such cases, the ministry of health could not limit its responsibility to the in-service training of present auxiliary nursing staff and enlist the aid of the educational system of the country in establishing a one-year program to prepare new nursing auxiliaries within the framework of secondary, vocational, or technical education.

LEARNING BY DOING—TRAINING NURSING AUXILIARIES IN PANAMA.



NURSES' TRAINING IS BEING TAKEN OVER INCREASINGLY BY QUALIFIED NATIONAL PERSONNEL.

To collaborate with the various countries in nursing education programs, the Organization maintained during 1961 a staff of 18 nurse-educators in 16 projects in Argentina, Bolivia, Chile, Costa Rica, Cuba, the Dominican Republic, Ecuador, Guatemala, Mexico, Nicaragua, Peru, Venezuela, and Jamaica. In Uruguay, advisory services were provided by a short-term consultant and in the remaining countries of the Americas, by zone nurses.

Several projects were concerned with both basic and

advanced nursing education. Eleven of the 16 country projects included work in advanced nursing education, nine related mainly to basic nursing education, and one involved the preparation of instructors and supervisors for the training of auxiliaries. A project completed during the year involved collaboration with local authorities to strengthen the basic curriculum in midwifery schools and to organize a supplementary course for graduate midwives, in order to increase the efficiency of their work in health services and in teaching. Project descriptions are given in Chapter VIII.

Publications for Nursing Education

Two publications on nursing were distributed in Spanish in Latin America to orient personnel working in nursing education and nursing services.[1] The report on a "Revised Plan of Study for a School of Nursing," of the Second Seminar of Directors of Schools of Nursing (Guatemala, 1961), was distributed in mimeographed form.

On the basis of the guidelines now established for basic nursing education programs, efforts will be directed increasingly toward obtaining the collaboration of educational authorities to prepare professional and auxiliary nursing personnel.

PROFESSIONAL EDUCATION IN PUBLIC HEALTH

The Second Conference of Directors of Schools of Public Health in Latin America was held in Puerto Azul, Caracas, Venezuela, in November 1961. The purposes of this meeting were to permit an exchange of views among deans of schools of public health on questions of budget, administration, installations, faculty, curriculum, field work, and student body, and to bring together professors of statistics from the same schools to discuss the teaching of biostatistics at the graduate level. The schools of public health represented were those of Buenos Aires, Argentina (Ministry and University Schools); the Ministry School in Rio de Janeiro and the University School in São Paulo, Brazil; and the University Schools in Santiago, Chile; Bogotá, Colombia; Mexico City, Mexico; Caracas, Venezuela; and San Juan, Puerto Rico. Both PAHO and WHO headquarters staff participated.

The Organization had been represented earlier in 1961 at the Annual Meeting of the Association of Schools of Public Health of the United States, held in Boston, Massachusetts, and had arranged for the Association to send an observer to the Puerto Azul Conference. Visits were made to a number of schools of public health in the Americas, principally to establish direct contact with the deans and faculty.

[1] *Scientific Publications PAHO* **55** and **57**, 1961.

LIBRARY

In addition to acquiring and processing bibliographic materials and providing reference services, the Library outlined programs for the development of training in medical library work to strengthen libraries in schools of medicine and public health in the Americas. It was proposed to support a course in medical librarianship, to be offered in the Inter-American School of Librarianship of the University of Antioquia, in Medellín, Colombia.

Three medical librarians from other countries, fellows of the Medical Library Association, visited the Library to observe the special procedures of a library in an international organization.

The Library continued to provide reference services to the field staff of the Organization and, through the Zone Offices, to ministries of health, with 3,889 requests answered during 1961. In this connection, most of the 4,113 pieces of literature circulated and 3,018 pages photocopied were for those working in the field.

Eight bibliographies were compiled, the most extensive of which was a supplement to the *Bibliography of Onchocerciasis* to include articles published from June 1955 through January 1961. A list of the scientific publications of staff members associated with the Organization since 1950 was compiled. In addition, the Library acquired and classified 697 books for Zone Offices. In all, during 1961, 1,856 books were cataloged and classified, 290 pamphlets were added to the collection, 9,622 cards were added to the catalogs, 84 manuscripts were added to the Archives, and 3,892 WHO documents were received.

The periodical collection was reviewed in consultation with the scientific staff, and 117 titles of journals were withdrawn from the files and given to the National Library of Medicine, the U. S. Book Exchange, and the Pan American Union.

A continuing cooperative activity with the editorial staff of the *Revista Interamericana de Bibliografía* of the Pan American Union is the compilation for this journal of bibliographic references to new works in public health and medicine.

VI. INFORMATION AND PUBLICATIONS

SPECIAL PUBLICATIONS

In 1961 the Special Publications series included a total of 33 publications, with 3,189 pages and a total of 107,400 copies printed.

The list of all the publications printed in the three series is given in Table 20. A summary description of each also appears in the 1962 edition of the PAHO catalog.

The 24 publications in the Scientific and Miscellaneous series were selected to meet the need for up-to-date technical information in the field of public health. In view of the wide demand in Latin America, a second printing of 12,000 copies was made of the 9th Spanish edition of *Control of Communicable Diseases in Man* (American Public Health Association, 1960), and a Portuguese translation was prepared during the year for publication in 1962.

The publication *Tarifas de agua* was based on the work of the Seminar on Water Rates (Montevideo, Uruguay, September-October 1960). It represents a first attempt to compile comparable information for each country on water-rate structures, and contains a general review of water-rate systems together with the Seminar's recommendations on planning, organization and administration, financing, and rate structures for water supply systems.

The guidebook *Guía para escuelas de enfermería en la América Latina* was prepared by a group of directors of nursing schools and chiefs of nursing services during the Seminar of Directors of Schools of Nursing (Paracas, Peru, 3-19 November 1960). The Spanish edition of the International Council of Nurses' basic text *ICN—Basic Principles of Nursing Care* was also issued for distribution in Latin America.

In the venereal disease field, the Spanish edition of the United States Public Health Service text *Syphilis—Modern Diagnosis and Management* was published and distributed to venereal disease services in the various countries.

Reflecting recent trends in international public health, the 54-page illustrated volume *Facts on Health Problems*, issued in Spanish and English, focused attention on health in relation to social improvement and economic development in the Americas. On the same subject, two information booklets were issued: *Health—A Basic Component of Economic Development* (English and Spanish editions) and *Salud, crecimiento económico y progreso social en la América Latina*, the latter highlighting the importance given to health at the Special Meeting of the Inter-American Economic and Social Council at the Ministerial Level (Punta del Este, Uruguay, August 1961).

In addition to the pamphlet *Yellow Fever—Unfinished Business* and the brochure *Rabies—Treatment in Man*, whose 1961 editions appeared in English, Portuguese, and Spanish, a Portuguese edition of the 1960 brochure *On Health and Wealth* was published.

In veterinary public health, the working papers of the Second Regional Foot-and-Mouth Disease Conference (Misc. Pub. 64) and the bilingual *Bibliography of Onchocerciasis* (Misc. Pub. 67) were issued.

Statistical publications issued in 1961 included the first report of the Regional Advisory Committee on International Classification of Diseases, published in Spanish and English, and the publication in Spanish of an adaptation of the USPHS basic text *International Classification of Diseases—Adapted for Indexing of Hospital Records and Operation Classification.* Continuing the series of reports on notifiable diseases, the two-year summary *Reported Cases of Notifiable Diseases in the Americas—1959-1960,* was published in English and Spanish.

The Official Document series, as in previous years, included the basic reference texts for the meetings of the Governing Bodies of PAHO: *Proposed Program and Budget Estimates, 1962-1963; Financial Report of the Director and Report of the External Auditor, 1960; Annual Report of the Director, 1960; and Proceedings of the XII Meeting of the Directing Council* (Havana, Cuba, 1960).

PERIODICAL PUBLICATIONS

The *Boletín de la Oficina Sanitaria Panamericana*, monthly Spanish-language journal of the Bureau, completed its thirty-ninth year of publication in 1961, with

TABLE 20. SPECIAL PUBLICATIONS ISSUED, 1961

Serial No.	Title	Pages	Pressrun
	Scientific Publications		
51	El control de las enfermedades trasmisibles en el hombre (Informe oficial, Asociación Americana de Salud Pública, 9ª edición). *Second printing.*	301	12,000
52	Clasifiacción internacional de enfermedades—Adaptada para índice de diagnósticos de hospitales y clasificación de operaciones	301	3,000
53	Regional Advisory Committee on International Classification of Diseases—First Report (Washington, D.C., 20-24 February 1961)	33	500
53	Comité Regional Asesor sobre Clasificación Internacional de Enfermedades—Primer informe (Washington, D.C., 20-24 de febrero de 1961)	36	500
54	Tarifas de agua—Informe del Seminario sobre Tarifas de Agua (Montevideo, Uruguay, 25 de septiembre-1 de octubre de 1960)	79	1,000
55	Guía para escuelas de enfermería en la América Latina	78	2,000
56	La sífilis—Diagnóstico y tratamiento modernos	59	2,000
57	CIE—Principios básicos de los cuidados de enfermería	56	3,000
58	Reported Cases of Notifiable Diseases in the Americas, 1959-1960	72	1,000
58	Casos notificados de enfermedades de declaración obligatoria en las Américas, 1959-1960	74	2,000
	Miscellaneous Publications		
57	A saúde e a riqueza (Port. ed.)	20	3,000
62	Rabies—Treatment of Man	Brochure	6,000
62	Rabia—Tratamiento humano	Brochure	12,000
62	Raiva—Tratamento no homen	Brochure	4,000
63	Facts on Health Problems	54	3,000
63	Hechos sobre problemas de salud	59	3,000
64	Segunda Conferencia Regional Antiaftosa (Maracay, Venezuela, 20-24 de junio de 1960)	99	500
65	Yellow Fever—Unfinished Business (1961 ed.)	8	3,000
65	Fiebre amarilla—Una grave amenaza	8	5,000
65	Febre amarela—Enquanto não for extinta, será uma ameaça permanente	8	1,000
66	Health, A Basic Component of Economic Development, by Dr. Abraham Horwitz	29	10,000
66	La salud, componente del desarrollo económico, por el Dr. Abraham Horwitz	29	5,000
67	Bibliography of Onchocerciasis (Bilingual, mimeo.)	42	500
68	Salud, crecimiento económico y progreso social en la América Latina (Reunión del Consejo Interamericano Económico y Social al Nivel Ministerial, Punta del Este, Uruguay, agosto de 1961)	35	2,000
	Official Documents		
35	Proposed Program and Budget of the Pan American Health Organization, 1962–1963	297	350
35	Proyecto de Programa y Presupuesto de la Organización Panamericana de la Salud, 1962-1963	297	350
36	Proceedings, XII Meeting, Directing Council of the PAHO, Regional Committee of the WHO for the Americas	304	1,000
36	Actas, XII Reunión del Consejo Directivo de la OPS, XII Reunión del Comité Regional de la OMS para las Américas	334	1,000
37	Financial Report of the Director and Report of the External Auditor, 1960	64	350
37	Informe Financiero del Director e Informe del Auditor Externo, 1960	63	350
38	Annual Report of the Director, 1960	155	2,000
38	Informe Anual del Director, 1960	169	2,000
	Other		
—	Catálogo de publicaciones (1962)	26	15,000

an average monthly pressrun of 9,800 copies. A total of 238 articles were considered for publication, of which 118 were accepted and 103 rejected, while 17 are still pending. Of the articles accepted, 100 were original contributions and the remaining 18 were either reprinted from other journals or published simultaneously. During the year, 75 articles comprising 754 pages were published; 153 pages were devoted to 137 abstracts of journal articles; and 265 pages to book reviews, the calendar of international meetings, editorials, and other material of interest to the health professions in the Americas.

Distribution of Publications. In all, 128,515 copies of the *Boletín*, including back numbers, were distributed during the year, as well as 1,775 copies of the bulletin *Malaria Eradication*, 70,700 copies in the Special Publications series, 27,844 copies of other PAHO publications, 22,628 copies of WHO publications, and 1,457 copies of other published material.

PUBLIC INFORMATION

The Organization issued 61 press releases during 1961 (seven more than in 1960). Wire service coverage was particularly good during the year, with two principal international news agencies—Associated Press and United Press International—providing a steady flow of information to client newspapers in Latin America.

All principal Organization events held in Washington during 1961 were well covered by the mass communication media. The Directing Council received especially good coverage. For the first time the annual meeting of the United States-Mexico Border Public Health Association received national and international as well as local news coverage.

Press

Six "mats" and six illustrated features were also produced. Mats are brief, human-interest stories of 200-400 words accompanied by a photograph. Both text and photograph are mounted on a perforated cardboard mat which can be placed directly onto a newspaper's press, thereby saving time, money, and labor. Illustrated features are longer than mats—generally from 500 to 1,200 words—and are accompanied by one to five glossy photographs suitable for reproduction. Mats are mainly intended for smaller newspapers and illustrated features at metropolitan dailies.

Editorial support for the Organization was good. Magazine coverage, which usually follows the lead of the daily press, was better in 1961 than in any previous year. Stories on the Organization were published in one or more issues by *Américas, Holiday, Life en Español, Look, National Geographic, New Medical Materia, Newsweek, Reader's Digest, Report, Salud Pública de México, The New York Times Magazine, The Saturday Evening Post, Time, Today's Health, U. S. News and World Report, Visão, Visión.*

For World Health Day, 7 April, 8,250 regular kits were distributed to Governments, civic groups, schools, UN Information Centers, and science and medical writers. The kits contained the WHO Director-General's message, eight articles, and a set of suggestions on how to organize World Health Day observances. The kits highlighted the Day's theme for 1961—"Accidents Need Not Happen." Another 3,040 special press kits containing a news release on the Director's message, the complete text of the Director's message, three photographs, a caption sheet, a fact sheet on accidents, and a letter to the editor, were mailed to editors and managers of TV and radio stations throughout the Hemisphere.

Radio

Radio services continued to be limited to distributing tapes issued in Geneva, to occasional releases written especially for radio presentation, and to the setting up of radio interview-recording sessions for Organization officials and important visitors. More radio reporters have begun attending Organization events, such as the presentation of the first prize to the architect who won the international competition for the design of the Headquarters building. More interview-recording sessions were arranged than ever before, including 17 during the Directing Council meeting alone. These interviews are sent to stations in Latin America through the Voice of America, the Radio Service of the Organization of American States, and the United Nations Radio.

Television

By far the greatest part of the Organization's television coverage comes through cooperation with the U.S. Information Agency's "Panorama Panamericano," a weekly newsreel edited in Washington in Spanish and Portuguese and distributed to cinemas and TV stations in 16 countries of Latin America. The Organization was covered in more than 12 shows in 1961.

Four TV mats, or "telops," were also issued. These are news releases written for TV presentation and accompanied by a photograph which is specially treated for TV broadcast. A number of Organization officials made live television appearances during the year.

Publications

The following publications were prepared:

The Pan American Health Organization—What It Is, What It Does, How It Works, originally produced in English in 1959, was revised and published in English, Spanish, and Portuguese.

Malaria in the Americas was prepared for publication in 1962. It will contain a text of some 6,000 words, plus numerous illustrations and photographs.

Fact Sheet on the United States-Mexico Border Public Health Association and the PAHO Field Office. More than 1,000 copies of this fact sheet were supplied in English and in Spanish to the El Paso Field Office and the Zone II Office in Mexico City.

A special issue of *World Health*, the bimonthly magazine of WHO, was devoted to health in the Americas. *World Health* has a circulation in this Hemisphere of 48,500 copies per issue—22,000 English, 18,000 Spanish, 5,500 Portuguese, and 3,000 French. In addition to these, 12,500 copies of this special issue were distributed to Zone Offices, schools, libraries, Governments, and the information offices of ministries of health. About 500 copies were sent out in press kits containing the magazine, glossy photographs, an illustrated feature article, and a letter to the editor.

To supplement public information material prepared by the Organization, reprints of eight articles appearing in well-known magazines were purchased for distribution. These were: "La gran lucha por la salud," from *Visión;* "They Save Lives on A Global Scale," from *Today's Health*, a magazine published by the American Medical Association; "An Alliance for Health Serves Half a World" (an article on the relation of health to social and economic development and the Alliance for Progress), from the *New York World-Telegram;* "A World Without Sickness," from *Holiday Magazine;* "How Doctors Can Curb Accidents," from *New Medical Materia;* "A Russian and an American Work Together in India," from *Look;* "Medical Teams Face Chaos in the Congo" from *Medical World News;* and "Medical Samaritans on Safari," from the *Reader's Digest.*

Public information activities during 1961 included answering 2,007 written inquiries; the loan of 102 films; assisting civic groups in locating speakers on international public health; mailing out 2,444 information kits, in addition to World Health Day, press, and other special kits; and talks on the Organization to visiting groups.

VISUAL AIDS

Reflecting the importance of visual aids as educational tools, work in this field was incorporated in the Organization's education activities in 1961. The Organization served as a center for the evaluation and international exchange of audiovisual communication tools used in health programs, provided technical orientation in the development of communication tools, brought the advantages of audiovisual media to the attention of health workers, and stimulated interest in the communications aspects of public health among audiovisual technicians.

A total of 844 maps, charts, graphs, and captions were prepared to illustrate reports and other publications and for administrative purposes. Nearly 2,500 copies of maps, charts, and photographs were supplied in reply to requests. A total of 158 projection slides were supplied to illustrate lectures on the Organization and on public health.

Nineteen exhibits were displayed in the United States and Canada, six of them at schools of medicine. The Organization's small exhibits, when not in use at conventions or technical meetings, were made available to medical schools to arouse student interest in public health careers. An exhibit to publicize malaria eradication was designed, and overlay panels with text in Spanish were prepared and shipped to all Zone Offices, except Zone V.

An exhibit illustrating a laboratory animal production center, with an accompanying booklet, was designed and constructed for display at the annual meeting of the American Veterinary Medical Association and the Animal Care Panel.

VII. ADMINISTRATION AND ORGANIZATION

ORGANIZATIONAL STRUCTURE AND ADMINISTRATIVE DEVELOPMENTS

In July 1961, after a period of organizational experimentation, it was felt that the divisional structure at Headquarters, and therefore the posts of Chief of Division, could be abolished. From that date, the chiefs of the Technical Branches as well as the Office of Evaluation and Reports were under the supervision of the Secretary General, and the chiefs of the Administrative Branches reported to the newly created Chief of Administration, who served under the Assistant Director. The Office of Public Information also reported to the Assistant Director. Offices of Research Coordination and of Planning were established directly under the supervision of the Director.

These changes were designed to streamline the headquarters operation, make for more effective coordination of activities, and utilize the three Executive Officers to the fullest extent in planning and carrying out the work of the Organization. The changes were supplemented a month later by a number of regroupings of working units, including reorganization of Conference and Translation Services, which reports to the Chief of Administration; incorporation of the Library, Editorial Services, Special Publications, Distribution Unit, and Visual Aids Unit in the Professional Education Branch; and assignment of responsibility for health economics to the Office of Evaluation and Reports.

Permanent Headquarters

The year 1961 brought closer to reality the construction of a new permanent headquarters building for the Pan American Health Organization. In January the members of the Permanent Subcommittee on Buildings and Installations, pursuant to delegated authority from the XII Meeting of the Directing Council and the 42nd Meeting of the Executive Committee, approved the conditions of the international competition for architectural design and appointed a jury responsible for the selection of the winners. A total of 58 submissions from 11 countries were received. The jury selected three winning designs and the Directing Council, at its XIII Meeting, authorized awards to the following architects:

First Prize of $10,000: Román Fresnedo Siri, Montevideo, Uruguay
Second Prize of $2,500: José Luis Benlliure, Mexico, D.F., Mexico
Third Prize of $1,000: Adolfo F. Pozzi, Montevideo, Uruguay

In October the United States Government purchased 45,644 square feet of land at a cost of $1,092,150 and received title to the building site. Preliminary meetings were held with the National Capital Planning and Fine Arts Commissions for necessary clearances, and steps are being taken in matters relating to height and access to the building.

During the course of the year the Board of Trustees of the W. K. Kellogg Foundation approved a grant of $3,750,000 to the PAHO, toward construction costs of the building, with the proviso that the Governments appropriate an equal amount to expand and accelerate health work in the Americas.

The need for the new building became increasingly apparent during 1961. In January it was necessary to lease approximately one and one half floors of another building, with an additional floor plus a basement workshop and storage rooms added in September, and by the end of the year the further acquisition of approximately 1,300 square feet was needed to alleviate the serious overcrowding in the three buildings that housed the headquarters staff.

Improvements in the present headquarters buildings were effected during the year through negotiation of new contracts for cleaning and guard services, modifications to the air-conditioning facilities on the fourth floor of the main building, which had never been satisfactory during the period of excessive summer heat, and installation of long-needed lounges for the personnel.

Management Activities

Surveys were completed of the organization, staffing, records and communications procedures, and personnel activity, including a study of personnel operations in two typical Zone Offices.

Work on the PASB/WHO Procedural Manual continued, and approximately 600 new or revised pages were issued during the year, as well as a number of General Information Bulletins. A revised organizational chart was prepared to reflect the headquarters reorganization, and delegations of authority were issued as needed.

Personnel Activities

At the end of 1961 the regular staff of the Organization numbered 902, of whom 419 were international staff and 483 locally recruited. There were 236 persons at Washington Headquarters and 666 in Zone Offices and field projects. The increase in total PASB/WHO staff was 7.76 per cent over 1960. Staff at Headquarters, however, increased by only 3.05 per cent, while staff in the field increased by 8.88 per cent.

During 1961, data were submitted to WHO in connection with the study conducted by the International Civil Service Advisory Board (ICSAB) with respect to the international salary schedule. The ICSAB study was submitted to the United Nations for consideration and was approved for implementation effective 1 January 1962. The United Nations scale was to serve as the basis for similar action by the other agencies within the common system.

A study was conducted to ascertain the practices of various other agencies of paying dependents' and children's allowances for locally recruited staff throughout the Hemisphere. These findings were presented by the Director to the 43rd Meeting of the Executive Committee, which approved the implementation of an allowance system for 1963, thus bringing the conditions of employment of the Organization for locally recruited staff in line with those of other United Nations agencies in this Region.

As a result of surveys carried out in coordination with the United Nations, six local wage scales were revised, and 28 post adjustment and 25 daily subsistence rate changes were effected during the year for duty stations in the Americas.

Budget Management and Finance

The budgetary resources of the Organization for 1961 totaled $12,214,174, coming from the various sources shown in Table 21. This represented an increase of 9.16 per cent over 1960. The PAHO regular budget increased 17.07 per cent over 1960. Of this increase, it is estimated that increased costs represented about 4.3 per cent; program expansion, about 5.5 per cent; and increasing the Working Capital Fund, slightly more than 7 per cent.

TABLE 21. FUNDS BUDGETED FOR PAHO/WHO, 1961
(*U. S. dollars*)

Source of funds	1961	Increase from 1960–1961 (*per cent*)
Pan American Health Organization		
Regular budget	4,800,000[a]	17.07[b]
Other:		
Special Malaria Fund	2,794,504	(10.45)[c]
Special Community Water-Supply Fund	221,755	10.87
Organization of American States, Technical Cooperation Program	523,433	29.69
Grants and other contributions to PAHO	363,213	39.03
INCAP regular budget, grants, and contributions	527,300	40.46
World Health Organization		
Regular budget	1,911,500	5.43
Technical Assistance Program	1,072,469	17.16
Total	12,214,174	9.16

[a]Includes the first year provision of $300,000 for the Working Capital Fund.
[b]If $300,000 for the Working Capital Fund were excluded, the increase would be 9.8 per cent.
[c]Decrease.

The donation of the W. K. Kellogg Foundation noted above was in the form of a loan repayable over a period of 20 years, but with the provision that the funds, instead of being returned to the Foundation, would be used by PAHO for program expansion. To accomplish this, the Directing Council approved an addition to the PAHO regular budget, in the amount of $187,500 annually starting in 1962, designated as a Special Fund for Health Promotion.

The financial situation improved in 1961, with payment of current quotas reaching 84.5 per cent of the assessed budget—the highest point in several years. The income of $4,807,545 from quotas, together with Other Income amounting to $148,074, made a total income in 1961 of $4,955,619. Of this total, $4,691,745 were spent. An amount of $300,000 was added to the Working Capital Fund, as authorized in the budget, and the surplus of $263,874 was also transferred to the Working Capital Fund, in accordance with the Financial Regulations. Total expenditures from all sources of funds are shown in Table 22.

The Working Capital Fund in 1961 reflected for the first time the effect of the policy established by the Directing Council in 1959 to include in the annual budget an amount for the gradual increase of working capital. As noted above, the amount of $300,000 for this purpose,

TABLE 22. EXPENDITURE OF FUNDS ADMINISTERED BY THE PAN AMERICAN SANITARY BUREAU, 1961

(*U. S. dollars*)

Pan American Health Organization	
Regular budget	4,391,745[a]
Other:	
Special Malaria Fund	2,249,766
Special Community Water-Supply Fund	105,518
Building Fund	28,488
Organization of American States, Technical Cooperation Program	399,200
Grants and other contributions to PAHO	257,175
INCAP regular budget	153,538
Grants and other contributions to INCAP	453,405
PAHO total	8,038,835
World Health Organization	
Regular budget	1,882,246
Malaria Eradication Special Account	98,752
Technical Assistance	1,014,860
WHO total	2,995,858
PAHO/WHO total	11,034,693
Procurement services in the Americas for government administrations, public institutions, etc.	130,254
Grand total	11,164,947

[a]Does not include $300,000 budget provision added to the Working Capital Fund.

together with the surplus of $263,874, brought the Working Capital Fund to $1,707,059, or 32.6 per cent of the 1962 authorized budget, compared to 23.8 per cent of the authorized budget in 1961.

An improvement in budget presentation was made in 1961 by rearranging the budget document to emphasize functional grouping. Further progress was made in the development of a classification system to provide the basic structure of a functional budget presentation.

The Directing Council approved Financial Rules following the pattern of WHO to complement the requirements of the Financial Regulations.

An intensive review of budget and finance procedures was undertaken. A proposal for reorganization of budget and fiscal procedures was approved. New accounting machines of greater capacity will be used to further mechanize accounting functions in the Washington Office in order to improve efficiency at lower cost.

New budget and financial procedures were developed for INCAP. Plans were completed for the transfer to INCAP, starting 1 January 1962, of the allotment control and accounting functions.

GOVERNING BODIES

The XIII Meeting of the Directing Council and the 43rd, 44th, and 45th Meetings of the Executive Committee were held in Washington, D.C., during 1961.

Directing Council

The XIII Meeting of the Directing Council was held from 3 to 13 October 1961, with four sessions of the Credentials Committee, eight sessions of the General Committee, and 16 plenary sessions. A total of 39 resolutions were adopted.

The Council considered the report of the Director on the work of the Bureau in 1960, the proposed program and budget for 1962, the provisional draft program and budget for 1963, and the general program of work of PAHO/WHO for 1962-1965, together with reports on the status of eradication programs under way in the Americas and on financial and administrative matters.

The Council also examined in detail the role of the Organization in implementing the objectives of the Act of Bogotá and the Charter of Punta del Este. With respect to health planning, it recommended that the Bureau give increased emphasis to international coordination and continue providing technical assistance to Governments.

Detailed consideration was also given to the nutrition program in the Americas and to the financial requirements of a continent-wide antituberculosis campaign and of a water and sewerage program of similar scope. The Council took note of the entry of a large area of Venezuela in the newly established register of areas where malaria had been eradicated, and adopted resolutions relating to the construction of a permanent headquarters building, on land donated by the Government of the United States of America, and the establishment of a Special Fund for Health Promotion.

Nicaragua, Peru, and Uruguay were elected members of the Executive Committee, replacing Brazil, Honduras, and the United States of America, whose terms had expired.

Taking note of the work of the Executive Committee and of its Subcommittee on Basic Documents, the Council adopted the proposed changes in the Constitution and in the Rules of Procedure of the Directing Council and recommended that the XVI Pan American Sanitary Conference adopt the proposed changes in its Rules of Procedure.

Technical Discussions—The Technical Discussions held during the XIII Meeting of the Directing Council were devoted to the theme "Methods of Evaluation of the

TABLE 23. LIST OF SELECTED INTERNATIONAL OR NATIONAL MEETINGS TO WHICH PAHO WAS INVITED, 1961

Reunión de la Asociación Fronteriza Mexicano-Guatemalteca de Salubridad. Tapachula, México, 13-14 January.
Twenty-Seventh Session of the WHO Executive Board. New Delhi, 30 January-2 February.
Reunión de Expertos en el Desarrollo de Medios de Información en la América Latina. Santiago, Chile, 1-14 February.
Fourteenth World Health Assembly. New Delhi, 7-24 February.
Inter-American Conference on Work for the Blind. Guatemala, 16-22 March.
VII Regional Conference of American States Members of the International Labor Organization. Buenos Aires, 10-21 April.
Annual Meeting of the Association of Schools of Public Health. Boston, Massachusetts, 10-12 April.
I Session of the Commission for Hydrological Meteorology of the World Meteorological Organization. Washington, D.C., 12-26 April.
V Meeting of the Permanent Executive Committee of the Pan American Highway Congresses. Washington, D.C., 24-28 April.
Conferencia Técnica de Salud Pública. Bogotá, 25 April.
IX Session of the Economic Commission for Latin America and III Session of the Trade Committee. Santiago, Chile, 4-17 May.
Twenty-Eighth Session of the WHO Executive Board. Geneva, 29 May-1 June.
II Congreso Panamericano y I Venezolano de Historia de la Medicina. Caracas, 25-29 June.
I Conferencia Nacional de Salubristas de Bolivia. La Paz, 3-6 July.
Special Meeting of the Inter-American Economic and Social Council at the Ministerial Level. Punta del Este, 5-17 August.
Inaugural Meeting of the Caribbean Council. San Juan, Puerto Rico, 6-15 September.
Nutrition Seminar in the Caribbean. Hato Rey, Puerto Rico, 27 September-7 October.
V National Dental Congress and I Inter-American Congress of Stomatology. Lima, 5-11 November.
III Meeting of the (UNESCO) National Commissions of the Western Hemisphere. Buenos Aires, 27 November-4 December.
IX Congreso Médico Centroamericano. San José, 29 November-2 December.

Contribution of Health Programs to Economic Development." Papers were presented by officials of the World Health Organization, the United Nations Childrens' Fund, the Organization of American States, and the Inter-American Development Bank, and by professors of economics from the Johns Hopkins University and the University of Pennsylvania, and further contributions were made by officials of the Governments of Argentina and Mexico.

The Directing Council chose the topic "Present Status of Medical Care in the Americas in Relation to its Incorporation as a Basic Service in Integrated Health Programs" for the Technical Discussions to take place during the XVI Pan American Sanitary Conference.

Executive Committee

At its 43rd (15-22 May), 44th (4 October), and 45th (13 October) Meetings in 1961, the Executive Committee approved the Financial Report of the Director and Report of the External Auditor for 1960 and the proposed program and budget for 1962. The work of the Subcommittee on Basic Documents was reviewed, and it was recommended that its proposals be adopted taking into account the observations of Governments. The Executive Committee also considered a number of administrative matters and approved the continued services of Argentina, Chile, and the United States of America as members of the Permanent Subcommittee on Buildings and Installations.

ZONE AND FIELD OFFICES

There was no change in the structure or basic operations of Zone and Field Offices in 1961. As in the preceding year, the distribution of responsibilities for field work was as follows: Headquarters was responsible for activities in Canada and the United States of America (including Puerto Rico and the U.S. Virgin Islands); it also supervised the El Paso Field Office, which was responsible for activities in the border states of Mexico and the United States. Zone I included Venezuela, Surinam, the Netherlands Antilles, British and French Guianas, and the British and French islands of the Caribbean. Zone II included Cuba, the Dominican Republic, Haiti, and Mexico. Zone III included British Honduras, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and

Panama. Zone IV included Bolivia, Colombia, Ecuador, and Peru. Zone V corresponded to Brazil. Zone VI included Argentina, Chile, Paraguay, and Uruguay.

Table 24 shows the distribution of Zone and Field Office staff in 1960 and 1961. It will be observed that, with few exceptions, the staff strength in the different Zones in 1961 was virtually unchanged from the previous year.

TABLE 24. DISTRIBUTION OF ZONE AND FIELD OFFICE STAFF DECEMBER 1960 AND 1961

Zone or Field Office	Staff assigned to office		Staff assigned to projects	
	1960	1961	1960	1961
Zone I	16	17	43	35
Zone II	19	20	44	57
Zone III	21	21	57[a]	54[a]
Zone IV	17	16	59	57
Zone V	12	14	10[b]	10[b]
Zone VI	16	15	32[c]	35[c]
El Paso Field Office	6	8	–	–
Total	107	111	245	248

–None
[a]Excluding INCAP personnel.
[b]Excluding staff of the Pan American Foot-and-Mouth Disease Center.
[c]Excluding staff of the Pan American Zoonoses Center.

VIII. PAHO/WHO PROJECT ACTIVITIES

PAHO/WHO project activities in the Americas in 1961 are described below. Country projects are arranged by alphabetical order of countries, followed by intercountry or interzone (AMRO) projects.

The information on fellowships shown in this chapter relates to the calendar year 1961 and is not directly comparable with the statistics of fellowships for the period December 1960-November 1961 on pages 61-70.

In addition to the projects listed, the Organization provided advice on many projects operated with other than PAHO/WHO funds.

Below each project description, the source of funds is shown at the left and the cooperating agencies, if any, at the right. In some instances the cooperating agency or agencies also provided funds. The abbreviations used are as follows:

Abbreviation	*Name*
AID	Agency for International Development (USA)
FAO	Food and Agriculture Organization
IADB	Inter-American Development Bank
INCAP	Institute of Nutrition of Central America and Panama
ILO	International Labor Organization
KF	W. K. Kellogg Foundation
OAS	Organization of American States
OAS/PTC	OAS—Program of Technical Cooperation
PAHO	Pan American Health Organization
PAHO/CWSF	PAHO—Special Community Water-Supply Fund
PAHO/SMF	PAHO—Special Malaria Fund
UN	United Nations
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations Children's Fund
UN/TAO	United Nations Bureau of Technical Assistance Operations
USPHS	U. S. Public Health Service
USPHS/NIH	U. S. Public Health Service National Institutes of Health
WHO/R	World Health Organization (Regular Budget)
WHO/TA	WHO—Technical Assistance

ARGENTINA-3, Nursing Education (Buenos Aires, Córdoba, El Chaco)

Objective. To strengthen the schools of nursing in the Provinces of Buenos Aires, Córdoba, and El Chaco.

Assistance provided. Four nurse educators.

Probable duration. 1957-1966.

Work done. In Buenos Aires Province, 12 students were enrolled in the first year and seven in the second year of the nursing course. Efforts were concentrated on preparing the faculty of eight nurse instructors and on drawing up a program and budget for the first two years of the curriculum.

In Córdoba Province, an evaluation of the program was carried out after five years of work, and a report and recommendations were submitted. It was planned to terminate work in Córdoba at the end of 1962 since national nurses were ready to assume full responsibility and the School was expected to be fully integrated into the University by that date. The School of Nursing began training of auxiliary personnel with an eight-month course for 32 students.

Ten students from the School of Nursing of El Chaco Province, closed temporarily in 1959, graduated from the School of Nursing in Córdoba, and are to be used to strengthen clinical training when the El Chaco School reopens. The nurse educator trained 73 graduate nurses, midwives, and auxiliaries in hospitals and health centers, and 24 student nurses from Córdoba came to El Chaco for their affiliation in public health.

WHO/TA

ARGENTINA-4, National Institute of Microbiology

Objective. To improve the efficiency and scientific level of the work of the Institute.

Assistance provided. Advisory services of regular staff, a short-term consultant, one two-month fellowship to study vaccine preparation in Chile, and one eight-month fellowship to study pharmacology in Mexico.

Probable duration. 1959-1964.

Work done. Working methods were improved, particularly in research studies and the production of pertussis vaccine. Physical facilities of the Virology Department were expanded, a new unit for producing BCG vaccine constructed, and the structure of the Enterobacteriaceae Section was modified for better adaptation to its functions. Personnel were trained locally in short, intensive courses.

WHO/R

ARGENTINA-6, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Health education	Puerto Rico	12
1	Mental health	United States of America	12
1	Nursing education	Brazil	10
1	Nutrition	Colombia, Guatemala, Paraguay, United States of America	4½
1	Occupational health	Brazil	11½
1	Public health administration	Brazil	11½
2	Public health administration	Chile	10
3	Public health dentistry	Brazil	11½

WHO/R

ARGENTINA-7, Public Health Services (El Chaco)

Objective. To organize an integrated health service in the Province, facilitate the training of personnel, and update health legislation.

Assistance provided. A medical officer, a sanitary engineer, a public health nurse, a nine-month fellowship to study nutrition in Guatemala, a 12-month fellowship to study health statistics in the United States of America and a 12-month fellowship to study rehabilitation in the United States.

Probable duration. 1957-1966.

Work done. The transfer of medical care services from the Federal to the Provincial Government was completed. Program budgets for 1962 were prepared. A total of 338 persons were trained in local courses for nurses, nursing auxiliaries (obstetrics), and sanitation personnel.

WHO/TA **UNICEF**

ARGENTINA-8, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. Advice of regular staff, antimalarial drugs, and one six-and-a-half-week travel grant to study medical entomology in Panama, Peru, the United States of America, and Venezuela.

Probable duration. 1957-

Work done. The area considered malarious was increased by 48,000 houses in the Provinces of El Chaco and Formosa following an epidemic outbreak. The second year of total coverage of the malarious area by DDT spraying was completed in July 1961, and the third year begun. The Provinces of Tucumán and Catamarca and parts of Salta and Jujuy were in the consolidation phase, and the attack continued in El Chaco, Formosa, Misiones, Santiago del Estero, Corrientes, and parts of Salta and

Jujuy. The percentage of positive slides found in the attack areas fell from 4.0 per cent in the 12 months ending July 1961 to 2.9 per cent in the last five months of 1961.

PAHO/SMF **UNICEF**

ARGENTINA-13, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
3	Environmental sanitation	Chile	6½
2	Environmental sanitation	Chile	1
1	Health statistics	Chile	9
1	Maternal and child health	Chile	3
2	Public health administration	Brazil, Chile, Colombia, Peru, Puerto Rico	3
3	Public health administration	Chile	10
1	Public health administration	Chile	11½
1	Public health nursing	United States of America	12
1	Veterinary public health	Chile	10

PAHO

ARGENTINA-18, Medical Education

Objective. To assist the medical schools to strengthen their programs, particularly those relating to the teaching of preventive medicine.

Assistance provided. A two-month fellowship to study organization of medical education (preventive medicine) in Brazil, Colombia, El Salvador, Honduras, and Puerto Rico.

Probable duration. 1958-

WHO/R

ARGENTINA-20, Tuberculosis Control

Objective. To assist the Government in the organization and development of a National Center of Investigation and Training in Tuberculosis.

Assistance provided. A short-term consultant, a medical officer, a public health nurse, a health statistician, and a two-and-a-half-month travel grant to study tuberculosis control in Czechoslovakia, Italy, and Tunisia.

Probable duration. 1960-1965.

Work done. The organization of the center was advanced and physical facilities were expanded. Most of the basic information required was collected and analyzed. The plan for training personnel is being developed. The tuberculosis prevalence survey started in El Chaco Province in 1960 was completed, and a similar survey is far advanced in the Province of Neuquén.

WHO/R **UNICEF**

ARGENTINA-23, Nursing Education (Rosario)

Objective. To prepare professional nurses to assume teaching, administrative, and supervisory functions; to improve the services in which student nurses are to gain clinical experience; to institute public health nursing activities; to assist with the training of teaching personnel and those in nursing services.

Assistance provided. Two nurse educators, supplies and equipment, a seven-month fellowship for study in Brazil, a four-month fellowship for study in Chile, and a one-year fellowship for study in the United States of America.

Probable duration. 1958-1963.

Work done. The Nursing School in Rosario has made rapid academic progress. The University Council approved the Organic Law of the School, thus giving it university status. The areas for clinical experience of students have been improved through the organization of nursing services in the two principal host hospitals, in-service education programs for graduate nurses there employed, and the training of auxiliary nursing personnel. Consultant services were given to the Provincial health authorities in organizing a nursing department and in drafting the first legislation on nursing to be enacted in Argentina (October 1961).

Assistance was also given to the University and the Provincial Ministry of Health in the organization of a national nursing congress to discuss "Supervision and Administration in Nursing." Attendance included 559 persons, of which 177 were student nurses. The School has a student body of 38 male and female students, one nurse director, and 10 nurse instructors. Plans are under way to intensify recruitment.

PAHO

ARGENTINA-24, Planning and Organization of Hospital Services

Objective. To aid in the administrative and functional organization of hospitals, prepare a national medical-care plan, and train technical personnel in the field of medical care.

Assistance provided. A hospital administrator.

Probable duration. 1958-

Work done. The consultant collaborated in the organization of hospitals in Buenos Aires, El Chaco, La Plata, Mar del Plata, and San Juan. Studies of medical-care services were made in San Juan and other provinces.

PAHO

ARGENTINA-25, Training of Nursing Personnel

Objective. To train professional and auxiliary nurses in order to improve health services.

Assistance provided. A nurse educator and supplies and equipment.

Probable duration. 1960-1965.

Work done. A seminar to establish the guidelines for the training of auxiliary personnel was held in March with the participation of 36 nurses from the various provinces in which courses were to be set up. This was followed in May by a course in teaching and administration for 27 nurses from five provinces and the city of Buenos Aires, site of the training center. Three courses for the training of auxiliaries were organized in Buenos Aires for 33 students; in Córdoba, for 32 students; and in La Plata, for 37 students. The Provinces of Mendoza, Tucumán, Jujuy, Salta, and Catamarca have requested similar courses; and Rosario, after the preparation through in-service training of present personnel in two hospitals, will also take an active part in this program.

PAHO **UNICEF**

ARGENTINA-28, Leprosy Control

Objective. To organize a leprosy control program, including provisions for evaluation.

Assistance provided. Advice of Zone Office staff.

Probable duration. 1960-

Work done. The plan of work proposed in 1960 was carried out, using the Provinces of Entre Ríos, Misiones, and Tucumán, and the north of the Province of Buenos Aires as pilot areas. Training courses on leprosy and its control were given for nursing auxiliaries and social workers. Medical and paramedical personnel were engaged for the program. The recording of statistics of cases and of operations was mechanized, and the culling and up-dating of the files of cases and contacts progressed.

WHO/R **UNICEF**

ARGENTINA-30, Sanitary Engineering Education

A one-year fellowship to study sanitary engineering in the United States of America.

PAHO

ARGENTINA-32, Health Statistics (Buenos Aires)

Objective. To promote the general development of health statistics in the Province.

Assistance provided. Zone Office advice (Zone VI statistics consultant).

Duration. 1960-

Work done. Work progressed in the field of vital statistics, with emphasis on hospital statistics and improvement of death certificates. Plans were made for a cancer registry.

PAHO

ARGENTINA-34, Environmental Sanitation (Fellowships)

Two six-month fellowships to study sanitary engineering in the United States of America.

WHO/TA **UN/TAO**

ARGENTINA-35, Public Health Services (San Juan)

Objective. To develop a provincial program of integrated health services.

Assistance provided. A medical officer, a sanitary engineer, a legal and administrative consultant, and a small amount of supplies.

Probable duration. 1961-1965.

Work done. The legal structure was consolidated by means of laws establishing a Sanitary Code and creating a Provincial Health Service. A law creating a medical career service was promulgated, as well as rules for competitions for professional positions. The number of professional personnel working exclusively for the program rose to 14. Courses were given for statisticians, health education auxiliaries, social workers, and nursing auxiliaries—comprising 92 persons in all.

PAHO **UNICEF**

ARGENTINA-51, *Aëdes aegypti* Eradication

Objective. To eradicate *Aëdes aegypti.*

Assistance provided. A medical officer, a sanitarian, and supplies and equipment.

Probable duration. 1950-1964.

Work done. The Government raised the budget substantially with the goal of terminating the survey and first verification by mid-1962. At the end of 1961, of the 165 originally positive localities, all had been treated, 4 required verification, 2 had been verified negative once, 10 had been verified negative twice, and the vector had been eradicated in 149.

PAHO

BOLIVIA-4, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A chief country adviser, one medical officer, a sanitary engineer, four sanitarians a small amount of supplies and equipment, and a five-and-a-half-month fellowship to study medical entomology in Brazil.

Probable duration. 1954-1966.

Work done. The fifth and sixth cycles of spraying with DDT were completed in 1961. In March, 3,448 localities with 20 per cent of the population of the original malarious area entered the consolidation phase. In

September, another 398 localities with 32 per cent of the population of the original malarious area entered consolidation. By the end of the year, slightly less than 30 per cent of the original malarious area remained in the attack phase. Evaluation activities increased steadily with the number of notification posts rising from 1,462 to 1,679 and the number of slides taken rising to 1.4 per cent of the population at risk per month. During the first 11 months of the year, 103,306 slides were examined and only 632 were found positive. The number and quality of epidemiological investigations were good, and susceptibility tests showed no resistance of the vector mosquitoes to insecticides.

PAHO/SMF, WHO/TA **AID, UNICEF**

BOLIVIA-5, Nursing Education

Objective. To strengthen the National School of Nursing by training a group of nurse instructors and broadening the curriculum to include public health nursing and the principles of teaching and supervision.

Assistance provided. A nurse educator and a small amount of supplies and equipment.

Probable duration. 1953-

Work done. Negotiations are under way to incorporate the National School of Nursing into the University. At present there is a student body of over 50, with 16 in the first year class. In addition to the Director, there are three full-time nurse instructors. The service areas for clinical instruction of the students are being improved gradually. Lack of funds is the chief obstacle, since nurses can find better remunerated employment elsewhere. A course in teaching and administration for graduate nurses was carried out during the year by a private school of nursing with collaboration from the National School. Training of nursing auxiliaries was initiated.

WHO/R

BOLIVIA-10, Public Health Services

Objective. To strengthen health services at the national level, gradually extend local services, and train technical personnel.

Assistance provided. A chief country adviser, a sanitary engineer, a public health nurse, a short-term consultant; fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Hospital administration	Chile	4
1	Nutrition	Guatemala	12
1	Pediatric nursing	Mexico	10½
1	Public health administration	Brazil	11½
1	Public health administration	Chile	10
2	Sanitary engineering	Mexico	10½

Probable duration. 1955-1967.

Work done. A ten-year health plan was prepared as part of the national economic development plan. The structure of health services at the national level was definitely established, and the administrative subdivisions were reorganized.

PAHO **AID, UNICEF**

BOLIVIA-11, Joint Field Mission on Indigenous Populations

Objective. To accelerate the rural development of the indigenous population of the Andean area and its social and economic incorporation into national life.

Assistance provided. A medical officer and one 10-and-a-half-month fellowship to study nutrition in Mexico.

Probable duration. 1953-

Work done. A 10-year rural health plan was prepared, which was incorporated into the national health plan. The construction of the rural hospital at Otavi continued, and a new training course was begun for 50 indigenous volunteer auxiliaries.

WHO/TA **FAO, ILO, UN, UNESCO, UNICEF**

BOLIVIA-15, Promotion of Community Water Supplies

Objective. To assist the Government in the reorganization of the national water supply program and in the development of plans for municipal water supply systems.

Assistance provided. A short-term consultant.

Probable duration. 1960-

Work done. The consultant advised on organizational and management aspects of a proposed new central agency for water and sewer works. In addition, the sanitary engineer of project Bolivia-10 provided assistance in connection with various aspects of the new agency and in the formulation of plans for the expansion of the water supply systems of the larger cities of the country.

PAHO/CWSF

BRAZIL-3, Public Health Services (Northeast)

Objective. To develop a program of integrated health services in Northeast Brazil.

Assistance provided. Zone V office personnel furnished technical advisory services.

Probable duration. 1951-1966.

Work done. The program, which began in the State of Rio Grande do Norte, was extended to the States of Piauí and Sergipe, operating under the aegis of the Special Public Health Service Foundation.

WHO **UNICEF**

BRAZIL-7, Nutrition

Objective. To develop a program of nutrition education and related activities in Northeast Brazil.

Assistance provided. Zone V office personnel furnished technical advisory services.

Probable duration. 1960-

Work done. A draft agreement was prepared.

WHO **FAO, UNICEF**

BRAZIL-8, National Virus Laboratory Services

Objective. To assist in the establishment of laboratory facilities for virus diagnosis, research, and vaccine production in the Oswaldo Cruz Institute.

Assistance provided. One virologist.

Probable duration. 1959-1964.

Work done. The installation of the laboratory was completed, the training of local staff was advanced, and diagnostic work—particularly with respect to enteroviruses—was performed. The titration and dilution of standards for the oral poliomyelitis vaccination program carried out in various parts of Brazil in the second half of 1961 was carried out in the laboratory. Research is in progress on continuous-culture cell lines, micromethods for measuring poliomyelitis antibodies, and simplified techniques for isolating enteroviruses.

WHO/TA

BRAZIL-16, Public Health Administration (Fellowships)

One three-month travel grant to study public health administration in Chile, Colombia, and Peru.

WHO/TA

BRAZIL-18, National Food and Drug Service

Objective. To assist the Ministry of Health to establish food and drug laboratories and a regulatory and field program for the control of food and drugs.

Assistance provided. Advice of regular Zone V staff.

Probable duration. 1955-1965.

Work done. A building was erected in Rio de Janeiro in which drug analysis and food analysis laboratories were established. New legislation was promulgated and a plan prepared for the gradual development and expansion of a regulatory service.

WHO/R

BRAZIL-19, School of Public Health (Rio de Janeiro)

One three-month travel grant to study organization of public health teaching (maternal and child health) in Czechoslovakia, France, Netherlands, Poland, and the United Kingdom.

WHO/R

BRAZIL-24, Malaria Eradication (excluding State of São Paulo)

Objective. To eradicate malaria.

Assistance provided. Two sanitary engineers, one administrative methods consultant, supplies and equipment, and one six-month fellowship to study malaria eradication in Mexico and Venezuela.

Probable duration. 1957-

Work done. With the reorganization of the campaign and provision of adequate financing in June 1961, residual spraying with DDT was intensified and by early 1962, had been extended to eight states. A total of 419,497 houses were sprayed in the States of Alagoas, Ceará, Paraíba, Rio Grande do Norte, and Sergipe in the first eight months of 1961. The medicated salt program in the Amazon valley was suspended, owing to the suspicion of resistance of *Plasmodium falciparum* to chloroquine, and a special study was made of the effect of the program.

PAHO/SMF **AID**

BRAZIL-26, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Laboratory services	United States of America	4
1	Pharmacological preparations, control of	Canada, United States of America	4
1	Zoonoses	Mexico, United States of America	3½

WHO/R

BRAZIL-28, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Maternal and child health	Czechoslovakia, Denmark, Italy, Poland, Russia, Switzerland, Yugoslavia	3
1	Public health nursing	Argentina, Colombia, Paraguay	2½
1	Public health administration	Chile	10
1	Public health nursing	United States of America	14½
1	Tuberculosis control and rehabilitation	France, Italy, Switzerland, United Kingdom	4
1	Zoonoses	Argentina	½

PAHO

BRAZIL-31, Rehabilitation Training Center

Objective. To set up a Rehabilitation Training Center in the Clinical Hospital of the University of São Paulo to train Brazilian personnel and to serve as an inter-American training center.

Assistance provided. A medical officer.

Duration. July 1958-December 1961.

Work done. Advisory services were provided to the Institute of Rehabilitation of the University of São Paulo in the training of specialized personnel. Two-year courses were developed and begun in physical therapy, occupational therapy, and prosthetics or orthotics, as well as a one-year course in locomotion for the blind and of a short part-time course to give physicians postgraduate practical experience in total rehabilitation. The consultant also assisted the faculty of other medical schools in the country and in the establishment of rehabilitation centers in Pôrto Alegre, Recife, and Rio de Janeiro, as well as in São Paulo and at the University of Minas Gerais. Plans were begun to establish a workshop for the production of semifinished brace parts in São Paulo.

WHO/TA **ILO, UN/TAO**

BRAZIL-33, Training Course for Laboratory Technicians

Objective. To develop an annual course for laboratory technicians in São Paulo.

Assistance provided. A laboratory adviser.

Probable duration. February 1960-December 1961.

Work done. A 10-month course for laboratory technicians was developed and held in 1960 and again in 1961. Plans were made for continuation of the activity on an annual basis.

PAHO

BRAZIL-35, School of Public Health (São Paulo)

Objective. To strengthen the School of Public Health of São Paulo, with particular emphasis on its use as an international training center.

Assistance provided. Supplies and equipment, a grant, and two fellowships: a three-month travel grant to study organization of public health teaching, with emphasis on nutrition, in Guatemala, Mexico, and the United States of America, and a 12-month fellowship to study organization of public health teaching, with emphasis on health statistics, in the United States.

Probable duration. 1958-1965.

WHO/R

BRAZIL-38, Smallpox Eradication

Objective. To organize laboratories for the production of sufficient lyophilized vaccine to meet the needs of smallpox eradication in Brazil, and to train personnel.

Assistance provided. Supplies and equipment to expand the laboratory of the Oswaldo Cruz Institute in Rio de Janeiro for production of dried smallpox vaccine, and one two-month travel grant to study smallpox eradication in the United States.

Probable duration. 1956-1967.

PAHO

BRAZIL-39, Public Health Services (Mato Grosso)

Objective. To develop integrated health services in six municipalities in the southern part of the State.

Assistance provided. A public health nurse and one 11-month fellowship to study public health nursing in Colombia.

Probable duration. 1960-1964.

Work done. Twelve health visitors and 10 auxiliaries were trained.

PAHO **UNICEF**

BRAZIL-41, Malaria Eradication (State of São Paulo)

Objective. To eradicate malaria.

Assistance provided. One sanitary engineer, three sanitarians, and antimalarial drugs.

Probable duration. 1958-

Work done. The third cycle of spraying with DDT was completed in July 1961, and the fourth cycle will be completed in February 1962. A total of 872,631 houses were sprayed in 1961, protecting a population of 1,900,000. Evaluation activities increased, particularly with respect to passive case-detection. Of the 208,219 slides examined, 70,415 were provided by volunteer collaborators. Most of the 70,415 positives were *Plasmodium vivax.* The percentage of positive slides declined from 7.3 per cent in the period January 1960-January 1961 to 3.2 per cent in the period February 1961-January 1962. Vector resistance was not found in 95 tests of susceptibility to DDT.

PAHO/SMF **AID**

BRAZIL-42, Rabies Control

Objective. To assist the national and state health services to establish or improve rabies control programs.

Assistance provided. Technical consultation of the Zone V Veterinary Public Health Adviser.

Probable duration. 1959-1965.

Work done. Plans were made for the establishment of a new national rabies laboratory in the Oswaldo Cruz Institute. Various state rabies diagnostic laboratories were improved, antirabies campaigns were started or extended, and production of rabies vaccines was increased.

WHO/R

BRAZIL-48, Leprosy Control

Objective. To assist the Government to prepare, organize, and put into operation a leprosy control program according to modern concepts and trends.

Assistance provided. Technical advisory services.

Probable duration. 1960-1965.

Work done. Revamping the former national program, a plan was prepared according to modern concepts and trends in leprosy control.

PAHO **UNICEF**

BRAZIL-51, Yellow Fever Laboratory

Objective. To support the continent-wide eradication campaign against yellow fever by providing laboratory diagnostic services and supplying yellow fever vaccine.

Assistance provided. An annual grant.

Probable duration. 1950-

Work done. The Oswaldo Cruz Institute produced 2,648,800 doses of yellow fever vaccine of which the following amounts were supplied through the Organization: Portugal, 100,000 doses; Bolivia, 50,000 doses; Peru, 65,000 doses; Uruguay, 20,000 doses; and Venezuela, 570,000 doses. In Brazil, 1,143,000 were distributed. The stock on hand at the Institute at the end of 1961 was 3,580,800 doses.

PAHO

BRAZIL-55, Tuberculosis Control

Objective. To carry out a tuberculosis prevalence survey in the State of Rio Grande do Norte as a first phase of a tuberculosis control program.

Assistance provided. Technical advisory services by Zone V Office staff.

Probable duration. 1961-1963.

Work done. The development of the project has been delayed because of difficulties in obtaining X-ray equipment, to be provided by UNICEF.

WHO/R **UNICEF**

BRAZIL-58, Live Poliomyelitis Virus Vaccine Study (São Paulo)

Objective. To assist in a pilot project to vaccinate with live poliomyelitis virus vaccine the child population of the municipality of Santo André, in São Paulo.

Assistance provided. Technical advisory services of the Regional Consultant on Poliomyelitis.

Probable duration. 1961-1962.

Work done. The vaccination of 25,000 children aged from six months to four years, with two doses of trivalent vaccine was successfully completed in September. The vaccine (Sabin strains) was provided by the Connaught Medical Research Laboratories of Toronto, Canada. Extensive laboratory studies of blood and stool specimens obtained from a random sample of the population in the age group are being carried out at the Adolfo Lutz Institute.

PAHO **Connaught Medical Research Laboratories**

BRITISH GUIANA and WEST INDIES-1, *Aëdes aegypti* Eradication

Objective. To eradicate *A. aegypti* from British Guiana and the British islands in the Caribbean.

Assistance provided. Three sanitarians and technical supervision from the medical officer of AMRO-8.

Probable duration. 1952-1966.

Work done. The vector is considered eliminated from British Guiana, lacking only verification to confirm eradication. Negative results have been obtained in Bermuda, St. Kitts, Nevis, Barbuda, Grenada and Tobago. Reinfestation has occurred in Trinidad, Antigua, Montserrat, St. Lucia, and St. Vincent. Shortage of personnel limited activities in the Bahamas. The program was suspended in Jamaica and is being reorganized. The campaign in the British Virgin Islands is progressing well and negativity is expected in 1963. In Dominica the campaign has been interrupted for some years.

PAHO, WHO/TA

BRITISH GUIANA and WEST INDIES-3, Nursing Services

Objective. To improve the public health nursing services in British Guiana, Trinidad, and Barbados.

Assistance provided. A public health nurse and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Nursing administration	United States of America	12
1	Public health nursing	Canada, Jamaica, United States of America	5
1	Public health nursing	Canada, United States of America	3

Probable duration. 1959-1966.

Work done. The consultant continued giving advisory services in Trinidad, Barbados, and British Guiana. A

detailed study was made of nursing activities in Barbados. A second nursing consultant was recruited to begin functioning early in 1962 from Barbados.

WHO/TA

BRITISH GUIANA and WEST INDIES-4, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Sanitary engineering	Puerto Rico, United States of America	1½
1	Public health nursing	Jamaica	3
1	Sanitary engineering	United States of America	12
1	Sanitary engineering	United States of America	14
1	Venereal diseases (Serological evaluation)	United States of America	2

PAHO

BRITISH GUIANA and WEST INDIES-5, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Public health nursing	Jamaica	12
2	Venereal diseases (Serology)	United States of America	1¾

WHO/R

BRITISH GUIANA and WEST INDIES-9, Public Health Administration (Fellowships)

One six-week fellowship to study environmental sanitation (rural sanitation) in Barbados, Puerto Rico, and St. Lucia.

WHO/TA

BRITISH GUIANA and WEST INDIES-10, Public Health Services (British Guiana)

Objective. To extend environmental sanitation and rural health services to cover the heavily populated coastal area of British Guiana.

Probable duration. 1962-1966.

Work done. Preparatory work on the plan of operations.

WHO/R **UNICEF**

BRITISH GUIANA and WEST INDIES-11, Public Health Training Station (Jamaica)

Objective. To strengthen the training of public health nurses and sanitary inspectors for the West Indies.

Assistance provided. Advisory services of Headquarters and Zone I Office staff and a short-term consultant.

Probable duration. 1959-1963.

Work done. To get a clear picture of public health field work, a sampling survey was undertaken to obtain records of activities of individual health workers, hour by hour, for a full eight-hour day. Tabulations, designed to provide a detailed distribution of time spent in different activities by supervisory staff and by inspectors and nurses, are in preparation, together with an analysis of the functions of the personnel concerned.

WHO/R

BRITISH GUIANA and WEST INDIES-12, Nursing Education (Jamaica)

Objective. To strengthen the training of public health nurses and sanitary inspectors in Jamaica.

Assistance provided. One nurse educator.

Probable duration. 1960-1963.

Work done. A training program for hospital aides was put in operation early in 1961. Ten aides completed the first course, and 19 the second; a third group started in October. Assistance was given to the training hospital, and ward routines were prepared by representative committees. In-service training programs for 49 matrons and ward sisters from rural hospitals were started through one-week workshops. In addition, 34 ward sisters and staff nurses in one Kingston hospital attended 16 hours of workshop sessions on nursing service administration, and 12 nurses participated in eight hours of group discussion on interpersonal relationships in another hospital.

PAHO

BRITISH GUIANA and WEST INDIES-14, Malaria Eradication (British Guiana)

Objective. To eradicate malaria.

Assistance provided. A short-term consultant, supplies and equipment, and two three-month fellowships to study malaria eradication in Jamaica and Central America.

Probable duration. 1958-

Work done. The program of medicated salt was begun in January 1961 in the interior, with a mixing plant in Georgetown which exchanged medicated salt for the untreated salt held by wholesalers. In the first 10 months of the year, 197,472 pounds of chloroquinated salt were distributed to 18 wholesalers who in turn supplied 262 distributors in the three districts of the interior. Inspection showed that 90 per cent of the families in the interior had chloroquinated salt on hand. A limited outbreak of malaria occurred in July along the Demerara River in a coastal region where no autochthonous case had been found since 1955, and 82 cases had been found by 22 November. Emergency measures included DDT spraying of all houses in the area and mass drug distribution. In all, 12,503 slides were examined in the first 10 months

of the year, with 121 positive in addition to the 82 noted above.

PAHO/SMF **UNICEF**

BRITISH GUIANA and WEST INDIES-15, Malaria Eradication (Jamaica)

Objective. To eradicate malaria.

Assistance provided. A medical officer, a sanitary engineer, two sanitarians, one health educator, supplies and equipment, and six fellowships: four for one month each to study malaria eradication in Guatemala, and two for one and a half months each, to study malaria eradication in Guatemala and Mexico.

Probable duration. 1952-

Work done. In January, spraying was suspended in four entire parishes and parts of two others; spraying was suspended in the remainder of these two parishes and in three entire parishes in July. At the end of the year the entire island entered the consolidation phase. Case-detection activities were strengthened, with principal emphasis on active case-detection. In the first 10 months of 1961, 16 cases of *P. falciparum* and 15 of *P. malariae* were found, the last *falciparum* case having been found in June.

PAHO/SMF **AID, UNICEF**

BRITISH GUIANA and WEST INDIES-16, Malaria Eradication (Trinidad and Tobago)

Objective. To eradicate malaria.

Assistance provided. Supplies and equipment.

Probable duration. 1952-

Work done. The attack phase ended in Trinidad in December 1961, with spraying and mass drug treatment suspended. Surveillance continued in Tobago, where no autochthonous cases had been found since 1953. Evaluation depended principally on active case-detection, with 70 evaluators and five supervisors in Trinidad and five evaluators in Tobago. Trinidad also had 86 notification posts. In the first 10 months of the year, 88,224 slides were examined, and one positive was found which was determined to have been imported.

PAHO/SMF **UNICEF**

BRITISH GUIANA and WEST INDIES-17, Malaria Eradication (Windward Islands)

Objective. To eradicate malaria from the islands of Dominica, Grenada, and St. Lucia.

Assistance provided. Two sanitarians, supplies and equipment, and one three-month fellowship to study malaria eradication (laboratory procedures) in Surinam.

Probable duration. 1952-

Work done. The third and fourth cycles of DDT spraying were completed in the malarious area (Portsmouth District) of Dominica, with a total for the year of 3,557 sprayings. Five evaluators and 26 notification posts produced 9,002 slides in the first 10 months, of which three were positive—a case of *P. falciparum* believed to have been imported from Guadeloupe, and two of *P. malariae* believed to be autochthonous. Grenada continued in the consolidation phase, no case of malaria having been found since March 1959. Six evaluators and 29 notification posts provided 10,504 slides from Grenada and Carriacou. St. Lucia was also in the consolidation phase. In the first 10 months of 1961, 15,014 slides were examined, and the single case of *P. malariae* found in April was identified as a relapse.

PAHO/SMF **UNICEF**

BRITISH HONDURAS-1, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. One medical officer, one sanitarian, supplies and equipment, and one two-month fellowship to study malaria eradication (microscopy) in Guatemala.

Probable duration. 1952-

Work done. The fifth cycle of spraying with DDT was begun in July 1961, and 15,236 houses were sprayed. The effects of Hurricane Hattie made it impossible to suspend spraying and begin the consolidation phase at the end of the year as planned. In order to continue the attack, it was necessary to replace the supplies, equipment, and insecticides which had been destroyed by the hurricane, as well as many vehicles. Despite the effects of the hurricane, only 10 cases of malaria (all *P. vivax*) were confirmed in the period July 1961-January 1962, and in the entire calendar year 1961 only two confirmed cases could not be attributed to relapses.

PAHO/SMF **UNICEF**

BRITISH HONDURAS-6, Public Health Administration (Fellowships)

One two-month fellowship to study environmental sanitation (food control) in Puerto Rico.

PAHO

CANADA-1, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Dentistry (periodontology)	United States of America	12
1	Maternal and child health	United States of America	9

1	Nutrition	Guatemala, Mexico	6
1	Public health administration	United States of America	9

WHO/R

CHILE-20, Midwifery Education

Objective. To prepare a program for graduate midwives, suited to the country's maternal and child health needs; to strengthen the teaching of obstetrical personnel at all levels; and to improve general maternal and child care.

Assistance provided. A nurse midwife educator and one 11-month fellowship to study nursing education in Puerto Rico.

Probable duration. 1956-1961.

Work done. Midwife instructors were prepared for schools of midwifery in Santiago and Valparaíso and for the in-service training program of the Maternal and Child Health Section of the National Health Service. A study of the functions of midwives in the National Health Service was completed and, based on its findings, the midwifery curriculum was revised to include nursing, social and health aspects of maternal and child care, and principles of teaching and supervision. Assistance was also given to the University of Chile School of Nursing in revising the program in obstetrical nursing.

WHO/R

CHILE-21, Rehabilitation Center

Objective. To assist the National Health Service to organize in Santiago a modern rehabilitation center for treatment and training purposes.

Assistance provided. A short-term consultant, the services of the Regional Adviser on Rehabilitation, supplies and equipment, and one two-month fellowship to study rehabilitation in Brazil.

Probable duration. 1960-1966.

Work done. Plans for the functioning of the center were revised as a result of studies made by the consultants and the National Health Service. It will function not only as a demonstration and training center on rehabilitation techniques—including physical therapy, occupational therapy, and prosthetics—but also as an outpatient treatment center.

WHO/TA

CHILE-22, Institute of Occupational Health

Objective. To collaborate with the Government in the establishment of an Institute of Occupational Health to provide services and training facilities for Chile and for other countries.

Assistance provided. A consultant on industrial hygiene.

Probable duration. 1961-

Work done. The consultant assisted in the preparation of a request for assistance to the Institute, to be presented to the United Nations Special Fund. Assistance was also given in the preparation of a 10-year plan on occupational health and in a survey of the activities in this field carried out by the National Health Service.

WHO/TA **AID**

CHILE-26, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
3	Hospital construction	Brazil, Czechoslovakia, Denmark, Finland, Puerto Rico, Sweden, Switzerland, United Kingdom, United States of America	4
1	Organization of medical education	Czechoslovakia, Denmark, France, Germany, Netherlands, Spain, Sweden, United Kingdom	4½
1	Rehabilitation	United States of America	3

PAHO

CHILE-31, School of Public Health

Objective. To strengthen teaching in the School of Public Health of the University of Chile and to expand facilities for training students from other countries of the Americas.

Assistance provided. Supplies and equipment and one 12-month fellowship to study public health administration (biostatistics) in the United States of America.

Probable duration. 1953-1963.

Work done. The consultant made a study of the curriculum of the Statistics Department, with a view to its improvement.

WHO/R

CHILE-34, Training of Nursing Auxiliaries

Objective. To train auxiliary nursing personnel.

Assistance provided. Advisory services by Zone VI Office staff and by the consultant to Chile-41.

Probable duration. 1960-1962.

Work done. The last four of the 10 centers planned for training auxiliary nursing personnel were established. When all the courses begun in 1961 terminate, the number of auxiliaries prepared under this project should slightly exceed the agreed 600. A committee for an evaluation seminar to be held in the first half of 1962 was ap-

pointed, the blueprint was approved, and pertinent data are being collected and tabulated.

WHO/TA **UNICEF**

CHILE-36, *Aëdes aegypti* Eradication

Objective. Eradication of *A. aegypti.*

Assistance provided. Technical assistance by Zone VI Office staff and part-time services of a sanitarian.

Probable duration. Assistance began in 1959 and in 1961 the Directing Council, at its XIII Meeting, officially declared *A. aegypti* to be eradicated from Chile.

PAHO

CHILE-39, Training in the Medical Use of Radioisotopes

Objective. To establish a Latin American center to train physicians in the clinical use of radioisotopes in medicine.

Assistance provided. Supplies and equipment.

Probable duration. July 1960-1965.

PAHO **KF**

CHILE-40, Promotion of Community Water Supplies

Objective. To assist the Government in the formulation of national plans for water supplies and in the technical aspects of expanding the water supply system of Santiago.

Assistance provided. A short-term consultant.

Probable duration. 1960-

Work done. Based on the recommendations of the consultant, work to complete the project plans and loan request for submission to one of the international lending agencies is under way.

PAHO/CWSF

CHILE-41, Nursing Survey

Objective. To make a survey of nursing needs and resources and to develop a nursing program based on the findings.

Assistance provided. A nurse adviser and a small amount of supplies and equipment.

Probable duration. 1960-1963.

Work done. Part I of the final report of the survey has been approved for publication. It includes statistical information on: nurses and auxiliary personnel; number of nursing hours, by services, available for patient care on a given day; physical facilities utilized by nursing personnel; educational programs in schools of nursing and hospitals; and activities of nursing personnel in selected services of hospitals in the Province of Santiago. Minimum, adequate, and optimum levels of nursing care are described. It is proposed that in the next five years attempts be made to provide minimum levels in all hospitals, that after 1965 adequate levels should be sought in the larger hospitals, and that the optimum should be sought in all centers used for teaching.

WHO/R

CHILE-43, Administrative Methods and Practices in Public Health

Objective. To improve and modernize the administrative functions of the National Health Service at all levels.

Assistance provided. Administrative methods officer.

Probable duration. May 1961-

PAHO

CHILE-48, Emergency Health Services

Objective. To provide basic services for the area devastated by the May 1960 earthquake.

Assistance provided. Supplies and equipment.

Probable duration. May 1960-1961.

WHO/TA

COLOMBIA-4, Public Health Services

Objective. To strengthen the Ministry of Health, to extend integrated health services throughout the country, and to train professional and auxiliary personnel.

Assistance provided. A chief country adviser, a medical officer, an epidemiologist, a public health nurse, a statistician, and two eight-week fellowships to study environmental sanitation in Brazil, Mexico, Puerto Rico, and Venezuela.

Probable duration. September 1951-1967.

Work done. A 10-year plan for the establishment of 200 integrated health centers throughout the country, at a rate of 20 per year, to serve a future population of 20,000,000, was prepared. By the end of 1961, 32 centers were in operation. Personnel trained during the year included 32 physicians, 29 nurses, 37 nursing auxiliaries, and 160 sanitary inspectors. In the continuing reorganization of the Ministry of Health, a Coordinating Committee was established and a biostatistics office organized. Advisory services were also given on the organization of a Division of Epidemiology. Tuberculosis control, formerly Colombia-15, became part of this project in 1961.

WHO/TA **AID, UNICEF**

COLOMBIA-5, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A chief country adviser, a malariologist, a sanitary engineer, an entomologist, a statistician, six sanitarians, supplies and equipment, and three fellowships: one for six months to study malaria eradication in Mexico and Venezuela, and two for five and a half months each, to study medical entomology in Brazil.

Probable duration. April 1951-

Work done. The geographic reconnaissance of certain difficult areas was continued. The "areas of violence" continued to hamper total spraying coverage. New administrative rules were proposed and a new transportation manual was completed. The fourth and fifth cycles of DDT spraying were completed, and the sixth cycle begun. More than 2,000,000 sprayings were performed during the year, protecting a population of about 11,000,000. Anopheline density, irritability, resistance, and behavior studies continued. In the first nine months of the year 424,100 slides were examined—247,844 of them provided by passive case-detection—with 13,148 positives (3.1 per cent); 8,071 were *P. falciparum.*

PAHO/SMF **UNICEF**

COLOMBIA-15, Tuberculosis Control

In 1961 this project became part of Colombia-4.

PAHO

COLOMBIA-17, Smallpox Eradication

Objective. To eradicate smallpox.

Assistance provided. A medical officer (until April 1961), and advice from Headquarters, Zone IV Office, and other Colombia project staff.

Probable duration. October 1955-1963.

Work done. Of the 11,082,002 persons vaccinated since the project began, 1,250,685 were vaccinated in 1961. An additional 273,152 vaccinations were needed to complete the program. Only 16 cases were recorded in 1961, all in areas where vaccination had not yet been performed. A special surveillance and notification service covered the entire country. Each suspected case was given clinical, laboratory, and epidemiological study.

PAHO **UNICEF**

COLOMBIA-18, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Health education	United States of America	8
1	Laboratory services	Brazil	12
1	Organization of veterinary medicine education	Argentina, Brazil, Ecuador, Peru, Venezuela	4
1	Public health administration	Chile	11½
2	Public health administration (Leprosy)	Brazil	14½
1	Public health dentistry	Brazil	11½
1	Public health nursing	Chile	10
1	Public health administration	Mexico	10½

WHO/R

COLOMBIA-19, Leprosy Control

Objective. To organize a program of leprosy control based on modern techniques and procedures.

Assistance provided. A medical officer.

Probable duration. February 1958-1968.

Work done. The Leprosy Section of the Ministry of Health was made part of the Division of Epidemiology. Eight new dermatological clinics were established, making a total of 24, staffed by 35 full-time physicians. Of the 68,517 persons examined, 1,703 new cases were found, 1,533 of them among the 40,712 examined for the first time. A total of 13,615 cases were registered and under control at the end of 1961, corresponding to a prevalence of 0.89 cases per 1,000 population. Two training courses were given for physicians. A law approved in December 1961, gives lepers all civil and political rights and social guarantees established in the National Constitution, which previously had been denied them.

WHO/TA **UNICEF**

COLOMBIA-21, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Chagas' disease	Argentina, Brazil, Chile	3
1	Epidemiology and control of tuberculosis	Italy	6
1	Nutrition	Guatemala	3
1	Nutrition	Guatemala	16
1	Organization of medical education	Mexico	8
3	Public health administration (Hospital administration)	Brazil	15
2	Sanitary engineering	Brazil	11½
2	Sanitary engineering	Mexico	10½
1	Statistics	Mexico	6½
1	Tuberculosis	Brazil	14½
1	Veterinary public health	Chile	10

PAHO

COLOMBIA-22, *Aëdes aegypti* Eradication

Objective. To eradicate *A. aegypti.*

Assistance provided. Technical assistance provided by the medical officers of project Venezuela-16.

Probable duration. April 1951-1963.

Work done. After almost two years of negativity, foci were found in Cúcuta and assistance was given to the Government in eliminating the reinfestation.

WHO/TA

COLOMBIA-24, School of Public Health

Objective. To reorganize and improve the standards of the School of Public Health, and to provide a nucleus of full-time faculty members.

Assistance provided. A professor of microbiology.

Probable duration. May 1959-1963.

Work done. Instruction was given in microbiology to students in the principal public health course, public health nurses, and health service staff. Assistance was given to various departments of the School of Medicine in the investigation of problems related to microbiology, immunology, and epidemiology.

WHO/R

COLOMBIA-25, Promotion of Community Water Supplies

Objective. To assist in the study, planning, design, financing, construction, and operation of municipal water supply systems, and to advise in the development of a national water supply program.

Assistance provided. A consultant on water supplies.

Possible duration. May 1960-

Work done. The pilot project for the Cúcuta water supply was completed and a loan was granted by the Inter-American Development Bank. The pilot project of Tunja was also completed; two more projects are under study and six more will be initiated in 1962. Assistance was also given in the preparation of a four-year water supply program for urban and rural areas of the country and in the creation of two new departments at the National Development Institute for special technical studies and health education. Assistance was given in Medellín in the development of plans for fluoridation of the water supply and in the preparation of a new sewer-rate structure.

PAHO/CWSF **IADB**

COLOMBIA-52, Yellow Fever (Carlos Finlay Institute)

Objective. To assist the Carlos Finlay Institute for Special Studies in its program of yellow fever research and its service to other countries of the Hemisphere.

Assistance provided. A grant and technical assistance.

Probable duration. May 1950-

Work done. The Institute prepared 723,935 doses of vaccine, of which 112,143 were administered in Colombia and 328,925 were sent to the following countries and territories: Aruba, 400; Chile, 2,000; Cuba, 500; Curaçao, 1,000; Ecuador, 300; Ethiopia, 800; British Guiana, 6,000; Guatemala, 4,250; Jamaica, 500; Mexico, 11,000; Liberia, 25,500; Panama, 5,275; Peru, 20,000; and Venezuela, 71,950.

PAHO

COSTA RICA-2, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A medical officer, an entomologist, two sanitarians, supplies and equipment, and three one-week fellowships: two to observe malaria eradication in Guatemala, and one to observe malaria eradication in Panama.

Probable duration. 1952-

Work done. The fourth year of total coverage with DDT spraying ended in November, with 66,242 and 68,277 houses sprayed during the sixth and seventh cycles, respectively, in 2,259 localities. As a supplementary measure, the mass administration of antimalarial drugs was begun in 111 localities with 18,757 population in the area of persisting transmission. Of the 82,236 slides examined during the fourth year of spraying, 2.2 per cent were positive. More than 98 per cent of the cases occurred on the Pacific slope. Susceptibility tests did not show vector resistance to DDT.

PAHO/SMF **UNICEF**

COSTA RICA-14, Expansion of Local Public Health Services

Objective. To reorganize and expand local public health services, strengthen central services, particularly in matters of management and operation, and train local personnel.

Assistance provided. A short-term consultant and technical advisory services by Zone III Office staff.

Probable duration. July 1959-1967.

PAHO

COSTA RICA-16, Public Health Administration (Fellowships)

A 12-month fellowship to study nursing education in Chile.

WHO/TA

COSTA RICA-17, Evaluation of Public Health Programs

Objective. To evaluate the public health programs of the country.

Assistance provided. Advice of regular staff.

Probable duration. 1961-1962.

Work done. Preliminary arrangements were made for conducting the evaluation in 1962.

WHO/R

COSTA RICA-18, Advanced Nursing Education

Objective. To establish an advanced education center to train nurses in teaching, supervision, and other specialties at the School of Nursing and to evaluate the School.

Assistance provided. One long-term and one short-term nursing consultant and supplies and equipment.

Probable duration. August 1959-1963.

Work done. A course in obstetrical nursing was given for 11 students, two of whom were from Nicaragua and Argentina. A committee was appointed to undertake an evaluation of the School of Nursing.

PAHO

COSTA RICA-21, Nutrition

Objective. To develop an expanded nutrition program in a selected area of the country.

Assistance provided. Technical advisory services by Headquarters, Zone III Office, and INCAP staff.

Probable duration. 1960-

Work done. The Plan of Operations was approved and work was started. Special training was provided for teaching, agricultural extension, and health personnel. Nutrition and economic surveys of the selected localities were begun.

WHO/R **FAO, UNICEF**

COSTA RICA-22, Promotion of Community Water Supplies

Objective. To improve the organization and administration of the central water and sewer authority.

Assistance provided. A short-term consultant and a temporary adviser.

Probable duration. 1960-

Work done. The consultant advised on the administration, management, and other aspects of the central water and sewer authority and on the training of personnel.

PAHO/CWSF

COSTA RICA-23, Public Health Legislation

Objective. To make a study of the Sanitary Code of the country and to determine if it should be revised.

Assistance provided. A short-term consultant.

Probable duration. 1961-1962.

Work done. The Sanitary Code was reviewed and a draft code with modifications was prepared for submission to the Government.

PAHO

CUBA-1, *Aëdes aegypti* Eradication

Objective. To eradicate *A. aegypti.*

Assistance provided. Two medical officers, two sanitarians, supplies and equipment.

Probable duration. November 1953-1964.

Work done. Eradication activities have been considerably intensified and it is expected shortly to finish the work in the Province of Havana and extend the campaign to the neighboring Provinces of Pinar del Río and Matanzas. Through 1961 the control survey covered 225 localities; 51 of the 158 found infested and treated are now negative.

PAHO

CUBA-3, Public Health Services

Objective. To reorganize health services at the national, intermediate, and local levels and set up integrated health services in one province.

Assistance provided. A chief country adviser, a medical officer, a sanitary engineer, a health educator, and a public health nurse.

Probable duration. April 1955-January 1957; June 1959-1962.

Work done. The original plans were readapted to the new organization of the country's health services.

PAHO, WHO/TA **UNICEF**

CUBA-4, Nursing Education

Objective. To organize a National School of Nursing to prepare nurses to teach and supervise in other schools of nursing and in health services.

Assistance provided. One nurse educator, a public health nurse.

Probable duration. 1961-1972.

Work done. Nursing personnel of the 10 schools of nursing on the island showed interest in modernizing the curriculum and improving its professional content. There are now three full-time instructors and 16 part-time instructors for the 906 nursing students. The needs of four provincial schools were studied to plan for their im-

provement in 1962. A six-month course for 32 instructors is under way.

WHO/R, WHO/TA

CUBA-5, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A medical officer, a sanitary engineer, an entomologist, one sanitarian, antimalarial drugs, supplies and equipment, two one-month fellowships to study malaria eradication in Mexico, and one for five and a half months to study medical entomology in Brazil.

Probable duration. 1957-

Work done. The preparatory phase of the campaign was completed in 1961. Geographic reconnaissance included the Province of Oriente and part of Camagüey. A total of 403,374 houses were enumerated in 8,829 localities. Training of personnel, entomological studies, and organization of case-detection continued. Of the 91,181 slides examined—72,103 coming from passive case-detection—3.5 per cent were positive.

PAHO/SMF, WHO/R

CUBA-6, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
4	Public health administration	Mexico	10½
1	Public health administration	Mexico	½
1	Public health nursing	Colombia	11

PAHO

CUBA-10, Promotion of Community Water Supplies

Objective. To assist the new central agency for water works in planning, designing, building, and operating water supply systems.

Assistance provided. A consultant on water supply.

Probable duration. 1960-

Work done. The consultant advised the central water authority in the design and operation of water supply systems. A manual on standards for designing water treatment plants was prepared and was published by the University of Cuba.

PAHO/CWSF

DOMINICAN REPUBLIC-2, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A medical officer, a sanitary engineer, three sanitarians, supplies and equipment, and a three-month fellowship to study malaria eradication in Brazil.

Probable duration. August 1952-

Work done. Work in 1961 was hampered by shortages of local funds, and the budget was 15.3 per cent below that of 1960 which itself had not been sufficient to cover the cost incurred by the change from dieldrin to DDT. From the second quarter of the year it was possible to cover only half of the malarious area in a control rather than an eradication program. A new plan was drawn up in which work done in 1961 was considered preparatory to the reintroduction of total coverage in 1962 with funds pledged by the Government. In the first 10 months of 1961, 19,905 slides were examined, of which 2,336 (11.7 per cent) were positive. *Anopheles albimanus* did not show DDT resistance in 19 tests carried out in 15 localities.

PAHO/SMF **UNICEF**

DOMINICAN REPUBLIC-3, Nursing Education

Objective. To strengthen the National School of Nursing by preparing nurses for the faculty, improving physical facilities and areas for field practice, and expanding the curriculum to include the teaching of public health nursing and courses in teaching and supervision.

Assistance provided. A nurse educator.

Probable duration. 1958-1963.

Work done. The situation of the National School of Nursing has improved considerably. It is now installed in a better building, although far from the teaching hospitals, and has funds for scholarship students and new positions for instructors. The Government has also authorized fellowship study for several instructors. There are at present 51 students, of whom 27 entered in 1961. Approximately two thirds of the student body have completed secondary education, and it is expected that in the near future this can be established as the entrance requirement.

WHO/R

DOMINICAN REPUBLIC-4, Public Health Services

Objective. To strengthen the public health services at the central level and to expand the local health services.

Assistance provided. A chief country adviser, a sanitary engineer, a public health nurse, and a limited amount of supplies and equipment.

Probable duration. September 1953-1967.

Work done. A committee on planning and coordination was established in the Ministry of Health. Divisions of statistics and nutrition and a dental health section

were also established at the central level. Personnel for the San Pedro de Macorís health center were trained, preparatory to its inauguration in 1962. Short courses were given for sanitation officers and for food handlers.

PAHO **UNICEF**

DOMINICAN REPUBLIC-8, *Aëdes aegypti* Eradication

Objective. To eradicate *A. aegypti.*

Assistance provided. A medical officer and a sanitarian.

Probable duration. 1952-1965.

Work done. Progress has been very slow due to administrative difficulties. The necessary resources for intensifying the program are expected to become available in 1962.

PAHO

DOMINICAN REPUBLIC-10, BCG Vaccination

Objective. A nation-wide BCG vaccination campaign.

Assistance provided. Zone II Office staff advice.

Probable duration. 1959-1961.

Work done. The campaign was completed in 1961, covering about 95 per cent of the eligible population.

PAHO **UNICEF**

DOMINICAN REPUBLIC-11, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Sanitary engineering	Mexico	10½
1	Sanitary engineering	Mexico and United States of America	11½
1	Public health administration	Mexico	10½
1	Public health administration (Epidemiology)	Mexico	10½
2	Public health administration (Maternal and child health)	Mexico	10½

PAHO

DOMINICAN REPUBLIC-52, Yaws Eradication and Venereal Disease Control

Objective. To eradicate yaws from the country; to control venereal disease; and to strengthen and regionalize the public health laboratories, especially as regards serology for the diagnosis of syphilis.

Assistance provided. A medical officer, a serologist, and supplies and equipment for the serologic diagnosis of syphilis.

Probable duration. March 1953-

Work done. The surveillance phase of the yaws eradication program was completed in May 1961. To eliminate the foci of infectious yaws found during this phase, a new survey was begun of the affected areas. The total population examined in 1961 was 292,211, among whom 96 cases of infectious yaws were found, representing an incidence of 0.32 per thousand population surveyed. As part of the venereal disease control program, two courses in venereology were attended by 45 physicians, 12 sanitary inspectors attended a course in venereology for investigators of contacts, and 12 laboratory technicians attended a course on serological techniques for syphilis diagnosis. Efforts continued to achieve better coordination among medical institutions. A special clinic for venereal disease patients, a center for the investigation of contacts and three serology centers were established in Santo Domingo, and one serology center each in the Provinces of Santiago de los Caballeros, Monte Blanco, Julia Molina, Barahona, San Pedro de Marcorís, La Romana, and Baní.

PAHO

ECUADOR-4, Public Health Services

Objective. To develop public health services at national and local levels.

Assistance provided. A chief country adviser, a public health nurse, a limited amount of supplies and equipment, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
3	Organization of medical education	Colombia, El Salvador, Puerto Rico	1½
1	Preparation of tetanus vaccine	Chile	6
2	Public health administration	Mexico	10½
1	Public health nursing (Supervision and administration)	Puerto Rico	12

Probable duration. November 1953-

Work done. The Department of Health appointed a planning committee to draw up a plan to reorganize the services. A National Department of Epidemiology was established and five new health centers were organized.

WHO/R, WHO/TA **UNICEF**

ECUADOR-14, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A chief country adviser, a medical officer, an entomologist, a sanitary engineer, four

sanitarians, supplies and equipment, and fellowships as follows:

Awards	Field of study	Country of study	Months
1	Malaria eradication	Brazil	3
1	Malaria eradication	Central America, Jamaica, Mexico	4
1	Malaria eradication	Mexico, Venezuela	6

Probable duration. November 1956-

Work done. The fourth year of total coverage with DDT was completed: 806,254 sprayings and 3,795,248 persons protected. The city of Guayaquil was protected by a combination of spraying and larviciding. A Department of Epidemiological Investigations was established in the malaria service and an administrative manual and rules of procedure were adopted. Of the 213,169 slides examined, 4.57 per cent were positive, which compared favorably with the more than 7 per cent positivity in 1960. Nearly half of the slides were provided by volunteer collaborators. The transport service of the malaria program was reorganized.

PAHO/SMF, WHO/TA **AID, UNICEF**

ECUADOR-16, Nursing Education

Objective. To strengthen the School of Nursing of the University of Guayaquil by preparing nurses for the faculty, by improving physical facilities and areas for field practice, and by expanding the curriculum to include the teaching of public health nursing and other courses in teaching and supervision.

Assistance provided. One nurse educator and a limited amount of supplies and equipment.

Probable duration. May 1957-1963.

Work done. The number of nursing students remained low with a total of 18, seven of whom began in the 1961 class. An intensive recruitment campaign is under way to develop interest in nursing as a career.

WHO/R

ECUADOR-19, Public Health Administration (Fellowships)

Awards	Field of study	Country of study	Months
1	Nutrition	Guatemala	24
1	Public health administration	Chile	10
1	Sanitary engineering	Mexico	10½

PAHO

ECUADOR-20, Smallpox Eradication

Objective. To eradicate smallpox from the country.

Assistance provided. A medical officer.

Probable duration. 1953-1964.

Work done. The program continued to experience financial and administrative difficulties, but the Government has now pledged the funds and administrative support necessary to eliminate smallpox in the next two years. In the first 10 months of the year, 450,557 persons were vaccinated—148,069 for the first time—and 485 cases of smallpox were reported.

PAHO

ECUADOR-21, Promotion of Community Water Supplies

Objective. To cooperate in the development of plans for water supply systems in several cities of Ecuador.

Assistance provided. A short-term consultant.

Probable duration. November 1961-

PAHO/CWSF

ECUADOR-22, Joint Field Mission on Indigenous Populations

Objective. To accelerate the development of the rural population of the Andean area and to integrate it socially and economically into the national life.

Assistance given. Advisory services of Headquarters and Zone IV Office staff.

Probable duration. May 1956-

Work done. The activities of this project were begun during the year and 22 nursing auxiliaries were trained during the first course given.

WHO/TA **FAO, ILO, UN, UNESCO, UNICEF**

ECUADOR-53,[a] National Institute of Nutrition

Objective. To extend practical studies on nutrition at the Institute, using available data on basic food analysis and biochemical and clinical investigation; to give further training to its staff and develop its organization and operation; to coordinate its work with public health programs so as to improve the nutrition of the population.

Assistance provided. Technical advisory services of regular staff.

Probable duration. 1950-

Work done. (see p. 18).

PAHO **KF**

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[a] Grants received in 1961 from:
E. I. du Pont de Nemours and Co.
National Institutes of Health (U. S. A.)
Williams-Waterman Fund
W. K. Kellogg Foundation

EL SALVADOR-2 Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A grant, a medical officer, a sanitary engineer, two sanitarians, two entomological aides, supplies and equipment, and a two-week fellowship to observe malaria eradication in Guatemala.

Probable duration. 1952-

Work done. The fourth cycle of DDT spraying ended in July 1961, and the fifth was begun. A pilot program of mass drug treatment was begun in the Department of Usulután, part of the population receiving a combination of chloroquine and primaquine every two weeks, and the remainder every four weeks. Owing to the resistance of *A. albimanus* to DDT and dieldrin, the periodic internal migration of some 80,000 persons for agricultural labor, and the lack of adequate housing which provides opportunity for extradomiciliary transmission, it has not been possible to interrupt transmission in much of the coastal region. Studies of the persistence of transmission made in some areas by the AMRO-220 team appear to indicate, in addition to the factors noted above, that mosquitoes bite indoors and that only a small percentage rest on walls whether sprayed or unsprayed. An evaluation of the program showed that in low-lying areas house spraying alone cannot interrupt transmission and that complementary measures are needed; these are now under study.

A total of 377,551 houses were sprayed with DDT in the second half of 1961, and in four localities in the municipality of Tecoluca 593 houses were sprayed experimentally with malathion at a rate of 1 gram per square meter. During the same period, 91,077 slides were examined, of which 8.5 per cent were positive, including 1,784 *P. falciparum*, 5,992 *P. vivax*, and 2 *P. malariae*. Case-detection activities were strengthened, and the number of volunteer collaborators was increased by one third in 1961.

PAHO/SMF **UNICEF**

EL SALVADOR-8, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
3	Food control	Peru	3
1	Public health administration	Brazil	11½

WHO/R

EL SALVADOR-9, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
2	Public health administration	Brazil, Mexico, Puerto Rico, Venezuela	2½
1	Public health administration	Chile	10
1	Public health administration	Guatemala	3

PAHO

EL SALVADOR-10, Planning and Organization of Hospital Services

Objective. To study existing hospital care resources and formulate a plan to organize hospital services as a network integrated with other health services.

Assistance provided. A medical officer and a small amount of supplies and equipment.

Probable duration. May 1960-1961.

Work done. The review and analysis of prior studies were completed and submitted to the Government. A plan for reorganizing hospital services was also submitted, and is already being implemented by a National Committee on Hospital Matters.

PAHO

EL SALVADOR-11, National Public Health Nursing Services

Objective. To strengthen nursing services at the national level and indirectly at regional and local levels.

Assistance provided. A public health nurse, a small amount of supplies and equipment.

Probable duration. 1961-

Work done. The consultant collaborated in the reorganization of nursing services in some areas of the country, in accordance with the results of a prior survey and evaluation. A national seminar on nursing supervision was held.

WHO/TA

EL SALVADOR-12, National Environmental Sanitation Services

Objective. To develop a national environmental sanitation program, with emphasis on the provision of adequate water supplies and the disposal of sewage and excreta in urban and rural areas.

Assistance provided. A sanitary engineer.

Probable duration. January 1961-1962

Work done. Data for a national environmental sanitation program were collected, the Department of Sanitary Engineering of the Ministry of Public Health was reorganized, and legislation was drafted to create a new central water and sewer authority.

WHO/TA

EL SALVADOR-14, Promotion of Community Water Supplies

Objective. To assist in the organization and manage-

ment of a central water and sewer authority, and to provide technical advice on the expansion of the San Salvador water supply system.

Assistance provided. A short-term consultant (AMRO-187).

Probable duration. 1961-

Work done. Draft legislation to create a water and sewer authority was reviewed and assistance was given in the organization of the new authority and in the planning of a national water program. Arrangements were completed to provide the Government with two short-term consultants in hydrogeology and hydrology in January 1962.

PAHO/CWSF

EL SALVADOR-16, Nutrition

Objective. To collaborate in the development of an expanded nutrition program.

Assistance given. Technical advisory services by members of Headquarters, Zone III Office, and INCAP staff.

Probable duration. 1961-1966.

Work done. The training of personnel who will take part in the program was begun in accordance with the established Plan of Operations.

WHO/R **FAO, UNICEF**

EL SALVADOR-18, Public Health Legislation

Objective. To bring up to date the Sanitary Code and health regulations of the country.

Assistance provided. A short-term consultant.

Probable duration. 1961.

Work done. A draft Sanitary Code was prepared and submitted to the Government.

PAHO

EL SALVADOR-20, Evaluation of Public Health Programs

Objective. To evaluate all public health programs in the country.

Assistance provided. Technical advisory services of Headquarters staff.

Probable duration. 1961-1962.

Work done. Preliminary arrangements were made to conduct the evaluation in 1962.

WHO/R

FRENCH ANTILLES and GUIANA-2, *Aëdes aegypti* Eradication

Objective. To eradicate *A. aegypti.*

Assistance provided. One sanitarian and Zone I Office staff advice.

Probable duration. 1952-1966.

Work done. The reinfestation of French Guiana which occurred in 1960 was eliminated the same year, and during 1961 no positivity was found. There was no specific campaign in Martinique. In Guadeloupe the results were not satisfactory. St. Martin continued to be negative.

WHO/TA

FRENCH ANTILLES and GUIANA-5, Public Health Administration (Fellowships)

One 11-week fellowship to study psychology in Argentina and Brazil.

WHO/R

GUATEMALA-1, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. Two medical officers, a sanitary engineer, three sanitarians, and supplies and equipment.

Probable duration. 1952-

Work done. The fifth and sixth cycles of DDT spraying were completed in 1961, with 386,737 and 393,090 houses sprayed, respectively, protecting nearly 2,000,000 population. The United Fruit Company reduced spraying to 9,873 houses—the responsibility for those previously sprayed passing to the national malaria service. Total spraying increased, largely due to the construction of 75,000 new houses in connection with the agricultural development of the Pacific region over the past three years. Case finding activities were strengthened, with 20 new evaluators raising the total to 70. Slides examined totaled 230,702 of which 1.9 per cent were positive, including 865 *P. falciparum,* 3,485 *P. vivax,* and 6 *P. malariae.* Mass drug treatment continued to supplement antimosquito work in the zone where persistent transmission was due principally to vector resistance to DDT. In the areas of Escuintla, Caballo Blanco, and Río Guastatoya, susceptibility tests were made in 44 localities and DDT resistance was found in 21. Training courses were given for sector and squad chiefs, inspectors, supervisors, evaluators, administrative staff, drivers, and mechanics.

PAHO/SMF **AID, UNICEF**

GUATEMALA-6, Nursing Education and Training of Auxiliaries

Objective. To improve nursing services, to train graduate nurses to teach nursing auxiliaries, and to train nursing auxiliaries.

Assistance provided. Two consultants in nursing education, supplies and equipment, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Nursing (Midwifery)	Costa Rica	9
1	Nursing education	Puerto Rico	11
1	Nursing education	Puerto Rico	12

Probable duration. April 1955-1963.

Work done. The National School of Nursing continued to improve teaching and admission methods, course evaluation, time schedules, and in-service training programs. A postbasic course was given in administration and supervision of nursing services for 26 nurses from Central America, Mexico, and Panama. The fields of practice for students were improved at the Roosevelt Hospital and at health centers. The National School of Nursing assumed direction of the training of auxiliary nursing personnel in October 1961. A study to reorganize the training courses and practice plans is under way.

PAHO, WHO/TA

GUATEMALA-8, Public Health Services

Objective. To reorganize the public health services at all levels and to train personnel.

Assistance provided. A chief country adviser, a sanitary engineer, a public health nurse, a sanitary inspector, supplies and equipment, and two 11-and-a-half-month fellowships to study public health administration and sanitary engineering in Brazil.

Probable duration. August 1954-1965.

Work done. A health plan to improve organization at the central, regional, and local levels was drawn up for the period 1961-1963, and training was given locally to 11 physicians, 16 nurses, 11 nurse advisers, 16 sanitary inspectors, 12 midwives, and 13 laboratory advisers. Short courses in public health were given for 20 dentists, and in food hygiene for nine sanitary inspectors.

WHO/R **UNICEF**

GUATEMALA-11, Tuberculosis Control

Objective. To control tuberculosis.

Assistance provided. A medical officer.

Probable duration. 1955-1965.

Work done. The program continued in the Departments of Escuintla and Santa Rosa and was extended to the Department of Sacatepéquez. By the end of 1961, 17,961 persons had been examined, 3,219 were found infected with tuberculosis, and 1,960 were under regular treatment.

WHO/TA **UNICEF**

GUATEMALA-12, Public Health Administration (Fellowships)

A 12-month fellowship to study public health administration in Puerto Rico.

PAHO

GUATEMALA-13, Nutrition

Objective. To collaborate in developing an expanded nutrition program.

Assistance provided. Advisory services of Headquarters, Zone III Office, and INCAP staff.

Probable duration. 1958-1965.

Work done. The program was continued according to plan and is being reviewed for reorganization.

WHO/R **FAO, UNICEF**

GUATEMALA-18, Evaluation of Public Health Programs

Objective. To collaborate with the national health authorities in evaluating the public health programs in the country.

Assistance provided. Advisory services of Headquarters staff.

Probable duration. 1961-1962.

Work done. Preliminary steps were taken by the consultant to carry out this project in 1962.

WHO/R

HAITI-1, Yaws Eradication

Objective. To eradicate yaws.

Assistance provided. A medical officer, a sanitary inspector, and a limited amount of supplies and equipment.

Probable duration. July 1950-1964.

Work done. The surveillance phase continued and 37 inspectors surveyed 2,436,889 persons for infectious forms of yaws. Of the 275 suspected cases, *Treponema pertenue* was verified in only 33. The incidence of infectious forms of the disease fell from 100 per 100,000 population in 1959 to 1.3 in 1961. In Poté Colé, Department of the North, yaws eradication was incorporated into regular health service activities on a trial basis.

WHO/R **UNICEF**

HAITI-4, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A chief country adviser, a medical officer, a health educator, a sanitary engineer, two sanitarians, supplies and equipment, and a one-month

fellowship to study malaria eradication in Honduras and Mexico.

Probable duration. May 1953-

Work done. A tripartite agreement was signed to renew operations which had been suspended in December 1958. The program was organized, the plan of operations was prepared, personnel were trained, and geographic reconnaissance was completed at the end of the year so as to permit spraying operations to start in 1962.

PAHO/SMF **AID, UNICEF**

HAITI-9, Public Health Laboratory

Objective. To improve the operation of the public health laboratory.

Assistance provided. A laboratory adviser, breeding stock to start a colony of laboratory animals.

Probable duration. 1953-1965.

Work done. The consultant assisted in the organization of the national laboratory, training of staff, and drafting of standards for the various sections. Lists of equipment were drawn up for the laboratories of Cul-de-Sac.

PAHO

HAITI-12, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Epidemiology and control of tuberculosis (Course)	Italy	6
1	Laboratory services	Martinique	5
1	Public health administration (Maternal and child health)	Mexico	10½

PAHO

HAITI-16, Public Health Services

Objective. To organize modern health services at the central and local levels, and to develop a local area for observation and training purposes.

Assistance provided. A chief country adviser, a sanitary engineer, and two six-month fellowships to study laboratory services in Mexico.

Probable duration. 1957-1965.

Work done. Technical advisory services were given to the Government on various aspects of the organization of health services.

WHO/TA **AID, UNICEF**

HAITI-19, Medical Education

Objective. To assist in the reorganization of the curriculum, modernization of teaching methods, and strengthening of the faculty of the School of Medicine.

Assistance provided. A full-time professor of physiology, and a small amount of supplies and equipment.

Probable duration. February 1959-

Work done. The professor of physiology continued to teach at the School and provided advisory services on its reorganization.

PAHO **AID**

HAITI-20, Nutrition

Objective. To assist in developing an expanded nutrition program in the country.

Assistance provided. A nutrition adviser (AMRO-165).

Probable duration. 1961-1966.

PAHO **FAO, UNICEF**

HAITI-22, Promotion of Community Water Supplies

Objective. To aid in the planning, designing and financing of an expansion of the water supply system of Port-au-Prince.

Assistance provided. Advisory services of four Headquarters sanitary engineers, a consultant on hydrogeology, on loan from UNESCO, a short-term consultant on administration and public relations, supplies and equipment, and contractual services for clerical and drafting aid.

Probable duration. October 1960-

Work done. Plans for the project and a loan request were presented to the Inter-American Development Bank. A survey was made of public opinion on intended changes in administration, water metering, and revenue collection.

PAHO/CWSF

HONDURAS-1, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A medical officer, a sanitary engineer, and two sanitarians, supplies and equipment, and a one-week fellowship to observe malaria eradication in Guatemala.

Probable duration. 1952-

Work done. The fourth and fifth cycles of DDT spraying were completed, covering 265,825 and 277,941 houses, respectively, and protecting 1.4 million persons. Special spraying and evaluation services were established in the agricultural areas of the Departments of Valle and Choluteca. During the year, 151,482 slides were examined, representing 11.7 per cent of the population of the malarious area; nearly 90 per cent of the slides came

from passive case-detection. The per cent of positive cases fell from 3.81 in the preceding 12 months to 2.47 in the second half of 1961. Epidemiological investigation showed that the principal causes of persistent transmission were the construction of new houses between spray cycles, the existence of houses with gaps in the walls or missing walls, and the habit of the population to relax outdoors in the evening during the hours of maximum vector activity. In an attempt to delineate the areas of vector resistance contiguous with those of El Salvador and Nicaragua, 185 localities were investigated and 107 susceptibility tests were performed.

PAHO/SMF **AID, UNICEF**

HONDURAS-4, Public Health Services

Objective. To prepare a long-range national health plan; to establish, in a selected rural area, a system of local health services for demonstration and training purposes; to extend the local services gradually throughout the country.

Assistance provided. A chief country adviser, a sanitary engineer, a public health nurse, and a sanitary inspector, a small amount of supplies and equipment, and one 11-and-a-half-month fellowship to study public health administration in Brazil.

Probable duration. August 1955-1968.

Work done. The nutrition, tuberculosis, leprosy, and dental health programs were incorporated into the national health plan. Eleven sanitary inspectors and 20 nursing auxiliaries were trained.

PAHO, WHO/TA **UNICEF**

HONDURAS-6, Public Health Administration (Fellowships)

An 11-month fellowship to study public health nursing in Colombia, and a 12-month fellowship to study nutrition in Guatemala.

PAHO

HONDURAS-8, Medical Education

Objective. To improve and expand the School of Medicine in the University of Honduras.

Assistance provided. Supplies and equipment.

Probable duration. March 1960-

PAHO

HONDURAS-9, Promotion of Community Water Supplies

Objective. To assist in the organization of a new central agency in charge of public water supplies and sewer systems.

Probable duration. August 1960-

PAHO/CWSF

HONDURAS-11, Evaluation of Public Health Programs

Objective. To evaluate the country's public health programs.

Assistance provided. Advice to Headquarters staff.

Probable duration. 1961-

Work done. Preliminary arrangements were made to begin the evaluation in 1962.

WHO/R

MEXICO-14, Nursing Education

Objective. To promote the development of basic nursing education in Mexico.

Assistance provided. A nurse educator.

Probable duration. September 1958-1965.

Work done. Twenty-one public health nurses and 81 nursing auxiliaries were trained. Advice was given to 11 schools of nursing and a seminar for Directors of Schools of Nursing was held.

PAHO

MEXICO-15, State Health Services
MEXICO-22, Public Health Services

Objective. To organize, improve, and expand comprehensive regional and local health services in nine states and, subsequently, throughout the country.

Assistance provided. A medical officer, a health educator, a sanitary engineer, a public health nurse, a sanitary inspector, a limited amount of supplies and equipment, and a three-month fellowship to study epidemiology in Brazil, Colombia, and Puerto Rico.

Probable duration. September 1954-1962 and August 1955-1962, respectively, as individual projects. 1962- as combined project.

Work done. Work was carried out in the States of Guanajuato, Tlaxcala, Sonora, Yucatán, and Oaxaca. Twenty-two physicians and 22 nurses were trained.

PAHO, WHO/R **UNICEF**

MEXICO-25, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Epidemiology	Denmark, France, Switzerland, United Kingdom, United States of America	3

1	Laboratory services	Canada, United States of America	2
1	Organization of laboratory services	France, Germany, Netherlands, Switzerland, United States of America	1½
1	Public health administration	Chile, Colombia, Peru, Puerto Rico	3
1	Public health administration	India, Japan, Philippines	2
1	Zoonoses	Argentina	12

PAHO

MEXICO-26, *Aëdes aegypti* Eradication

Objective. To conduct a special survey to certify the eradication of *Aëdes aegypti.*

Assistance provided. Two sanitarians.

Probable duration. May 1949-1963.

Work done. In October the Government, in collaboration with the Organization, began the special verification of the entire initially infested area. Preliminary results showed that the city of Mérida, negative in 1960, was reinfested.

PAHO

MEXICO-28, Public Health Laboratory

Objective. To expand the services of the National Public Health Laboratory, with emphasis on the control of biological products, foods, and drugs.

Assistance provided. A short-term consultant, technical advisory services by Headquarters staff, supplies and equipment, and one 11-month fellowship to study virology in the United States.

Probable duration. February 1958-

Work done. The Organization continued to collaborate in the planning and organization of the Division of Biological Production of the National Public Health Laboratory. In connection with the intensive vaccination program against diphtheria, tetanus, and whooping cough being planned by the Mexican authorities, advice was given on the basic principles underlying preparation, standards of potency and safety, and administration of the vaccines. Assistance was also given in the training of laboratory technicians and on the installation of a laboratory to produce whooping cough vaccine.

PAHO

MEXICO-29, Leprosy Control

Objective. To develop a national leprosy control program based on modern techniques and methods.

Assistance provided. A leprosy adviser.

Probable duration. November 1960-

Work done. Improvement of the technical and administrative structure of the leprosy control program continued. Two pilot areas were established in different sections of the country to determine appropriate work methods and to establish procedural standards. A meeting of health authorities and technical personnel of the program was held in Jiquilpan, Michoacán, to discuss problems arising from new methods of leprosy control and technical and administrative questions.

WHO/R **UNICEF**

MEXICO-30, School of Public Health

Objective. To strengthen teaching in the School of Public Health of the University of Mexico.

Assistance provided. Payment of increased tuition for fellowship awarded in 1960.

Probable duration. May 1954-1965.

Work done. This School continued to be utilized by PAHO/WHO as a training center for fellows from countries in the Caribbean area.

WHO/R

MEXICO-34, Teaching of Public Health in Schools of Veterinary Medicine

Objective. To develop new schools of veterinary medicine and incorporate public health and preventive medicine in the curricula.

Assistance provided. Services of the Zone II Office Veterinary Public Health Adviser.

Probable duration. 1956-

Work done. The two original schools have expanded their teaching capacity and two new schools have been established. Each is gradually incorporating public health and preventive medicine into the teaching program, and improving the teaching of subjects in the basic sciences.

WHO/R

MEXICO-35, Environmental Sanitation Training

Objective. To assist the School of Sanitary Engineering of the National Autonomous University of Mexico in establishing postgraduate courses for engineers.

Assistance provided. Supplies and equipment.

Probable duration. 1955-1964.

WHO/R

MEXICO-38, Tuberculosis Control

Objective. To determine the prevalence and other epidemiological characteristics of tuberculosis; to pre-

pare a nation-wide tuberculosis campaign; to train personnel; to establish pilot centers.

Assistance provided. A medical officer and a limited amount of supplies and equipment.

Probable duration. June 1960-1965.

Work done. Training of project personnel and preparation of general standards for control of the disease were completed. The laboratory of the National University of Mexico continued to receive collaboration in the investigation and study of atypical mycobacteria.

WHO/R **UNICEF**

MEXICO-39, Promotion of Community Water Supplies

Objective. To assist in developing a national program of community water supplies.

Assistance provided. A short-term consultant on water supplies.

Probable duration. 1960-

Work done. Advice was given on the design of new water supply systems and on improvements in existing ones. The consultant acted as principal coordinator and professor of a three-month course on design of water supply systems for engineers from Mexico, Central America, and the Caribbean area. Assistance was requested from the United Nations in planning an expansion of the water supply system of Monterrey, Nuevo León.

PAHO/CWSF

MEXICO-53, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A chief country adviser, a malariologist, a medical officer, a sanitary engineer, a health educator, an assistant engineer, a sanitarian, supplies and equipment, and two five-and-a-half-month fellowships to study medical entomology in Brazil.

Probable duration. July 1954-1965.

Work done. In January 1961 certain modifications occurred in the organization of the malaria service, including the transformation of the Spraying Section into a Field Operations Section with engineers responsible for organizing and supervising case-detection activities. In areas in the attack phase 828,360 slides were examined, with 1.1 per cent positive; in the consolidation areas 745,907 slides were examined, with 0.4 per cent positive. On the basis of epidemiological information, the malarious area was classified into areas with acceptable information and with no cases of malaria recorded in 1960, areas with inadequate information and no cases of malaria recorded in 1960, and areas of persistent transmission. The first areas entered the consolidation phase at the beginning of 1961; the second group was sprayed during the first half of 1961 and subsequently classified in the attack or consolidation phase on the basis of epidemiological information obtained in the same period; the remaining areas, classified as problem areas, remained in the attack phase. Four fifths of the original malarious area was in the consolidation phase in the second half of 1961, and one fifth in the attack phase. In all, 2,434,790 sprayings were performed in 1961. Spraying was supplemented by the use of antimalarial drugs, and special squads gave radical treatment to 4,751 confirmed and 14,755 suspected cases during the first nine months of the year.

WHO/TA **UNICEF**

NETHERLANDS ANTILLES-7, Public Health Nursing (Fellowships)

A 12-month fellowship to study public health nursing in Jamaica.

WHO/TA

NICARAGUA-1, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A short-term consultant, a medical officer, a sanitary engineer, two sanitarians, one entomological aide, supplies and equipment, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Medical entomology	Brazil	5½
1	Malaria eradication	Brazil	3
2	Malaria eradication	Guatemala	¼

Probable duration. 1952-

Work done. The fifth and sixth cycles of DDT spraying were completed, with 239,375 and 249,068 houses, respectively. Sprayable houses increased 5.4 per cent from the fourth to the fifth cycle because of new construction. Transmission persisted in the five wealthiest and most densely populated departments, and antilarval measures were adopted on a pilot basis in Managua and the San Antonio sugar estate. Malathion was sprayed experimentally in 2,043 houses in 20 localities on the Montelimar sugar estate when *A. albimanus* was found resistant to DDT. A temporary consultant reorganized antilarval work and trained needed personnel. The network of notification posts was expanded; and 109,293 slides were examined, of which 7.6 per cent were positive, with 3,001 *P. falciparum* and 5,271 *P. vivax*. Epidemiological investigations in areas of vector susceptibility showed two thirds of the cases studied to have been imported from areas of DDT resistance.

PAHO/SMF **AID, UNICEF**

NICARAGUA-5, Nursing Education

Objective. To strengthen the National School of Nursing by preparing nurses for the faculty, improving physical facilities and areas for field practice, and expanding the curriculum to include the teaching of public health nursing and courses in teaching and supervision.

Assistance provided. Two nurse educators and supplies and equipment.

Probable duration. March 1955-1964.

Work done. Twenty-six students registered in 1961 for the three-year course, making a total of 67 students at the School. Eighteen students and one instructor participated in the third and last affiliation program in psychiatry at the School of Nursing in Costa Rica. A national seminar was held to disseminate the recommendations of the international nursing seminars held in Paracas and Antigua. A short course in first aid for instructors was begun. Some advances were made in improving the practice fields for students at the hospitals and health centers.

WHO/R

NICARAGUA-7, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Organization of medical education (Anatomy)	El Salvador	12
1	Organization of medical education (Biochemistry)	El Salvador	12
1	Public health administration	Puerto Rico	12
1	Public health laboratory (Microbiology)	Canada	12

PAHO

NICARAGUA-12, Evaluation of Public Health Programs

Objective. To evaluate the national public health programs.

Assistance provided. Advisory services of Headquarters staff.

Probable duration. 1961-1962.

Work done. The consultant began his activities in the last quarter of 1961. The evaluation is expected to be completed early in 1962.

WHO/R

PANAMA-1, Public Health Services

Objective. To strengthen health services at the central and local levels, to formulate a national health plan, and to train the necessary personnel.

Assistance provided. A chief country adviser, a sanitary engineer, a public health veterinarian, a public health nurse, and a small amount of supplies and equipment.

Probable duration. August 1952-1967.

Work done. A plan for developing integrated health services in the central region of Panama was prepared and later expanded to cover the entire country. The process of integration was begun in a pilot area in Penonomé, in the central region.

WHO/TA **UNICEF**

PANAMA-2, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A medical officer, a sanitary engineer, an entomologist, two sanitarians, supplies and equipment, and a one-week fellowship to study malaria eradication in Guatemala.

Probable duration. 1952-

Work done. The fourth year of dieldrin spraying could not be completed for administrative and financial reasons. Only 115,280 houses were sprayed in 5,510 of the 8,000 localities to be covered, plus 6,949 houses on property of the Chiriquí Land Company. An Executive Commission for Malaria Eradication was created to reorganize the campaign, with particular emphasis on budget and personnel administration, and a new plan of operations based on DDT instead of dieldrin was drawn up. From September 1960 through February 1962, 137,756 slides were examined, of which 3.9 per cent were positive. The Gorgas Memorial Laboratory continued experiments with mass drug treatment in the three localities where work had begun and added other localities in the Provinces of Panama and Colón. Susceptibility tests did not show vector resistance.

PAHO/SMF **UNICEF**

PANAMA-8, Public Health Administration (Fellowships)

One 12-month fellowship to study public health administration in the United States of America, and one 11-and-a-half-month fellowship to study veterinary public health in Brazil.

PAHO

PANAMA-9, Promotion of Community Water Supplies

Objective. To assist in the development of a national water supply authority and program.

Assistance provided. A short-term consultant and Headquarters staff advice.

Probable duration. November 1960-

Work done. Assistance was provided in making plans for the organization and management of the proposed central water authority, and in the preparation of a request to the Inter-American Development Bank for a loan to finance the construction of water supply systems for seven cities in the interior of the country.

PAHO/CWSF

PANAMA-12, Evaluation of Public Health Programs

Objective. To evaluate public health programs.

Assistance provided. Advisory services of Headquarters staff.

Probable duration. 1961-1962.

Work done. Preliminary arrangements were made to conduct an evaluation in 1962.

WHO/R

PARAGUAY-1, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A medical officer, a sanitary engineer, an entomologist, two sanitarians, supplies and equipment, two five-and-a-half-month fellowships to study medical entomology in Brazil, and one two-month grant to study malaria eradication in Bolivia and Peru.

Probable duration. October 1955-

Work done. Spraying with dieldrin was suspended in March, owing to financial difficulties, and geographic reconnaissance and planning activities were undertaken with a view to renewing total coverage on a sounder basis. The reconnaissance and delimitation of the malarious area were hampered by shortages of local funds. Health education, evaluation, and epidemiological investigation continued, with notification posts reaching a total of 1,151. In the 12 months ending October 1961, 28,389 slides were examined, of which 1,419 were positive. Since July 1960, a total of 22 susceptibility tests in 18 localities of six departments failed to show vector resistance.

PAHO/SMF **AID, UNICEF**

PARAGUAY-9, Leprosy Control

Objective. To develop a national leprosy control program in accordance with modern techniques and procedures.

Assistance provided. A leprologist.

Probable duration. September 1956-

Work done. In 1961, 64 per cent of known cases and 14 per cent of contacts were under surveillance, and 3,485 cases were registered. The prevalence of the disease was 190 per 100,000 population.

WHO/R **UNICEF**

PARAGUAY-10, Public Health Services

Objective. To establish modern public health services at the national, regional, and local levels; to train personnel.

Assistance provided. A chief country adviser, a sanitary engineer, a statistician, an epidemiologist, an administrative methods officer, a public health nurse, and supplies and equipment.

Probable duration. November 1959-1965.

Work done. Progress was made in decentralization, and greater administrative responsibility was given to regional health directors. Two training courses were given for 52 nursing auxiliaries, and 25 sanitary inspectors and 39 midwives were also trained. Two courses in nutrition and nutrition education were attended by 235 teachers.

PAHO, WHO/TA **UNICEF**

PARAGUAY-12, Public Health Administration (Fellowships)

One fellowship for 11 and a half months to study public health administration (maternal and child health) in Brazil.

WHO/R

PARAGUAY-13, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Public health administration (Maternal and child health)	Brazil	11½
1	Public health administration (Maternal and child health)	Mexico	10½
1	Public health administration	Mexico	10½
1	Public health nursing	Chile	10
1	Public health nursing	Colombia	11
1	Public health nursing	Peru	12

PAHO

PERU-5, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A chief country adviser, a sanitary engineer, five sanitarians, supplies and equipment, and one fellowship for five and a half months to study medical entomology in Brazil.

Probable duration. June 1957.

Work done. While spraying operations (second cycle

of the fourth year on the western slope and first cycle of the third year on the eastern slope) were delayed by irregular supply of local funds, 534,037 houses were sprayed with DDT and 25,005 with dieldrin in 1961. In January the Department of Moquega and three valleys of Arequipa entered the consolidation phase. In the Department of Tacna, which had already entered the consolidation phase, only one imported case of malaria was found. Three small outbreaks, with a total of 40 cases, occurred in coastal areas. The number of notification posts rose to 8,461, and active and passive case-detection produced 335,979 slides, of which 2,619 (0.7 per cent) were positive. Vector resistance was not found in 21 susceptibility tests made in 17 localities. A study was made of the DDT irritability of *Anopheles pseudopunctipennis*.

PAHO/SMF, WHO/TA **AID, UNICEF**

PERU-15, Advanced Nursing Education

Objective. To organize advanced courses for the training of nurse instructors and supervisors for schools, hospitals, and public health services; and to establish new schools of nursing in the interior of the country.

Assistance provided. A nurse educator and one 12-month and one 10-month fellowship to study nursing education in Brazil.

Probable duration. April 1959-1961.

Work done. A study of the schools of nursing in the country was begun. The Institute of Postgraduate Nursing Studies carried out a series of courses in 1961 to prepare graduate nurses for teaching and administrative functions, in which 38 nurses completed studies on a part-time basis and a new class started with 18 nurses on a full-time basis. The nurse faculty now consists of four full-time and four part-time instructors. It was planned to transfer the supplementary course now being given in a health center to the Institute so as to have all postbasic nursing education under the direction of one faculty.

WHO/R

PERU-21, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Anaesthesiology	United Kingdom	3
1	Hospital administration	Brazil	15
1	Maternal and child health	Brazil	11½
1	Public health administration	Mexico	10½

WHO/R

PERU-22, Public Health Services

Objective. To plan, evaluate, and coordinate public health services at the central and local levels; to develop the Junín health area at the regional and local levels.

Assistance provided. A chief country adviser, a sanitary engineer, and a public health nurse.

Probable duration. January 1956-1966.

Work done. A study was made to establish a training center for the entire country. A training course was begun for 31 sanitary inspectors, and 113 nursing auxiliaries from Lima and El Callao were trained in five courses.

WHO/TA **UNICEF**

PERU-23, Joint Field Mission on Indigenous Populations

Objective. To accelerate the development of the indigenous peoples of the Andean region of Peru and to integrate them into national social and economic life.

Assistance provided. Advice of regular staff.

Probable duration. October 1955-

Work done. The action centers of the Department of Puno continued operation, and were incorporated into the health program by transfer from the Ministry of Labor to the Ministry of Health.

WHO/TA **FAO, ILO, UN, UNICEF, UNESCO**

PERU-25, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
2	Public health administration	Brazil	11½
1	Public health administration (Maternal and child health)	Mexico	10½
1	Public health administration (Veterinary public health)	Chile	10

PAHO

PERU-29, Tuberculosis Control

Objective. To control tuberculosis.

Assistance provided. A public health nurse.

Probable duration. January 1960-1965.

Work done. Administrative difficulties and delay in arrival of X-ray equipment detained the initiation of the project.

WHO/R **UNICEF**

PERU-30, Promotion of Community Water Supplies

Objective. To assist the Ministry of Development and Public Works in the organization and execution of a

national plan for the design, construction, and operation of public water supplies.

Assistance provided. A short-term consultant, a sanitary engineer, one 11-and-a-half-month fellowship to study sanitary engineering in Brazil, and one 10-and-a-half-month fellowship to study sanitary engineering in Mexico.

Probable duration. July 1960-

Work done. The consultant assisted in the organization of the Sanitary Corporation of Arequipa and in the preparation of a loan request for the expansion of the water supply and sewerage systems which was granted by the Inter-American Development Bank. The consultant also participated in the preparation and revision of legislation creating a national authority for water and sewer works. Assistance was also given in the preparation of a 15-year national program and in the revision of the project for the expansion of the Lima waterworks which will be submitted shortly to one of the international lending organizations.

PAHO/CWSF, WHO/TA **IADB**

PERU-32, Infantile Diarrhea and Malnutrition

Objective. To study the nature of the alterations in water and electrolyte metabolism in infants suffering from diarrhea and malnutrition, and to define the nature of chronic diarrheas.

Probable duration. September 1960-1964.

Work done. Experiments at the Anglo-American Clinic continued.

USPHS/NIH **PAHO**

SURINAM-1, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. A medical officer, two malaria eradication specialists, supplies and equipment, and a three-month fellowship to study malaria eradication in Jamaica and Central America.

Probable duration. 1952-

Work done. In January 1961, most of the coastal region entered the consolidation phase. DDT was substituted for dieldrin in the interior and 16,853 houses were sprayed in the second half of the year. Ten per cent of the population in the consolidation areas and 34 per cent in the attack areas were sampled for epidemiological evaluation. The 26 cases found in the consolidation areas were imported from areas in the attack phase, while of 10,288 slides examined from attack areas, 287 (2.8 per cent) were positive. Health education work was begun, with emphasis on improving relations with chiefs of tribes in the interior. While the physical area remaining in the the attack phase was large, it contained only 10 per cent of the country's population.

PAHO/SMF **UNICEF**

SURINAM and NETHERLANDS ANTILLES-1, *Aëdes aegypti* Eradication

Objective. To eradicate *A. aegypti.*

Assistance provided. Two sanitarians and technical supervision of Zone II Office.

Probable duration. 1952-1966.

Work done. Aruba, Bonaire, and Saba continued to be negative. The Dutch part of St. Martin and St. Eustatius were reinfested in 1961. It was not possible to implement an eradication program in Surinam.

PAHO, WHO/TA

UNITED STATES-7, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Maternal and child health	United Kingdom, France, Netherlands, Poland	1¾
1	Medical education (Psychiatry)	Switzerland	2
1	Nursing education	Egypt, Ethiopia, Iran, Pakistan	3
1	Public health administration	Egypt, India, Iran, Lebanon, Philippines, Thailand	3
1	Public health nursing	El Salvador, Guatemala, Honduras, Mexico	2
1	Public health nursing	Norway	2

WHO/R

UNITED STATES-10, Consultants in Specialized Fields of Public Health

Objective. To provide advice in selected fields of public health.

Assistance provided. A short-term consultant.

Probable duration. March 1958-

Work done. A study of existing facilities for health care of the aged was made and a comprehensive report presented to the Government. Specialists in vital statistics (with particular reference to occupational mortality data), in cardiovascular and respiratory diseases, and in biological aspects of water pollution were provided the United States Public Health Service.

WHO/R

UNITED STATES-11, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Industrial hygiene	Belgium, Germany, Italy, Switzerland, United Kingdom	2
1	Medical education (Rehabilitation)	Denmark, Finland, Norway, Sweden, United Kingdom	2¾
1	Mental health	Denmark, Norway, Sweden	1¾
1	Nursing education	Denmark, Finland, Sweden	3
1	Nursing education	England, Scotland	2
1	Nursing education (Psychiatric nursing)	Denmark, Netherlands, Sweden, United Kingdom	2
1	Organization of medical education (Preventive medicine)	Denmark, Norway, Sweden, Switzerland, Union of Soviet Socialist Republics, United Kingdom	3
1	Organization of public health teaching (Mental health)	United Kingdom	1¼
1	Public health administration (Preventive medicine)	Denmark, Germany, Netherlands, Sweden, Switzerland, United Kingdom	3
1	Public health nursing	Denmark, Finland, Sweden, United Kingdom	2
1	Public health nursing (Microbiology)	Denmark, England, France, Italy, Sweden, Switzerland	1⅛

PAHO

UNITED STATES-12, Medical and Public Health Training

Objective. To permit senior international education and exchange staff of the United States Public Health Service to visit countries that send fellows to the United States of America to confer with former fellows who studied in the United States and plan future training programs.

Assistance provided. Two travel grants.

Probable duration. 1961.

WHO/R

URUGUAY-5, Public Health Services

Objective. To organize integrated public health services in five departments and subsequently in the entire country.

Assistance provided. A chief country adviser, a public health nurse, a short-term consultant, and a nine-month fellowship to study nutrition in Guatemala.

Probable duration. August 1955-1965.

Work done. Two new centers began their activities in 1961, bringing the total to eight. The former Department of Health Units has been incorporated into the Division of Hygiene. Training was given to 22 health visitors and 43 nursing auxiliaries.

WHO/TA **UNICEF**

URUGUAY-9, Chagas' Disease

Objective. To develop a control program for Chagas' disease.

Assistance provided. A short-term consultant.

Probable duration. October 1961-1962.

Work done. The Government was assisted in determining the severity and extent of Chagas' disease, the means for its control, and the research work indicated.

WHO/R

URUGUAY-10, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Nutrition	Guatemala	9
1	Organization of medical education (Nutrition)	Guatemala	2½
1	Public health administration	Brazil, Chile, Colombia, Peru, Puerto Rico	3

PAHO

URUGUAY-13, Training of Health Personnel

Objective. To train nurses and auxiliary personnel for the health services.

Assistance provided. Advice of Headquarters and Zone VI Office staff and supplies and equipment.

Probable duration. November 1960-1965.

Work done. The situation of the Dr. Carlos Nery School of Nursing was reviewed and pertinent recommendations made. Advice was given to the University School of Nursing on plans to raise entrance requirements and change regulations so as to raise it to university level. The plan was approved by the University and the School will assume its new status in 1962.

PAHO **UNICEF**

URUGUAY-15, Waterworks Operators School

Objective. To conduct training courses for waterworks operators and technicians.

Assistance provided. Advice by Headquarters and Zone VI Office staff.

Possible duration. 1958-1961.

Work done. Assistance was given to the National University of Uruguay and to health authorities in developing

the third course for waterworks operators which was attended by 11 students.

WHO/R

URUGUAY-16, Chronic Diseases

Objective. To study the epidemiology of chronic diseases and to attack problems through planned and systematic action.

Assistance provided. A short-term consultant.

Probable duration. November 1961-1966.

Work done. A study of the prevalence of chronic diseases in the country was begun.

WHO/R

VENEZUELA-5, Onchocerciasis Investigation

Objective. To delineate areas of onchocerciasis and identify the vectors.

Assistance provided. A short-term consultant.

Probable duration. September 1959-

Work done. An entomologist spent four months in the country assisting in the delineation of areas where the vectors of onchocerciasis exist, in the identification and classification of the *Simulium* flies, and in a study of the bionomics of the vectors.

WHO/R

VENEZUELA-7, Malaria Eradication

Objective. To eradicate malaria.

Assistance provided. Advice from Zone Office staff resident in the country, and a five-and-a-half-month fellowship to study medical entomology in Brazil.

Probable duration. 1955-

Work done. An area of 157,500 square miles was entered in the PAHO Register of Areas Where Malaria Has Been Eradicated. Extensive case-detection activities were maintained in this area and in those originally nonmalarious as well as in areas in the consolidation phase. Residual spraying with DDT, supplemented with mass drug treatment and the use of medicated salt on a limited scale, continued in areas in the attack phase. The program is wholly financed by the Government of Venezuela and includes fellowships for the study of malaria eradication to students from other countries.

PAHO/SMF

VENEZUELA-9, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
2	Environmental sanitation (Sanitary engineering)	United States of America	12
1	Hospital administration	Mexico	20
1	Nursing education	Brazil	10
3	Nutrition	Guatemala	3
1	Public health administration (Sanitary engineering)	United States of America	12
4	Sanitary engineering	United States of America	12

PAHO

VENEZUELA-10, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Hospital administration	United States of America	21
1	Industrial hygiene	United States of America	12
1	Sanitary engineering	Brazil	11½
1	Sanitary engineering	Mexico	10½
1	Zoonoses	Argentina	12

WHO/R

VENEZUELA-14, Nursing Education

Objective. To strengthen national schools of nursing by preparing nurse instructors, by improving areas for field practice, and by expanding the curriculum to include courses in public health nursing, teaching, and supervision.

Assistance provided. A nurse educator.

Probable duration. April 1959-1967.

Work done. After an attempt to work directly with one school of nursing, it was felt that greater progress would be made by preparing instructors for all 10 schools in Venezuela and supervisors for the health services. A Nursing Department was therefore created within the School of Public Health of the Central University of Venezuela in March. The Department conducted three courses on administration and teaching for 17 graduate nurses occupying responsible positions in nursing services or education who met University entrance requirements.

PAHO, WHO/TA

VENEZUELA-16, *Aëdes aegypti* Eradication

Objective. To eradicate *A. aegypti.*

Assistance provided. A medical officer and three sanitarians.

Probable duration. October 1958-1964.

Work done. The initial survey was finished in the States of Aragua, Carabobo, and Mérida, and is under way in Trujillo, Guárico, Zulia, Lara, Yaracuy, Barinas, and Apure. Of 876 localities initially surveyed in 1961, 27 were found positive. Of 33 localities treated, verifications showed 21 still positive.

PAHO

VENEZUELA-17, Medical Education

Objective. To strengthen medical education programs in medical schools.

Assistance provided. Printed material on medical education, and two 10-week fellowships to study organization of medical education in Colombia, Costa Rica, El Salvador, Mexico, Puerto Rico, and the United States of America.

Probable duration. 1958-

PAHO

VENEZUELA-19, School of Public Health

A three-and-a-half-week fellowship to observe organization of public health teaching (statistics) in Argentina, Brazil, Chile, and Colombia.

WHO/R

VENEZUELA-24, Consultant Services in Public Health

Objective. To evaluate the health services of the country.

Assistance provided. Three temporary advisers.

Probable duration. July 1960-

WHO/R

VENEZUELA-27, Promotion of Community Water Supplies

Objective. To assist the Government in reorganizing its central water authority and in establishing sound business methods to finance new water supply systems and to expand existing systems.

Assistance provided. A short-term consultant.

Probable duration. May 1960-

Work done. Advice was given on the reorganization of the National Institute of Sanitary Works, on the preparation of a new water-rate structure, on health education and public relations related to water organization, and on preparing plans and a loan request to expand the water supply system in Maracaibo. A long-range program for the Caracas water supply system was prepared, and a new water rate system for the city was approved for implementation in 1962. Loans for a rural water supply program and for a program to supply water to some cities with less than 10,000 inhabitants were requested, and were granted by the Inter-American Development Bank.

PAHO/CWSF **IADB**

AMRO-8, *Aëdes aegypti* Eradication (Caribbean)

Objective. To provide advisory services on *A. aegypti* eradication to British, French, and Netherlands territories in the Caribbean.

Assistance provided. A medical officer.

Probable duration. 1950-

Work done. Advisory and supervisory activities were carried out for the *A. aegypti* eradication projects in British, Dutch, and French areas.

WHO/TA

AMRO-10, Program for Biostatistics Education

Objective. To improve vital and health statistics in Latin America by training technical personnel.

Assistance provided. A grant to the School of Public Health of the University of Chile for expanding its staff, and the following fellowships:

Awards	*Field of study*	*Country of study*	*Months*
1	Biostatistics	Mexico and Guatemala	7½
1	Public health administration (Biostatistics)	Chile	16
1	Public health administration (Statistics)	Chile	16
1	Vital statistics	Mexico	10
3	Vital statistics	Mexico	6¾

Probable duration. 1952-

Work done. The School of Public Health of the University of Chile gave a degree course in public health with specialization in biostatistics for the second time. The requirements for admission were a university degree with specialization in a biologic, medical, mathematical, sociological, or related field.

WHO/TA

AMRO-13.3, Third Seminar on Sanitary Engineering (Central America and Panama)

Objective. To collaborate and assist in the organization and carrying out of the Seminar.

Assistance provided. The services of the Zone III Office engineer and of the sanitary engineer of Honduras-4 project, supplies and equipment, and travel and per diem expenses of 10 participants from the countries of the area.

Place and duration. Tegucigalpa, Honduras, 26 November-2 December 1961.

Work done. The main item discussed was the planning of national water supply programs and the role of the ministries of health in such planning. The Seminar was attended by 65 participants representing public health, public works, and water agencies.

WHO/R **AID, AIDIS**

AMRO-18, Medical Education

Objective. To improve medical education in Latin America.

Assistance provided. A short-term consultant, advisory services of Headquarters staff, supplies and equipment, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Medical education	Brazil	2
1	Medical education (Anatomy)	Argentina, Brazil, Colombia, El Salvador, Puerto Rico, United States of America	3¾
1	Medical education (Pharmacology)	El Salvador	14
1	Organization of medical education	El Salvador	8
2	Organization of medical education	Colombia, Costa Rica, El Salvador, Puerto Rico	2
3	Organization of medical education	Colombia	½
1	Organization of medical education	Egypt, France, Germany Greece, Italy, Israel, Lebanon, United States of America	4½
1	Organization of medical education	Brazil	8
1	Organization of medical education (Anatomy)	Colombia, El Salvador	1½

Probable duration. March 1953-

Work done. Assistance was given to the medical school in San Salvador on clinical teaching programs and on other aspects of medical education, and to the medical schools in Buenos Aires and São Paulo on teaching and medical statistics programs.

The Organization participated in a seminar on the teaching of medical sciences sponsored by the medical school in Tegucigalpa, Honduras; and in a meeting, held in Mexico City, on the teaching of epidemiology in medical schools.

WHO/R

AMRO-26, Brucellosis Control

Objective. To improve brucellosis diagnosis, to develop animal control and eradication programs in order to eliminate the disease in the human population.

Assistance provided. Technical advisory services of Headquarters, Zone Offices, and Pan American Zoonoses Center staff. Cultures for the production of vaccine and antigens and standard sera for testing antigens.

Probable duration. 1952-1970.

Work done. The diagnostic services of the animal brucellosis control programs of Argentina, Brazil, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama were improved. Field trials of a new brucellosis vaccine for use in goats were carried out in Argentina and Mexico. The Zoonoses Center made the first isolation of *Brucella melitensis* from sheep in Argentina and the first published isolation of this bacterium from sheep in the Americas.

WHO/R

AMRO-28, Advanced Nursing Education (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Nursing education	Canada	12
1	Nursing education	Chile	11
1	Nursing education	United States of America	12
2	Public health nursing	Chile	11
2	Public health nursing	Chile	10

WHO/R

AMRO-35, Fellowships

Awards	*Field of study*	*Country of study*	*Months*
1	Biostatistics	Chile	9
2	Dietetics	Guatemala	12
3	Environmental sanitation	Chile	6½
1	Environmental sanitation	Chile	7½
1	Environmental sanitation (Water supplies)	St. Kitts	3
1	Environmental sanitation	United States of America	6½
1	Environmental sanitation	United States of America	12
1	Health education	Chile	3
1	Health education	United States of America	12
1	Hospital administration	Mexico	21
1	Leprosy	Venezuela	2
3	Leprosy	Venezuela	4
2	Medical records library techniques	Venezuela	10
2	Midwifery	Colombia, Costa Rica, Puerto Rico	2½
1	Nursing education (Midwifery)	Costa Rica	12
1	Nursing supervision administration	Canada, United States of America	3
1	Organization of medical education (Bacteriology)	Canada	12
2	Organization of medical education	Puerto Rico	½
1	Organization of medical education	United States of America	7½
1	Public health nursing	Jamaica	12
1	Public health administration	Canada	12
1	Public health administration	Formosa, Greece, Hawaii, India, Italy, Japan, Jerusalem, Lebanon, Spain, Thailand, United Arab Republic	1½
1	Rehabilitation of leprosy patients	India, Spain	3½

PAHO

AMRO-39, Environmental Sanitation (Advisory Committee and Consultants)

Objective. To obtain authoritative counseling on progress and new approaches in environmental sanitation, particularly in the field of water supply.

Assistance provided. Travel and subsistence for five temporary advisers and supplies and equipment.

Probable duration. April 1958-1964.

Work done. The third meeting of the Advisory Committee was held in November. The Committee provided comments and suggestions to the Organization on the relation between the present water supply program and the goals of the Charter of Punta del Este, and also made recommendations on housing and industrial health.

PAHO

AMRO-45, Laboratory Services

Objective. To improve public health laboratory services; to assist departments of virology and biological production control; to develop animal colonies.

Assistance provided. Advisory services of regular staff, supplies and equipment, and a four-month fellowship to observe organization of laboratories in Brazil and Chile.

Probable duration. February 1955-

Work done. Collaboration to improve public health laboratory services in many countries continued by means of advice in planning buildings, the selection and acquisition of equipment, provision of biological reagents and laboratory animals, and information on various laboratory techniques and protection of laboratory workers.

WHO/R

AMRO-46.7, Seminar on Nursing Education

Objective. To discuss revision of curricula of schools of nursing.

Assistance provided. Travel grants and stipends for 19 participants from nine countries and supplies and equipment.

Place and duration. Antigua, Guatemala, 16-29 July 1961.

Work done. The conclusions of the Seminar were embodied in the report, "Revised Plan of Study for a School of Nursing."

WHO/R

AMRO-47, Yaws Eradication and Venereal Disease Control (Caribbean)

Objective. To determine the extent of yaws and the most effective methods to eradicate it; to reduce the prevalence of syphilis and gonorrhea, strengthen laboratory services, and organize venereal disease control services.

Assistance provided. A medical officer.

Probable duration. November 1954-

Work done. No cases of yaws were reported in Trinidad, Tobago, and St. Kitts. There were 81 cases in Dominica, 9 in Grenada, 66 in St. Lucia, and 197 in St. Vincent, owing to defects in the conduct of programs, particularly in the surveillance phase. Plans were made for a yaws eradication program and a venereal disease control program for limited areas of Jamaica. In Aruba, Barbados, British Guiana, Grenada, and Trinidad varying degrees of progress were made in venereal disease control programs.

WHO/R **UNICEF**

AMRO-50, Water Fluoridation

Objective. To provide advisory services in water fluoridation through the use of fluorspar.

Assistance provided. A short-term consultant.

Probable duration. August 1961-1964.

Work done. Health authorities in Medellín and Bogotá (Colombia) and in Guatemala City were advised on equipment and methods to fluoridate water utilizing fluorspar; in El Salvador advice was given on the operation of two fluoridation units.

WHO/R

AMRO-54,[a] Institute of Nutrition of Central America and Panama

Objective. To serve the republics of Central America and Panama in applied nutrition and in nutrition research and training.

Assistance provided. A medical director, a technical assistant, and a short-term economic consultant.

Probable duration. September 1949-

Work done. See pp. 18-20.

PAHO

[a] Grants received in 1961 from:
The Nutrition Foundation, Inc.
The Research Corporation (Williams-Waterman Fund)
W. K. Kellogg Foundation
National Institutes of Health (U.S. Public Health Service)
National Research Council
National Livestock and Meat Board (USA)
Interdepartmental Committee on Nutrition for National Defense (USA)
Westreco, Inc. (Unilac, Inc.)
Parke, Davis and Company
The Rockefeller Foundation
Guatusa, Inc.

AMRO-60, Smallpox Eradication

Objective. To stimulate and cooperate in the preparation of lyophilized smallpox vaccine; assist in organizing, developing, and evaluating national smallpox eradication programs.

Assistance provided. Advice of regular staff and supplies and equipment.

Probable duration. 1951-

Work done. A report on the status of eradication programs was presented to the XIII Meeting of the Directing Council.

PAHO

AMRO-61, Rabies Control

Objective. To improve diagnosis of rabies and to conduct control programs.

Assistance provided. Advice of regular staff and of the Pan American Zoonoses Center.

Probable duration. January 1954-

Work done. See p. 56.

WHO

AMRO-67, Teaching of Public Health in Schools of Veterinary Medicine

Objective. To assist all schools of veterinary medicine to orient their curricula for incorporation of the teaching of public health and preventive medicine.

Assistance provided. Advice of regular staff.

Probable duration. July 1955-

Work done. See p. 70.

PAHO, WHO/R

AMRO-72, Dental Health (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Dental education	Argentina, Brazil, Chile, Colombia, Peru, Puerto Rico, Uruguay, Venezuela	2
6	Dental health	Brazil	3
1	Dental public health	Brazil	11½
1	Organization of public health teaching (Dental public health)	Colombia, El Salvador, Mexico, Venezuela	3
2	Public health dentistry	Brazil	11½

PAHO

AMRO-76, Vaccine Testing

Objective. To assist laboratories engaged in the production of vaccines in the Americas to maintain high standards of potency and safety.

Assistance provided. Contractual technical services.

Probable duration. July 1954-

Work done. Vaccines and other biological products produced in national laboratories were tested in a reference laboratory. Assistance was given on manufacturing procedures.

WHO/R

AMRO-77, Pan American Foot-and-Mouth Disease Center

Objective. To control and eradicate foot-and-mouth disease.

Assistance provided. Advice of Headquarters staff and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
3	Foot-and-mouth disease	Brazil	1
1	Foot-and-mouth disease	Brazil	3
11	Foot-and-mouth disease	Colombia	½
2	Foot-and-mouth disease	Colombia, Venezuela	1½
1	Laboratory services (Foot-and-mouth disease)	Brazil	8

Probable duration. June 1951-

Work done. All countries received assistance and some made significant progress (see also pp. 58-60).

OAS/PTC **PAHO, Government of Brazil**

AMRO-81,[a] Pan American Zoonoses Center

Objective. To assist the countries to establish or improve national zoonoses services and control programs; to conduct research on zoonoses.

Assistance provided. The Director of the Center, three temporary advisers, a chief of laboratory, a zoonoses specialist, an administrative officer, common, contractual, and consultant services allowances, and supplies and equipment.

Probable duration. December 1956-

Work done. See pp. 56-58.

PAHO, WHO/TA **FAO, USPHS**

AMRO-85, Latin American Center for Classification of Diseases

Objective. To promote completeness, accuracy, and comparability of mortality statistics in Latin America.

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[a] Grants received in 1961 from:
Government of Argentina
E. R. Squibb & Son
Industrias Kaiser Argentina, S. A.
National Council of Scientific and Technical Investigations (Argentina)
National Institutes of Health (U. S. Public Health Service)

Assistance provided. Advice of Headquarters staff, contractual technical services, supplies and equipment, and 15 fellowships (13 for three weeks and two for five weeks) to study vital statistics at the Center in Venezuela.

Probable duration. April 1955-

Work done. The Center prepared the Spanish version of the *International Classification of Diseases—Adapted for Indexing of Hospital Records and Operation Classification*, of which the Pan American Sanitary Bureau had 3,000 copies printed; distribution to hospitals began in 1961. The Center collaborated in the preparation of material for trials of the *Eighth Revision of the Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death.* Courses on classification in Bogotá and Cali, Colombia (August), Caracas, Venezuela (September) and Buenos Aires, Argentina (October) were attended by 114 persons.

WHO/R

AMRO-86, Health Statistics (Zone III)

Objective. To assist the countries in Zone III to improve their vital and health statistics, to advise them on statistical aspects of projects and in the compilation of data for program planning.

Assistance provided. A statistician and advice of Headquarters and Zone Office III staff.

Probable duration. January 1955-

Work done. Assistance in the tabulation of statistical data from health centers and hospitals was given to the newly organized National Office of Biostatistics in Guatemala, and to Panama on a study of the health conditions of the central region. The first Seminar on Vital and Health Statistics for the Zone was held in Panama in January.

WHO/R

AMRO-88, *Aëdes aegypti* Eradication

Objective. To support, coordinate, and evaluate *A. aegypti* eradication work.

Assistance provided. A medical officer, a short-term consultant, and supplies and equipment.

Probable duration. July 1954-

Work done. Technical advice was given as requested, an evaluation was made of the status of the eradication program, and countries were assisted in making the special verification for declaration of eradication.

PAHO

AMRO-90, Malaria Technical Advisory Services (Interzone)

Objective. To give technical advice to countries with malaria eradication campaigns.

Assistance provided. Two medical officers, a sanitary engineer, an entomologist, a parasitologist, an administrative officer, and supplies and equipment.

Probable duration. February 1955-

Work done. Advisory services were given to national malaria eradication campaigns and PASB staff members taught at three courses at the Malaria Eradication Training Center in Jamaica.

PAHO/SMF

AMRO-92, Poliomyelitis

Three one-month fellowships to observe treatment of poliomyelitis in Czechoslovakia.

PAHO

AMRO-93, Health Education (Zone II)

Objective. To assist the countries of Zone II in strengthening and expanding their health education services and in training personnel.

Assistance provided. A health educator and supplies and equipment.

Probable duration. October 1955-

Work done. Assistance in several aspects of health education was given to Bolivia, Colombia, Ecuador, and Peru.

WHO/R

AMRO-94, Diarrheal Diseases in Childhood

Objective. To study the relationship between diarrheal diseases and nutritional deficiencies, especially in children under five years of age.

Assistance given. A statistician, a bacteriologist, and a short-term consultant.

Probable duration. September 1956-

Work done. Epidemiological studies were carried on at INCAP.

PAHO

AMRO-95, Environmental Sanitation (Caribbean)

Objective. To improve environmental sanitation.

Assistance provided. A sanitary engineer and two sanitary inspectors.

Probable duration. May 1956-

Work done. Personnel were trained; drilling equipment, materials, and transportation were approved for the program in British Guiana. Assistance was given in the operation of water supply and latrine programs in Barbados, Grenada, St. Kitts-Nevis-Anguilla, St. Lucia,

St. Vincent, and Trinidad. A plan was drafted to provide water supply systems for Grenada and St. Lucia.

PAHO, WHO/TA **UNICEF**

AMRO-110, Tuberculosis Control

Objective. To assist Governments in planning and executing tuberculosis control programs.

Assistance provided. A short-term consultant.

Probable duration. December 1957-

Work done. Assistance was provided to the Government of Argentina in organizing a national tuberculosis center in Santa Fe, and to the League Against Tuberculosis of Ecuador in evaluating its activities.

WHO/R

AMRO-112, Community Development Training Center

Objective. To train community development workers for Latin America.

Assistance provided. A medical officer and supplies and equipment.

Probable duration. April 1951-December 1953; 1956-1964.

Work done. A nine-month course on methods and techniques of community development was held at the Latin American Regional Fundamental Education Training Center in Mexico, for fellows from most of the Latin American countries.

WHO/R **FAO, ILO, OAS, UN, UNESCO**

AMRO-114, Training Center for Malaria Eradication (Mexico)

Objective. To provide field training in malaria work.

Assistance provided. Contractual and common services.

Probable duration. March 1957-

Work done. Field training was provided to 350 physicians, engineers, and sanitarians, and facilities for observation to more than 500 visitors.

PAHO/SMF

AMRO-117, Malaria Technical Advisory Services (Zone I)

Objective. To provide technical advice to malaria eradication programs in Zone I.

Assistance provided. A chief Zone malaria adviser, an epidemiologist, an entomologist, a laboratory technician, and a sanitarian, supplies and equipment, and common services.

Probable duration. February 1957-

Work done. Technical advisory and supervisory services to malaria eradication programs in Zone I.

PAHO/SMF

AMRO-118, Malaria Technical Advisory Services (Zone III)

Objective. To provide technical advice to malaria eradication programs in Zone III.

Assistance provided. A chief Zone adviser, a sanitary engineer, an administrative methods officer, an entomologist, an entomological aide, and a limited amount of supplies and equipment.

Probable duration. January 1958-

Work done. Technical advice and supervision were given to malaria eradication programs in Zone III.

PAHO/SMF

AMRO-119, Malaria Technical Advisory Services (Zone IV)

Objective. To provide technical advice to malaria eradication programs in Zone IV.

Assistance provided. A sanitary engineer, two administrative methods specialists, and an entomologist.

Probable duration. January 1958-

Work done. Technical advisory and supervisory services to malaria eradication programs in Zone IV, entomological services to Paraguay, and administrative methods consultant services to Brazil and Haiti.

PAHO/SMF

AMRO-134, Training Center for Malaria Eradication (Kingston, Jamaica)

Objective. To train personnel in malaria eradication techniques.

Assistance provided. The director of the Center, an administrative officer, a sanitarian, part-time faculty in parasitology, statistics, epidemiology, chemotherapy of malaria, and administrative methods, local supporting staff, supplies and equipment, and common services.

Probable duration. February 1958-

Work done. Three courses in malaria eradication techniques were given for senior officials and one for sanitarians, in which 22 physicians, 6 sanitary engineers, 9 entomologists, 15 sanitarians, and 8 other specialists were trained.

PAHO/SMF **AID, Government of Jamaica**

AMRO-135, Malaria Eradication Trainees

Objective. To train PASB staff in malaria eradication techniques.

Assistance provided. Salary and subsistence of trainees while taking the course.

Probable duration. January 1958-

Work done. An entomologist, a health educator, and a sanitarian were trained in PASB-approved malaria eradication techniques.

PAHO/SMF

AMRO-137, Training Center for Malaria Eradication (São Paulo, Brazil)

Objective. To train malaria eradication personnel in medical entomology.

Assistance provided. A grant to the School of Hygiene and Public Health of the University of São Paulo.

Probable duration. June 1958-

Work done. Brazilian personnel and 15 entomologists from the malaria eradication services of Argentina, Bolivia, Chile, Colombia, Cuba, Mexico, Nicaragua, Paraguay, Peru, and Venezuela were trained.

PAHO/SMF

AMRO-141, Health Education (Zone III)

Objective. To provide advice on health education to the countries of Zone III.

Assistance provided. A health educator.

Probable duration. 1958-

Work done. Advisory services were provided to Costa Rica; an experimental course was developed for health education training of nurses in the School of Nursing in Guatemala City; and a survey of health education resources in British Honduras was completed and a tentative long-term plan for the development of health education services was prepared in cooperation with the Medical Department.

WHO/R

AMRO-142, Health Aspects of Radiation

Objective. To familiarize departments of health in Latin America with protection against ionizing radiation.

Assistance provided. A short-term consultant, contractual services, supplies and equipment, a four-month fellowship to study radiological health in Puerto Rico and a three-month fellowship in the United States of America.

Probable duration. October 1958-

Work done. Discussions were held with ministries of health on the need to establish radiation protection units. Advice was given to the University of Chile on establishing a teaching center for clinical training in the use of isotopes, to the Institute of Scientific Research of Venezuela for studying the practicability of sterilizing the vector of Chagas' disease, and to the Government of Brazil on problems related to areas of high background radiation.

PAHO, WHO/R

AMRO-143, Health Statistics (Zone IV)

Objective. To aid the countries in Zone IV to improve their vital and health statistics, and to advise on the statistical aspects of projects and assist in the compilation of data for program planning.

Assistance provided. A statistician.

Probable duration. July 1956-

Work done. A two-week course on health statistics was given in Cartagena and the health and demographic services, schools of medicine, and hospitals in seven of the 16 departments of Colombia were visited. Contact was established with the departments of statistics and preventive medicine of the three medical schools in Bolivia. Advice to improve the quality of basic data of its biostatistics program was given to the Ministry of Public Health and Welfare of Peru, and on statistical and epidemiological aspects of nutrition research to the National Institute of Nutrition in Ecuador.

WHO/R

AMRO-144, Health Statistics (Zone II)

Objective. To improve vital and health statistics in the countries in Zone II, to advise on statistical aspects of projects, and to assist in compilation of data for program planning.

Assistance provided. A statistician and a short-term consultant.

Probable duration. January 1958-

Work done. Assistance was given to the Carlos J. Finlay Institute in Cuba in the development of courses on vital and health statistics.

WHO/R

AMRO-149, Leprosy Control

Objective. To determine the extent and characteristics of leprosy and aid in the development and evaluation of control programs.

Assistance provided. Advice of regular staff, contractual services, supplies and equipment, and a four-month fellowship to observe leprosy control in Brazil, French Guiana, India, Nigeria, Spain, Switzerland, and Venezuela.

Probable duration. February 1958-

Work done. A survey of the extent of leprosy in the Dominican Republic was completed; the report included suggestions on control. Progress was achieved in inter-

esting the countries in control programs consonant with modern ideas and principles, in improving work methods, in accurate evaluation of programs, in training of personnel, and in physical and social rehabilitation work.

WHO/R

AMRO-150, Food and Drug Services

Objective. To survey the present status of food, drug, and biologics control problems and services in the Americas, and to assist countries to improve national regulatory services.

Assistance provided. Advice of regular staff, contractual services, technical publications, and a six-month fellowship to study laboratory services for food and drug control in Canada and the United States of America.

Probable duration. July 1959-

PAHO

AMRO-151, Seminar on Teaching of Sanitary Engineering in Schools of Engineering

Objective. To increase the number and improve the training of sanitary engineers in the Region.

Assistance provided. A short-term consultant and a temporary adviser, supplies and equipment, simultaneous interpretation services, and expenses for approximately half of the participants.

Place and duration. Lima, Peru, 18-27 July 1961.

Work done. The Seminar was attended by deans and professors from 24 schools of engineering and three schools of public health of 17 Latin American countries.

PAHO

AMRO-152.2, Schools of Public Health (Second Conference of Directors)

Objective. To discuss problems in schools of public health in Latin America and to review the teaching of biostatistics.

Assistance provided. Advice of regular staff, a short-term consultant, contractual services, supplies and equipment, and travel and stipends for 18 participants.

Place and duration. Puerto Azul, Caracas, Venezuela, 1-11 November 1961.

Work done. The Second Conference of Directors considered the organization and administration of schools of public health in Latin America, the teaching of biostatistics, and the role of statistics departments.

WHO/R

AMRO-155, Schistosomiasis Control

Objective. To develop practical and effective methods to control schistosomiasis.

Assistance provided. A short-term consultant and advice of regular staff.

Probable duration. January 1960-

Work done. See pp. 53-54.

PAHO

AMRO-156, Training Program in Hospital Statistics

Objective. To prepare instructions in hospital statistics and in medical records.

Assistance provided. A short-term consultant, a medical records librarian, a hospital statistical consultant, and supplies and equipment.

Probable duration. January 1961-

Work done. Assistance was provided in organizing centralized statistics and medical record departments in hospitals of the Ministry of Welfare and Public Health of Argentina in order to develop demonstration centers and establish training programs for statistical personnel. A demonstration center was organized in the Avellaneda Polyclinic in Buenos Aires, and 14 students enrolled in the course on hospital statistics.

PAHO

AMRO-157, Health Statistics (Zone I)

Objective. To assist the countries in Zone I to improve their vital and health statistics.

Assistance provided. A statistician.

Probable duration. November 1959-

Work done. Reports on evaluation of and recommendations on birth and death registration, hospital records and statistics, and other aspects of public health records and statistics of five territories in the Caribbean area were prepared and submitted to the Governments. In Jamaica, assistance was given on a sample survey of public health nurses and inspectors; on the operation of newly established record systems in hospitals; and on plans to evaluate results of water fluoridation. A draft questionnaire on causes of infant mortality was tested in the field.

PAHO

AMRO-159, Health Statistics (Zone VI)

Objective. To assist the countries of Zone VI to improve their vital and health statistics.

Assistance provided. A statistician.

Probable duration. October 1959-

Work done. Assistance was given to Argentina on the organization of morbidity statistics reporting in the Province of San Juan and on vital statistics programs in the Provinces of Buenos Aires, El Chaco, and San Juan. Assistance was provided for a nine-month course in vital and health statistics organized by the National School of Public Health for statisticians at the intermediate level; a six-month specialized course in statistics for administrators of biostatistics programs, given in the Ministry and University Schools of Public Health; a four-week course in design and analysis of experiments for medical research workers; a six-month course on hospital statistics; and a three-week course organized by staff of the Latin American Center for Classification of Diseases.

PAHO

AMRO-160, Yaws Eradication and Venereal Disease Control

Objective. To provide technical advice on yaws eradication and venereal disease control.

Assistance provided. A short-term consultant and technical publications.

Probable duration. September 1961-

Work done. Progress was made in appointing an international team to evaluate yaws eradication programs in Colombia, Dominican Republic, Ecuador, and Haiti, whose work is to begin in 1962.

A study of the venereal disease problem in Colombia included recommendations for control procedures. Efforts were continued to arouse the countries interested in the venereal disease problem and the need to undertake control programs.

PAHO

AMRO-162, Epidemiology (Zone II)

Objective. To promote the development and coordination of programs of eradication and control of communicable diseases; to advise on new methods and techniques of control; to promote better reporting of communicable diseases; and to advise on problems related to the International Sanitary Regulations.

Assistance provided. Advice of regular staff and a small amount of supplies and equipment.

Probable duration. Scheduled to begin operating in 1962.

PAHO

AMRO-163, Epidemiology (Zone VI)

Objective. To promote the development and coordination of programs of eradication and control of communicable diseases; to advise on new methods and techniques of control; to improve reporting of communicable diseases and advise on problems related to the International Sanitary Regulations.

Assistance provided. An epidemiologist.

Probable duration. January 1958-

Work done. Assistance was provided in organizing the Institute of Microbiology in Buenos Aires and smallpox vaccination programs; in preparing sanitary regulations for quarantinable diseases; and in promoting immunization programs in countries of the Zone.

PAHO

AMRO-165, Nutrition Advisory Services (Interzone)

Objective. To provide advisory services in nutrition and to cooperate with INCAP in nutrition education.

Assistance provided. Two nutrition advisers, a nutrition educator, a short-term consultant, a small amount of supplies and equipment, contractual services, and a small grant to INCAP.

Awards	*Field of study*	*Country of study*	*Months*
1	Nutrition	Guatemala	12
5	Nutrition	Guatemala	9
4	Nutrition	Guatemala	3
2	Organization of medical education (Nutrition)	Guatemala	3

Probable duration. February 1958-

Work done. Advice of regular staff.

PAHO

AMRO-178, Veterinary Public Health (Zone II)

Objective. To provide advice in veterinary public health to countries in Zone II.

Assistance provided. A public health veterinarian.

Probable duration. 1959-

Work done. Advisory services on epidemiology and control of the zoonoses, were provided to health and agriculture services. Advice on food hygiene, biomedical research, and veterinary public health education was also given.

PAHO **Pacific Science Foundation**

AMRO-179, Veterinary Public Health (Zone IV)

Objective. To provide advice in veterinary public health to countries in Zone IV.

Assistance provided. A public health veterinarian.

Probable duration. 1959-

Work done. Advice was given on epidemiology and control of zoonoses, particularly in connection with bru-

cellosis, Q fever, and rabies; and in food hygiene, with emphasis on milk and meat inspection. Services were also provided to research and teaching institutions in the Zone IV countries.

PAHO

AMRO-181, Live Poliovirus Vaccine Studies

Objective. To collaborate with Governments in field studies of live, attenuated poliovirus vaccines.

Assistance provided. A laboratory adviser and equipment and supplies, including vaccine for trials.

Probable duration. July 1958-1962.

Work done. See p. 5 and pp. 47-48.

PAHO **American Cyanamid Co., USPHS**

AMRO-185, Medical Care and Hospital Organization

Objective. To cooperate with the countries in improving medical care and hospital organization, and in the integration of medical care with general health services.

Assistance provided. A short-term consultant and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Hospital construction	Czechoslovakia, Denmark, Netherlands, Switzerland, United Kingdom, United States of America, Yugoslavia	4
5	Public health administration (Hospital administration)	Chile	16

Probable duration. March 1961.

Work done. A preliminary survey was made of the present status of medical care, to obtain qualitative information on the countries of Latin America (see p. 15).

PAHO

AMRO-187, Promotion of Community Water Supplies

Objective. To assist the countries in the development of national water supply programs and in the organization and management of local and central water authorities.

Assistance provided. Two consultants and advice of regular staff and special publications.

Probable duration. September 1959-

Work done. Several countries were assisted on problems in planning, financing, administration, organization, design, and operation of municipal water supplies. Assistance was given in preparing projects and loan requests for submittal to international lending agencies. National and municipal water authorities in Colombia were assisted in planning and initiating programs of health education and public relations.

PAHO, PAHO/CWSF

AMRO-188, Veterinary Public Health (Zone III)

Objective. To provide advice in veterinary public health to countries in Zone III.

Assistance provided. A public health veterinarian, a short-term consultant, supplies and equipment, and funds for special publications.

Probable duration. September 1957-

Work done. A study was made of the distribution of the zoonoses in Zone III. Advice was given on rabies, brucellosis, foot-and-mouth disease, tuberculosis, leptospirosis, vesicular stomatitis, and encephalitis. Training courses and lectures on food hygiene were given in Guatemala and Panama. Lectures were given at the School of Veterinary Medicine and advice on laboratory production of biologicals was also given in Guatemala.

WHO/R

AMRO-189, Veterinary Public Health (Zone V)

Objective. To advice in veterinary public health in Zone V (Brazil).

Assistance provided. A public health veterinarian.

Probable duration. May 1957-

Work done. Work was begun on a survey of the livestock, veterinary, and animal disease situation in Brazil. Collaboration continued with research and teaching institutions. The veterinary training of sanitary inspectors in connection with the integrated health program in Mato Grosso was evaluated. Work was done on diseases transmitted by milk.

PAHO

AMRO-196, Insecticide Testing Teams

Objective. To carry out research on anopheline resistance to insecticides.

Assistance provided. A senior entomologist, two entomologists, an assistant entomologist, three entomological aides, two laboratory assistants and local supporting staff, supplies and equipment, contractual services, and a grant.

Probable duration. June 1959-

Work done. Two teams continued to operate in El Salvador and in Bolivia. Studies of the residual effect of insecticides in different environmental conditions,

tests to evaluate the effectiveness of various insecticides and concentrations on different types of sprayable surfaces in a variety of localities, and irritability tests were carried out. Installation of a laboratory for large-scale rearing and identification of anophelines was completed in Santa Cruz, Bolivia.

PAHO/SMF

AMRO-197, Research on the Resistance of Anophelines to Insecticides

Objective. To study anopheline resistance to insecticides.

Assistance provided. Financial support to the School of Hygiene and Public Health of Johns Hopkins University.

Probable duration. July 1959-

Work done. Colonies of susceptible and resistant anophelines were maintained, and genetic studies were continued. Mosquitoes from the colonies were made available to investigators from other scientific institutions.

PAHO/SMF

AMRO-198, Administrative Methods and Practices in Public Health

Objective. To improve and modernize the administrative functions of national health services at all levels.

Assistance provided. Advice of regular staff, supplies and equipment.

Probable duration. December 1959-

PAHO

AMRO-202, Leprosy Control (Zone III)

Objective. To provide technical advisory services on leprosy control and evaluation of leprosy control programs to the countries in Zone III.

Assistance provided. A medical officer.

Probable duration. February 1960-

Work done. In addition to accelerating the rate of work, expanding the areas under control, and emphasizing the training of both professional and auxiliary personnel in the countries of Zone III, the policy governing establishments for the care of leprosy patients was revised. Eight medical officers responsible for directing programs in the countries of Central America participated in a seminar on leprosy control in Guatemala City. A tripartite agreement with PAHO/WHO and UNICEF for a national leprosy control program in Panama was prepared and submitted to the Government.

PAHO

AMRO-203, Epidemiology (Zone III)

Objective. To promote the development and coordination of programs of eradication and control of communicable diseases; to advise on new methods and techniques of control; to improve reporting of communicable diseases and advise on problems related to the International Sanitary Regulations.

Assistance provided. An epidemiologist.

Probable duration. May 1961-

Work done. A preliminary survey of epidemiological problems in the countries of Zone III was made, and the consultant participated in a seminar on public health nursing in El Salvador and in the First Pediatric Congress in Honduras.

PAHO

AMRO-204, Environmental Sanitation Training (Zone I)

Awards	*Field of study*	*Country of study*	*Months*
1	Environmental sanitation	United States of America	10
1	Environmental sanitation	United States of America	3
1	Public health administration (Sanitary engineering)	Brazil	11½

WHO/R

AMRO-205, Environmental Sanitation Training (Zone II)

Awards	*Field of study*	*Country of study*	*Months*
1	Environmental sanitation	Brazil	11½
1	Environmental sanitation	Haiti	3¼
1	Environmental sanitation	Costa Rica	2
4	Environmental sanitation	Mexico	3
1	Environmental sanitation	Mexico	10½
6	Environmental sanitation	United States of America	1

WHO/R

AMRO-206, Environmental Sanitation Training (Zone III)

Awards	*Field of study*	*Country of study*	*Months*
1	Environmental sanitation	Costa Rica	3¼
1	Environmental sanitation	Costa Rica	2
1	Environmental sanitation	Guatemala, El Salvador	½
1	Organization of public health teaching (Sanitary engineering)	Argentina, Brazil, Chile, Peru	2½
3	Sanitation (Food control)	United States of America	2¾
3	Water supply design (Course)	Mexico	3

WHO/R

AMRO-207, Environmental Sanitation Training (Zone IV)

Awards	*Field of study*	*Country of study*	*Months*
5	Environmental sanitation	United States of America	1
1	Environmental sanitation	Chile	6½
2	Sanitary engineering	Brazil	11½
3	Sanitary engineering	Costa Rica	3¼
1	Sanitary engineering	Puerto Rico	12

WHO/R

AMRO-209, Environmental Sanitation Training (Zone VI)

Awards	*Field of study*	*Country of study*	*Months*
5	Environmental sanitation	Costa Rica	3½
3	Environmental sanitation	Costa Rica	2

WHO/R

AMRO-213, Seminar on Public Health Nursing Services

Objectives. To discuss "The Participation of the Nurse in Planning for Health Service;" to determine priorities for nursing services so that more practical and effective nursing techniques and procedures might be developed.

Assistance provided. Advice of regular staff, supplies and equipment, and travel and subsistence of participants.

Place and duration. San Salvador, El Salvador, 5-18 November 1961.

Work done. The objectives were studied by public health nurses working in integrated health projects and in administrative positions at national levels, and by public health administrators, statisticians, nurse educators, and other health personnel; recommendations were adopted. The 27 participants represented the countries of Central America, Mexico, and Panama.

WHO/R

AMRO-219.3, Training Course on Administration, Management, and Financing of Water Supplies

Objective. To train officials and engineers of national water authorities in the fundamentals of adequate administration, management, and financing of public water supply systems.

Assistance provided. A short-term consultant, seven temporary advisers, assistance of regular staff, contractual services, and subsistence allowance for participants.

Place and duration. São Paulo, Brazil, 16-29 April 1961.

Work done. With the collaboration of the School of Hygiene and Public Health of the University of São Paulo, a two-week course was held for water supply engineers from the South American countries. The course was attended by 60 participants from Argentina, Bolivia, Brazil, Chile, Ecuador, Paraguay, Peru, and Uruguay and by 10 staff members of AID, IADB, and PASB.

PAHO/CWSF

AMRO-220, Malaria Eradication Epidemiology Teams

Objective. To determine the causes of persistent transmission of malaria and to evaluate remedial measures.

Assistance provided. An epidemiologist and a parasitologist, supplies and equipment, contractual services, and a grant.

Probable duration. April 1960-

Work done. In cooperation with the Government of El Salvador, a special study was begun to evaluate the epidemiological factors in an area of persistent transmission of malaria. Work was carried on in both dry and rainy seasons in two areas—one where the vector was resistant to chlorinated hydrocarbon insecticides and one where it was susceptible.

PAHO/SMF

AMRO-233, Training Course on Nursing Supervision and Administration

Objective. To train graduate nurses in the principles and practices of supervision and administration.

Assistance provided. Advice of regular staff, supplies and equipment, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
19	Nursing	Guatemala	6
1	Nursing	Guatemala, Nicaragua	7
1	Nursing	Guatemala, Costa Rica, Nicaragua	7

Place and duration. Guatemala City, 16 August-15 February 1962, with one month supplementary travel for two participants.

Work done. A course in supervision and administration was given for 26 graduate nurses from national health services and schools of nursing in Central America, Mexico, and Panama, to prepare them more adequately for their responsibilities.

PAHO, WHO/R

AMRO-235, Food Sanitation

Objective. To review municipal control practices and to prepare a guide on food control for Latin American countries.

Assistance provided. A short-term consultant in food sanitation.

Probable duration. November 1961-1964.

Work done. The consultant inspected current practices in Chile, Colombia, El Salvador, Guatemala, Panama, and Peru and collected information on legislation, codes, and regulations on food sanitation. The preparation of a guide on food control practices for Latin America countries was begun.

WHO/R

AMRO-236, Refuse and Garbage Disposal

Objective. To advise on proper methods of collection and disposal of refuse and garbage and on the organization and administration of such municipal services.

Assistance provided. A short-term consultant.

Probable duration. November 1961-

Work done. Assistance was given to health authorities in Bermuda, Curaçao, Jamaica, Trinidad, and Venezuela on the collection and disposal of garbage and on the administration of the services, and arrangements were completed for another consultant to visit Colombia and Peru in January 1962.

WHO/R

AMRO-237, Medical Education (Zone III)

Objective. To improve medical education in the countries of Zone III.

Assistance provided. A medical educator.

Probable duration. October 1960-

PAHO

AMRO-250, Economics of Malaria Eradication

Objective. To study the economic effects of malaria eradication in the Americas.

Assistance provided. A grant by PAHO to the University of Michigan in supplement to a grant from the USPHS National Institutes of Health.

Probable duration. February 1961-

Work done. Initiation of the work was delayed until 1962.

PAHO/SMF USPHS/NIH, University of Michigan

AMRO-256, Industrial Hygiene

Objective. To provide assistance to countries on industrial hygiene services.

Assistance provided. A consultant.

Probable duration. June 1961-

Work done. Advisory services were given to Chile, Mexico, Peru, and Venezuela.

PAHO

AMRO-260, Seminar of Directors of Statistics of Countries of Zone III

Objective. To discuss methods used in different countries and procedures for solving problems, and to exchange experiences.

Assistance provided. Advice of regular staff, awards for 16 participants, and supplies and equipment.

Probable duration. 16-21 January 1961.

Work done. The Seminar was held in Panama from 16-21 January. Topics considered included vital statistics, statistics for hospitals and health centers, statistical analyses and special studies, morbidity statistics, national committees of vital and health statistics, statistical requirements of malaria eradication programs, and training of statistical personnel. Sixteen statisticians from Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua, and 11 from Panama participated. The final report included recommendations for improving vital and health statistics in accordance with international standards.

PAHO

AMRO-261, Regional Advisory Committee on International Classification of Diseases

Objective. To promote contributions to the 1965 Revision of the *International Classification of Diseases.*

Assistance provided. Costs of meeting.

Probable duration. February 1961-

Work done. The Regional Advisory Committee on International Classification of Diseases held its first meetnig at the Pan American Sanitary Bureau, in Washington, D.C., on 20-24 February. Its report (PAHO Scientific Publication No. 53) was sent to directors of health with an "Outline of Program of Regional Activities" for the 1965 Revision of the *International Classification of Diseases.* A timetable of activities for the Revision was established, an subcommittees were formed in Mexico, Peru, and Venezuela to coordinate activities. The Latin American Center for Classification of Diseases prepared a document for use in carrying out trials of suggested classification of nutritional deficiency diseases, diarrheal diseases, and virus diseases, and listing of terms from death certificates and hospital diagnoses.

PAHO

AMRO-262, Nutrition Advisory Services (Zone IV)

Objective. To advise the countries of Zone IV on nutrition programs and on the inclusion of nutrition activities in local health services.

Assistance provided. A medical nutritionist and a 10½-month fellowship to study nutrition in Mexico.

Probable duration. 1956-

Work done. Advice on nutrition programs was given to the countries of Zone IV, particularly to Colombia and Ecuador.

WHO/R

AMRO-265, Regional Epidemiological Conference

Objective. To study proposals for the establishment of the inter-American investigation of mortality.

Assistance provided. A short-term consultant, advice of regular staff, and expenses of Conference.

Place and duration. Washington, D.C., 1-4 May 1961.

Work done. Proposals were studied for establishment of the inter-American investigation of mortality (see AMRO-266). Participants included the principal investigators from the Inter-American Atherosclerosis Project and staff of PAHO/WHO and the USPHS/NIH. Pilot testing of methodology was carried out in four of the cities. Two supplemental awards for support of field activities and for central coordination and analysis of findings were made by NIH.

PAHO **USPHS/NIH**

AMRO-266, Regional Development of Epidemiological Studies

Objective. To obtain accurate and comparable data on causes of death in selected cities of the Americas.

Assistance provided. A medical officer (epidemiologist).

Probable duration. 1961-

Work done. The inter-American investigation of mortality, a two-year study of 40,000 fatal illnesses in each of nine cities of the Americas was started in order to develop regional epidemiological studies and to obtain accurate and comparable information on causes of death as a basis for epidemiological research on cancer and cardiovascular diseases. Qualified principal collaborators were selected to be responsible for the investigation in the cities. In pilot testing of the questionnaire, two medical referees reviewed the first 275 questionnaires and agreed on standard procedures for assignment of causes of death, with weighing of causes according to the degree of certainty.

PAHO **USPHS/NIH**

AMRO-267, Sanitary Engineering (Zone VI)

Objective. To give advisory services on environmental sanitation.

Assistance provided. A sanitary engineer.

Probable duration. 1961-

Work done. Visits were made to Argentina, Chile, Paraguay, and Uruguay to obtain first-hand information on their environmental sanitation projects, activities, and problems. Special attention was given to pertinent phases of the Waterworks Operators School (see Uruguay-15). Assistance in preparing a grant request was given to the School of Sanitary Engineering of the University of Buenos Aires.

WHO/R

AMRO-268, Clinical and Social Pediatrics Course

Eight two-and-a-half-month fellowships to study social pediatrics in Chile.

WHO/R

AMRO-269, Nutrition Advisory Services (Zone I)

Objective. To advise on nutrition activities.

Assistance provided. A nutrition adviser.

Probable duration. August 1961-

Work done. Assistance on nutrition problems was provided to countries and territories in the Caribbean area.

WHO/R

AMRO-270, Course in Water Supply Design

Objective. To train engineers in new developments and techniques of water supply design so as to obtain more practical and economical water supply systems.

Assistance provided. Four short-term consultants, supplies and equipment, and contractual services.

Place and duration. Mexico City, 2 October-23 December 1961.

Work done. The course, organized and held with the cooperation of the Ministry of Water Resources and the National University of Mexico, was attended by 31 water engineers from Central America, Mexico, and other countries in the Caribbean area.

PAHO/CWSF

AMRO-271, Sanitary Engineering (Zone IV)

Objective. To assist in developing sanitation programs.

Assistance provided. A sanitary engineer.

Probable duration. 1961-

Work done. Different countries in the Zone were visited

in order to compile information on current activities and problems in environmental sanitation. Advice on sanitation programs was given to health authorities in Colombia and Peru.

WHO/R

AMRO-281, Planning of Field and Other Programs

Objective. To coordinate and promote the development of national and regional health planning and to cooperate with other agencies participating in the development process under the Charter of Punta del Este; to provide advisory services to Governments in organizing planning units and procedures and in developing national plans.

Assistance provided. A medical officer and supporting staff.

Probable duration. 1961-

Work done. An Office of Planning was established at Headquarters (see p. 9).

PAHO

AMRO-282, Chloroquine Tolerance and Chloroquinated Salt in Amazonia

Objective. To determine the distribution in the Amazon Region of Brazil of the strain of *Plasmodium falciparum* characterized by tolerance to chloroquine, and to make a preliminary evaluation of the effect of chloroquinated salt as a suppressive measure in the malaria eradication campaign in that region.

Assistance provided. Advice of regular staff, a grant, and supplies and equipment.

Probable duration. 30 June-30 November 1961.

Work done. A sample survey was conducted in the Amazon Valley to determine the chloroquine content of salt found in shops and households, the chloroquine content of urine, and the presence of malaria parasites in human blood. The final report is in preparation.

PAHO/SMF

AMRO-283, Coordination of International Research

Objective. To develop a comprehensive, coordinated program of research in the health sciences in the Americas.

Assistance provided. Two medical officers, a research scientist, short-term consultants, supporting staff, and travel expenses.

Probable duration. 1961-

Work done. An Office of Research Coordination was established at Headquarters; preparation was begun to convene an Advisory Committee on Medical Research in 1962 (see pp. 9-10).

PAHO, USPHS/NIH

AMRO-309, Evaluation of Public Health Programs (Central America and Panama)

Objective. To evaluate public health programs in Central America and Panama.

Assistance provided. A short-term consultant.

Probable duration. 1961-

Work done. Plans were made for evaluation activities to begin in 1962.

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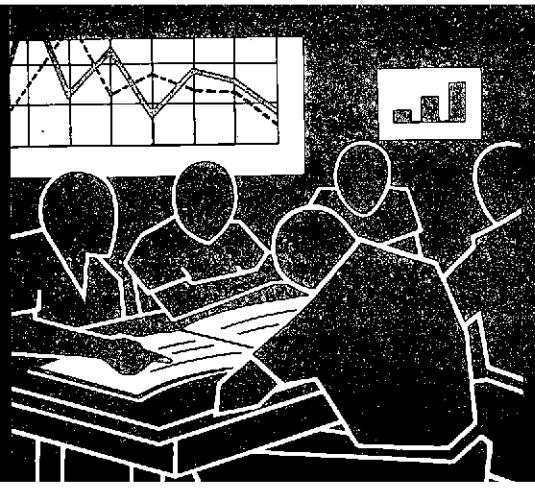

Systematic planning is essential for the efficient utilization of scarce resources to promote human health and welfare.

Plans for economic and social development must take health into account, just as health plans must take the economic and social situation into account.

The Pan American Sanitary Bureau stands ready to assist the countries of the Americas, on request, in their plans to achieve the health goals of the Charter of Punta del Este.