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Report

OF THE DIRECTOR



1963



**The Pan American Sanitary Bureau
is the secretariat of the
Pan American Health Organization;
the Bureau is also the
Regional Office for the Americas
of the
World Health Organization**

INDEXED

ANNUAL REPORT OF THE DIRECTOR

of the

PAN AMERICAN SANITARY BUREAU

REGIONAL OFFICE

of the

WORLD 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 1963. 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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ACRONYMS AND CORRESPONDING AGENCIES

ACMR	Advisory Committee on Medical Research (PAHO)
AID	United States Agency for International Development (U.S.A.)
CDC	Communicable Disease Center (USPHS)
CENDES	Center for Development Studies (Venezuela)
CWSF	Community Water Supply Fund (PAHO)
DANE	National Administrative Department of Statistics (Colombia)
ECLA	Economic Commission for Latin America (UN)
EXIMBANK	Export-Import Bank of Washington
FAO	Food and Agriculture Organization (UN)
IADB	Inter-American Development Bank
IA-ECOSOC	Inter-American Economic and Social Council (OAS)
IBRD	International Bank for Reconstruction and Development
INCAP	Institute of Nutrition of Central America and Panamá
INOS	National Institute of Sanitary Works (Venezuela)
MARU	Middle America Research Unit (NIH, USPHS)
MEIC	Medical Education Information Center
NIH	National Institutes of Health (U. S. A.)
OAS	Organization of American States
OIRSA	Regional International Organization for Health in Agriculture and Livestock
PAHO	Pan American Health Organization
PASB	Pan American Sanitary Bureau (PAHO/WHO)
PTC	Program of Technical Cooperation (OAS)
SEMICA	Malaria Eradication Service of the Isthmus of Central America
SNEM	National Malaria Eradication Service
SUDENE	Northeastern Development Superintendency (Brazil)
SURSAN	Superintendency of Urban Development and Sanitation (Brazil)
UN	United Nations
UNICEF	United Nations Children's Fund
USAEC	United States Atomic Energy Commission
USIA	United States Information Agency
USPHS	United States Public Health Service
WHO	World Health Organization

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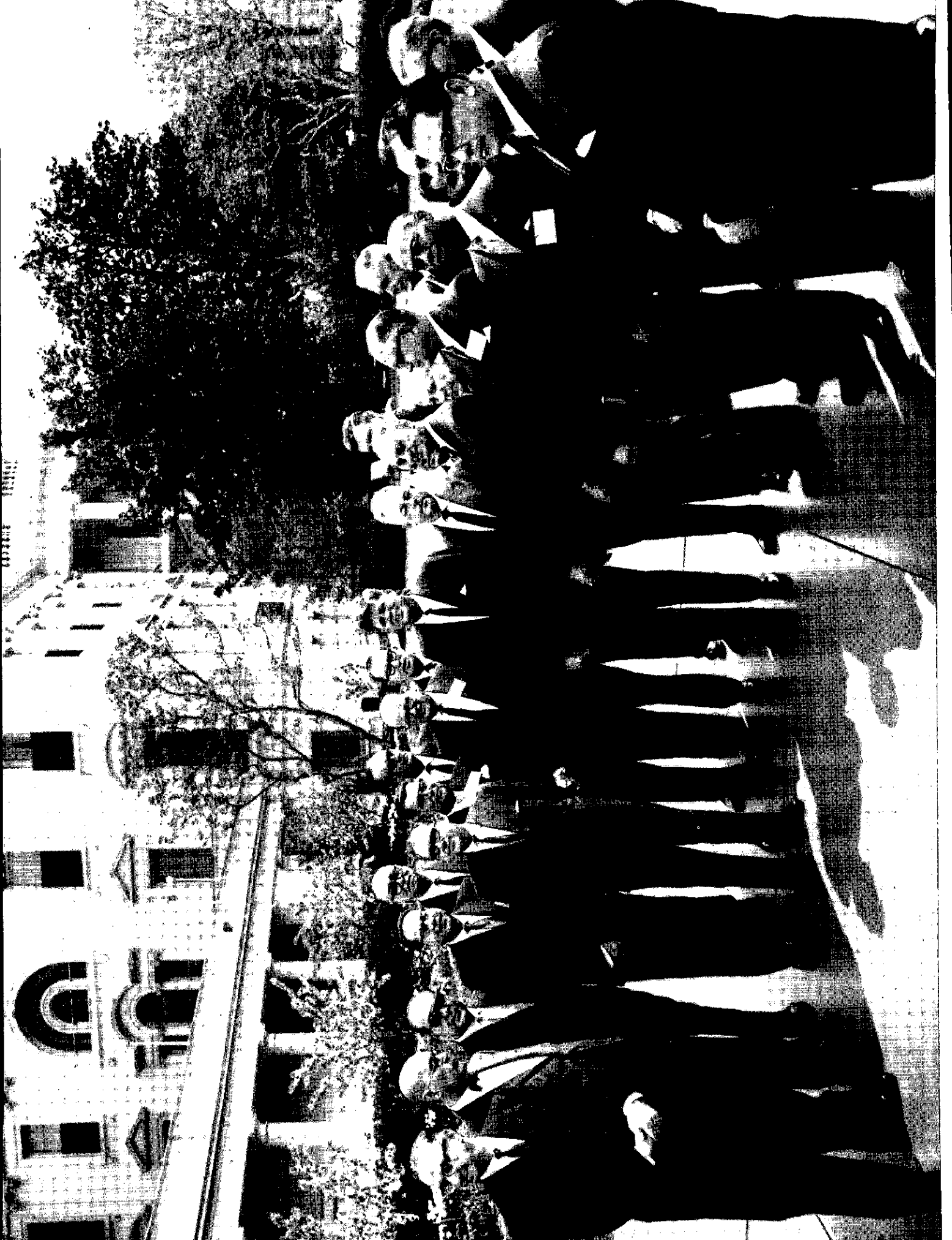
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INTRODUCTION

FROM THIS analysis we have concluded that the Ten Year Public Health Program of the Alliance for Progress¹ can be carried out, provided its objectives are integrated in a rational way with the other goals that our countries propose to reach and that the potential resources of each and every one of our countries, and our wills, are mobilized to the full in the service of a higher ideal: the attainment of well-being for the benefit of all the people of America.

“This noble task must be accomplished for the sake of the dignity of the people of America, in whom resides the destiny of the Hemisphere at this singular hour in History.”²

Thus ends the Final Declaration of the Report of the Meeting of the **Task Force on Health at the Ministerial Level**, which was held in Washington, D.C., from 15 to 20 April of 1963. It was undoubtedly the most significant event in the work of the Organization during that year. Seen in historical perspective, its importance is still greater. Since the establishment of the International Sanitary Bureau—today the Pan American Sanitary Bureau—in December 1902, it was the first time in this century that outstanding authorities from the Americas had met to examine the intrinsic purposes of health activities and its consequences within the general development process, to the fostering of which the Americas have pledged to devote themselves with increased vigor. Health problems mirror the biological, economical, historical, and cultural factors that condition diseases and their distribution in each society. The available data show that the major ills of Latin America are the communicable diseases, both acute and chronic, malnutrition, deficient sanitation, insanitary housing and working conditions, ignorance, a low actual income per person. Taken as a whole, they produce a general morbidity and mortality, higher than in the technologically more advanced

countries; high mortality in infants and in children under 5 years of age—more than 40 percent of all deaths—and a precarious course of pregnancy, delivery, and postpartum, which is reflected in reduced life expectancy at birth. They are also responsible for the meager schooling of children; the limited output of the “labor force” in relation to the investment, and a hostile attitude and pessimistic outlook on life. The distribution of these health problems varies from country to country, within each country, and between urban and rural areas.

The meeting analyzed in depth all the health problems mentioned in the Charter of Punta del Este and made a series of recommendations to the Governments and to international organizations. Because they are part of the process which leads to health promotion—a true infrastructure—the “instruments” which are essential for solving those problems were also discussed; in particular, planning, the organization and administration of health services, education and training of professional and auxiliary workers, and scientific research.

The discussions were of both a theoretical and a practical nature; reference was made to the scientific basis of each function and to modern techniques; basic health doctrines, such as the integration of preventive and curative activities, were reiterated—this should go beyond policies and regulations and live in the minds and conduct of officials. Emphasis was given to the importance—and the present weakness, despite advances—of vital and health statistics as the starting point of all programming and evaluation; attention was drawn to the small proportion of the national income devoted to health although it was acknowledged that there was waste especially in administrative practices which need reform and modernization. In stating that “preventive and curative services are but parts of an integrated whole”³ the meaning was that it is essential to have effective coordination at the policy-making and executive level of the official health services both among themselves and with those of semiofficial, self-supporting, and autonomous organiza-

¹ See Resolution A.2, Special Meeting of the Inter-American Economic and Social Council at the Ministerial Level, Punta del Este, Uruguay, August 1961, in OEA Official Documents, OEA/Ser. H/XII.1 (Esp.).

² Official Document PAHO 51, p. 42.

³ *Ibidem*, p. 37.

tions which provide any type of health care. In accordance with the spirit and letter of the Charter of Punta del Este, health planning was examined in the light of present experience and measures were enunciated for progressing toward the formulation of sound plans which will enlighten the political authorities and help them in making their decisions.

The interdependence of health and development permeated all the discussions. The Final Declaration states that, "Perhaps there has been no other occasion when the importance of man, on whom all the efforts of society are focused, has been more clearly brought out. Those who have the moral authority to do so, have pointed out the humanitarian core of every economic system and never before, either in the Hemisphere or in this century, has a sense of national purpose been made manifest through the recognition of health as a fundamental factor in social progress and economic development."⁴

To sum up, the Meeting of the Task Force highlighted the ideals and techniques of health activities for the common good, placed it in the historical context of the Americas, and projected its future in accordance with economic, social, legal, and cultural development.

The report of the Meeting is a valuable document for those interested in these problems, and the ideas and recommendations it contains, when translated into practice, will satisfy the long-held and deeply felt aspirations of the peoples and Governments of the Continent. They now form part of the policy of the Pan American Sanitary Bureau in virtue of Resolution XXXII⁵ of the XIV Meeting of the Directing Council, XV Meeting of the Regional Committee for the Americas of the World Health Organization, held in Washington D.C., from 16 to 25 September 1963. They were also approved by the Special Committee on Health, Housing, and Community Development of the **Inter-American Economic and Social Council**;⁶ the Council is responsible for examining the extent to which the objectives of the Charter of Punta del Este have been achieved and of recommending measures to speed progress. At its Second Annual Meetings, held in São Paulo, Brazil, in November 1963, the Council adopted the conclusions of the Meeting of the Task Force⁷ as its own. By so doing the profound political and social significance of the prevention and cure of diseases, their value for individual well-being and the growth of the economy was reaffirmed.

The Inter-American Economic and Social Council de-

voted its attention to other health problems. Among them is the financing of malaria eradication. It also suggested that the Pan American Foot-and-Mouth Disease Center be expanded so as to provide Governments with advice on the formulation of national plans for the control of the disease, in the light of its significant economic importance.

The continental program of sanitation and rural well-being⁸ was actively discussed; reference will be made further on.

We believe that these meetings of the Inter-American Economic and Social Council in 1963 were of great importance for us, in view of their relevance to the work of our Organization. Statements such as that set forth below justify this assertion: "The goals of the Alliance—and therefore the evaluation of its prospects—extend far beyond the production of goods and services. . . . But, the essential aim is not merely to increase wealth; what is desired is to create wealth for distribution; to distribute it more equally so that it may be used to free the dispossessed masses of the Hemisphere from the servitude imposed upon them by ignorance, hunger and disease. It is fundamental that governments recognize clearly the interdependence of economic progress, social progress, and institutional reforms."⁹

It is gratifying to report that 13 of the 19 delegations included a health expert and that both the careful examination of the various problems and the resolutions approved were due to their presence. It provided an excellent opportunity to enlighten the other members of the delegations and to learn their points of view about various economic and welfare projects. In the course of debates both in plenary and the Committee sessions they were also able to learn about basic concepts, problems, and programs for accelerating progress in the Americas. National aims have continental implications. Without surrendering their political identity, the countries are seeking a better correlation, and a true interdependence which, in the economic field, should be an integration. Because of the essence of their mission, specialists in the health sciences and arts cannot remain isolated and aloof to this process. On the contrary, they must take an active part in it because their contribution is aimed at human development, without which their will be neither political stability nor economic progress. Their participation in the most important events in the inter-American system should be routine, as is that of the Pan American Sanitary Bureau.

⁴ *Ibidem*, p. 42.

⁵ PAHO CD14/40(Eng.), p. 51.

⁶ OEA/Ser.H/X.4(Eng.); CIES/305, p. 34.

⁷ OEA/Ser.H/X.4(Eng.), CIES/510, Resolution A-21/E63, p. 51.

⁸ OEA/Ser.H/XII.6(Eng.), p. 32.

⁹ *Ibidem*, p. 81.

It is a pleasure to state that in 1963 the Pan American Health Organization gained a new Member. The reference is to **Trinidad and Tobago** which, as a Member Government, will add luster to the group of nations that form the Organization.

IN 1963 THE rural problem was given special attention by the health agencies of the Continent, both national and international. Because all definitions are conventional, it was agreed to consider as a rural community one with up to 2,000 inhabitants, except for countries of great geographical extent, where this maximum may be as high as 5,000.

We are of the opinion that this interest will continue in the years to come. Even the most valuable ideas, those which serve essentially humanitarian purposes, need certain circumstances in order to come to fruition and to blossom into achievements at the right time. It appears that that time has come for the improvement of rural welfare. This matter has gained relevance from several points of view; there is a clearer understanding of geography as a negative factor. "The impact of the mountain, the deserts, and the forest in history, in politics and in social organization has been profound. Almost in no part of Latin America does one meet human beings that fill the rural areas and fill the spaces between the cities; on the contrary, Latin America consists of cities, towns, and villages, without dwellings in between."¹⁰

This geography stimulates isolation and regionalism within each country and between nations; shows the difficulties involved in tackling and solving social problems; brings out the importance of communications in drawing an increasing number of persons into the development process. For unless the people have a sense of national purpose, unless they take an active part in community and government affairs, progress will not be promoted nor will a nation be formed. As long as ethnic differences persist, it will be difficult to incorporate large groups of the marginal population into civilized life and to enable them to produce, consume, invest, and create.

Although the motivation may appear to be economic, the intent is essentially humanitarian. To some extent, it is a reaction against skepticism based on impressions rather than on facts. Doubts have been expressed about the capacity of the inhabitants of small rural communi-

ties to contribute with their intelligence, inventiveness, and efforts to work for the common good. A paternalistic spirit has cast a shadow on the panorama because it has left them outside the main stream of modern life awaiting the arrival of progress. The tendency has been to impose rather than to motivate well-being and self help. The reaction, which is understandable, has been a long time in coming, if we bear in mind that the cultures which preceded ours gave examples of ingenuity and spirit of enterprise which has not disappeared but which is latent, that is, in a condition to respond to appropriate stimuli.

EVEN A SUPERFICIAL examination of the **evolution of health problems** in the Americas in this century shows the progress made; it is expressed in terms of life expectancy at birth, mortality and morbidity rates, both general and specific, teaching institutions for professional and auxiliary workers, resources for medical care and preventive services, to mention only some indicators. At the same time there has been an accelerated population growth at a rate of 2.5 to 3.0 percent per year, depending on the country concerned, but that does not gainsay the progress made. A better knowledge has been gained of the causes and consequences of prevalent problems, and of what has to be done to solve them. It is clear that "the know how" of applying modern techniques of preventing and curing diseases must be perfected. Here is an ample field for research with immediate effects, which is indispensable for the formulation of sound plans. Nevertheless, despite the fact that greater yield can be obtained from existing means, there are extensive areas in the Continent which lack permanent health services or to which access is very difficult. The problem is one of "coverage", both qualitative and quantitative, and it mainly affects rural communities. Unfortunately we do not know its actual scope although the time is now favorable for Governments to ascertain it, given the present interest in improving the living conditions of those communities. It is recognized that much depends on development in general and on a solid economic infrastructure, whose components must include means of communication, transportation, improvement of land use and tenure. In the health field the rural problem also depends a great deal on the "regionalization" of services, that is, a definite assignment of the responsibilities of professional and auxiliary workers and the most rational use of resources to attain pre-established objectives. A series of experiments that are being made in Latin America

¹⁰Tannenbaum, Frank, "Toward an Appreciation of Latin America," in *The United States and Latin America*, 2nd ed., Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963, p. 10.

today, based on the experience of the past, show, on one hand, the desire of the Governments to benefit a larger number of communities and, on the other hand, the importance of the work of auxiliary workers as assistants to professional health workers who are in short supply. This is an aspect of the rural question which deserves a more detailed examination and accelerated efforts should be made to achieve the purposes in view. For it is clear that it will not be possible to solve health problems in Latin America with schemes which are based on the experience of technologically advanced countries. While continuing the application of what modern medicine recommends—out of respect to human beings—it is possible to do so by means of structures and techniques which are better geared to the true situation in the communities, to their possibilities, and to Government activities.

Possibly, the most thorough analysis was made in 1963, as a result of the decision of the Pan American Sanitary Bureau to tackle the problem gradually by means of a Special Rural Welfare Fund;¹¹ that initiative was endorsed by the Ministers Meeting. The origin of this proposal is to be found in the objective of the Charter of Punta del Este, to provide water to 50 percent of the rural communities in the decade. The scheme proposed is based fundamentally on motivating the communities to organize themselves and to take an active part in the installation of the services, and to contribute with their labor—which must be valorized—and with local materials and a certain amount of funds. The Governments will bring the amount up to 50 percent of the total cost of the services. A catalytic fund to finance the balance is required. For this purpose it is proposed to establish a special fund fed by the contributions of all the countries of the Continent. The Governments are to receive long-term, low-interest loans on conditions to be determined by the Inter-American Development Bank, which will be responsible for the administration of the Fund. The Governments, in turn, will make loans to the communities for a period of 10 years, at a rate of interest to be fixed in each country. With the money repaid by the organized communities, national revolving funds will be established and at the end of a certain number of years these will be able to extend the benefits to new communities, to amortize the foreign capital, and to make the whole scheme self-supporting.

The essential thing is to motivate the people, to stimulate their initiative and to channel their efforts towards works for the common good. The first of these works would be water supplies; but, subsequently, any

other activities that the communities might decide upon could be carried out. It is worth mentioning that although progress has been made in rural sanitation as a result of Government action, supplemented by international loans, each project has only benefited a specific group because arrangements have not been made to extend similar benefits to other groups. To this end more foreign capital and national contributions are needed. Hence the advisability of some financing machinery, such as the National Revolving Funds, to develop a continuing enterprise for rural welfare, strongly supported by the population.

In compliance with the above-mentioned recommendations of the Ministers Meeting, the Organization prepared a document¹² containing an analysis of the rural welfare problem, the possibilities of reaching the objective of the Charter, and details of the scheme to which we have already referred. This document was submitted to the Directing Council at its XIV Meeting, and after a thorough debate it adopted Resolution XX¹³ approving the principles and methods proposed and recognizing the need for foreign capital as well as the priority of the problem.

In view of its importance for the political, economic, and social development of Latin America, the project was discussed by the Special Committee on Health, Housing, and Community Development of the Inter-American Economic and Social Council and, with its approval, transmitted to the Second Annual Meetings of that body. During the debate, which was extensive, more emphasis was placed on the importance of the aims than on financing. It was decided to speak of a program of sanitation and rural well-being and not of a Special Fund. It was stated that in theory development is an integral entity and that the funds for it should not be parcelled up as would be the case if a Special Fund were established. In our opinion although this idea has merit, it disregards the fact that the financial mechanism proposed envisages the development of a self-supporting system, so that foreign capital is required only for a few years. The Inter-American Economic and Social Council recognized the urgency of the problem, endorsed the method proposed, and recommended that the Inter-American Development Bank assume the responsibility for the administration of external funds and that the Pan American Sanitary Bureau be entrusted with technical assistance and supervision of projects.¹⁴

In view of the repeated interest of the Governments,

¹¹ *Official Document PAHO 51*, p. 34.

¹² *PAHO CD14/23* (Eng.).

¹³ *PAHO CD14/40* (Eng.), p. 28.

¹⁴ *OEA/Ser.H/XII.6* (Eng.), p. 32.

it is to be expected that in the course of the coming year, it will be possible to put the program into practice in its entirety in some countries.

IN 1963 THE Pan American Sanitary Bureau prepared the first **program budget**. The classification system—approved by the Governing Bodies of the Organization—facilitates an overall picture and a detailed analysis of the activities and of the investment of funds. A “program budget” technique shows the objectives to be accomplished, particularly when they are susceptible of periodical measurements. It is a basic component of health planning and, at the same time, an essential method for a technical and administrative audit of each program. In the usual health budgets emphasis is on human and material resources, without any clear relationship with the purposes being pursued in each activity. Frequently they are a list of items which do not make clear what is intended to be done.

It is clear that, in an international advisory organization, the objectives of which are those of the Governments, it is not a simple matter to express all its activities in the form of a program budget. Nevertheless we venture to say that the attempt made by the Bureau has been valuable and has facilitated an analysis of the various programs and projects at the meetings of the Governing Bodies. As the evaluation of activities in the countries improves, and it becomes possible to express their results in terms of activities carried out and effects accomplished, it will be possible to formulate a true Pan American Sanitary Bureau health plan with more accuracy. This plan will necessarily have to be diversified, as is the present program, because it must cater to the requirements of Governments, which will go on improving the selection of the areas in which they believe international assistance is needed to supplement their own efforts.

Because of the wishes expressed by the Member Governments, we intend to continue to improve the program budgets of the Bureau. In any event it already enables a more rational analysis to be made of the activities accomplished in 1963 and we wish to deal with those in the pages that follow.

There were 394 projects, which in accordance with the accepted classification may be distributed as follows: Health Protection, 147; Health Promotion, 130; Education and Training, 117.

IT HAS BEEN repeatedly stated that the Americas are a Continent in transition with respect to the prevalence of **quarantinable diseases** and the characteristics of the phenomena that condition health and disease and those of the corresponding services. The great pestilential diseases are fading away. In 1963 no cases of cholera were reported, and there have not been any such cases in the century; this is a situation for which there is still no clear epidemiological explanation. Nor were any cases of urban yellow fever reported; the last of these was diagnosed in 1954. On the other hand, there were 143 known cases of jungle yellow fever in 4 countries in South America. As development penetrates the jungle, this incidence may increase markedly, unless immunization programs with 17D virus vaccine are organized.

There were 423 cases of plague in 1963, one of which came from the United States of America and the others from four countries in South America. Since 1960 there has been a recrudescence of this disease, especially in Ecuador and Perú. Preliminary investigations sponsored by the Organization have shown that an ecological study of disease is essential and should be initiated at the Western end of the common border of these countries.

Whereas in 1954 the Governments notified more than 3,000 cases of louse-borne typhus, in 1963 there were only 464 cases.

That insecticides and antibiotics, especially the chloramphenicol and tetracyclines, have had an impact is obvious when we recall the major outbreaks in the Americas in the not too distant past. A vaccine which confers long-term immunity is still needed.

In 1963 less than 400 cases of smallpox were reported in 4 countries, the lowest figure in the century. Systematic vaccination programs carried out in the last 14 years account for the present situation. It is clear that epidemiological observation will make it possible, in coming years, to determine whether this reduction in incidence is due to a higher level of immunity. It is worth noting that in the decade of the 40's reported cases were in the order of 20,000 to 30,000. With the assistance of the Organization, most of the Governments are producing a sufficient amount of high potency vaccine. Regardless of the progress made, great efforts still need to be made to eliminate the disease and especially to maintain an adequate level of immunity in the population. Although the information available about vaccination programs in countries that have succeeded in eradicating smallpox is not complete, it would appear that the level of immunity of the population is below that required, and that the number of inhabitants at risk is not insignificant, especially when contact with human beings from distant parts

of the world is daily increasing. It has therefore rightly been pointed out that the epidemiology of a disease which is disappearing must be the object of special investigations because, theoretically at least, the relations of the micro-organism and the host and those of both with the environment are changing. From a practical point of view, however, it must become the normal practice for health services to keep vaccinations at the necessary level to prevent epidemics or the reintroduction of the disease.

THE ERADICATION of malaria on a world scale is, in my view, the most daring enterprise that health workers have attempted in this century. The results obtained to date show how difficult it is to conquer nature and how important it is for men to exercise consistent and intelligent authority over this phase of the problem. Nevertheless, the accomplishments are impressive. If we establish 1956, the year when a systematic program was started in the Americas, as the base of our estimates, the population at risk was 87,951,000. It has increased in the same original malarious area to 106,137,000, as a result of natural growth. Whereas, in 1956, 7.7 percent of the population lived in areas where the disease had been eradicated, in 1963 the rate had increased to 10.1 percent, or more than 10 million persons. It must be pointed out that the criteria for declaring that an area is free of malaria, approved by the Governing Bodies of the World Health Organization and the Pan American Health Organization, are very strict. The percentage of the population in the consolidation phase has increased from 1.4 percent in 1956 to 31.9 percent in 1963; in the same period the rates for the attack phase were 33.9 and 30.1 percent, respectively. At the end of 1963, 27.9 percent of the population were living in countries and places in the preparatory phase and a very small proportion where there was no organized program; the comparable figure in 1956 was 57 percent.

A more detailed analysis of the achievements in 1963 is found in the Report and confirms the growing tendency toward malaria eradication.

In a complex ecological problem involving three living organisms, unusual reactions are to be expected. Investigations in the "problem areas"—where the transmission of malaria has not been halted despite an organized program—have made it possible to identify the characteristics of the epidemic which justify the application of additional measures. Considerable progress was made in this respect. Because of its significance mention should be made of the method developed for a scientific analysis

of "problem areas." Also of importance are the trials of the mass drug treatment; the use of larvicides; the testings of four new residual insecticides; and the methods to overcome the excito-repellency caused by DDT.

While the activities are continued in accordance with their stage of development, we believe that, in any case, it is essential to intensify epidemiological studies. As the velocity of transmission diminishes and malaria becomes more and more a rural disease, analyses in depth of its epidemiological characteristics are acquiring more importance. Only in this way can scientific use be made of that knowledge which has been tried and tested and that which has still to be put to the test. Of the various experimental lines in progress in various centers in the world, the most attractive is the immunological. If it were possible to know the nature of the relation between the parasite and human beings, that is to say, the essence of the immunity which malaria generates, there would be prospects of a biological method of protection which would clearly respond better to the characteristics of the disease. There is no doubt that the most important successes in the struggle against communicable diseases have been obtained by procedures which create conditions similar to those of the natural disease and are harmless. The therapy applied to the control or eradication of a mass disease—unless it is bactericidal—and the techniques which act on vectors have indirect effects in that they do not attack the root cause of the biological phenomenon. They do not induce specific reactions in human beings every time a causative agent is present.

To the problems of a biological character must be added in some countries those of an administrative and financial nature. The first usually point to a state of affairs which affects all the public administration and which it is urgently necessary to remedy. The program involves very complicated logistics which cannot be submitted to factors or interferences which have nothing to do with the technical aspects.

As we pointed out, more than 30 million persons are living in areas in the consolidation phase, so that epidemiological observation is necessary in order to trace patients as soon as possible to give them radical treatment and to discover the probable source of the infection. With this end in view it is essential for the communities to be duly informed so as to motivate them to cooperate actively. It is also indispensable for private initiative to be equally conscious of the problem and to contribute toward its solution, and all the resources of the State should be assigned a responsibility in the program. The local organizations should coordinate their activities with those of the malaria eradication services. It must be

borne in mind that once eradication is obtained it is the permanent institutions that will have to maintain their territories free from the reintroduction of the disease. The most important thing is to create in all health workers an identity of views and actions which is translated, in practice, into a single functional entity.

There is still a long way to go before this point is reached in the Americas. The moment has come to give a sustained impulse to the thesis of joint action, of the public and private sector, to eradicate malaria. We believe that this procedure should be applied in all phases of the program and not only in the consolidation phase. This was the view of the 16th World Health Assembly,¹⁵ after hearing the opinion of the Expert Committee on Malaria.¹⁶ This is also the objective of the seminars which will be held in the Region of the Americas in 1964. In showing the true facts of the case, an attempt will be made to reveal their inconsistency, as well as the need to create an attitude, that is to say a habit, in all the persons responsible for the problem which affects a great number of human beings, the national economy, and social welfare.

Systematic studies have not been made of what the reduction in the malaria incidence means for Governments of the Continent in terms of production, productivity, and natural wealth. They should be made, because they would show that the investment is a highly productive one, one which justifies not only the funds spent but also those which Governments and international organizations must continue to allot until the accomplishment of the task proposed for the Americas at the XIV Pan American Sanitary Conference held in Santiago, Chile, in 1954.

ANOTHER INDICATOR of the fact that the Americas is a continent in transition with respect to the frequency of communicable diseases, is the status of *Aedes aegypti* eradication. In 1947 the Governments decided to get rid of urban yellow fever by eliminating its vector. They have succeeded in doing so to a large extent. At that time success had already been achieved in Bolivia and in a large part of Brazil. However, all the other countries and territories of the Hemisphere, with the sole exception of Canada, were infested. In December 1963, the problem of *A. aegypti* was limited to the extreme North of South America, the Caribbean region, and the United States of America. In all the countries and territories there are

programs in various states of development. There are also, as was to be expected, biological as well as administrative and financial difficulties. In some countries the vector has become resistant to DDT and dieldrin. Its ecology is being studied in those areas, and new insecticides are being evaluated, in particular those derived from an intensive program of anopheles research. It is hoped that an active preparation which is non-toxic for living organisms will be found.

It is to be regretted that, as shown in the Report, *A. aegypti* has reappeared in some areas from which it had been eradicated; such a situation is fundamentally due to lack of vigilance. As in the case of malaria, the same considerations hold true with regard to the need of coordinating the activities of all health agencies working for a national purpose.

The problem was complicated by the occurrence of an epidemic of dengue which attained serious proportions in Jamaica, Puerto Rico, and Antigua. Some cases were imported into the United States from those places. The epidemic spurred on the efforts to eradicate *A. aegypti*.

It must not be forgotten that it is a matter of eliminating a species from one third of the surface of the world. It is an enterprise in which Nature cannot remain static.

Tuberculosis continues to be a serious health problem in Latin America despite the progress achieved as a result of antibiotics and modern chemotherapy, large-scale BCG vaccination, and a better understanding by the public of its significance. The mortality rates are both a sign of progress and an indication of what remains to be done. In the Continent they vary from 4 to about 80 per 100,000 inhabitants. In more than half of the countries they are below 20 per 100,000 and only in 2 they are over 50 per 100,000. Where registration has been carefully done, it can be shown that between 1948 and 1960 the fall in mortality was in the order of 70 to 90 percent. Nevertheless, as a general rule, the general decline since 1954 was slower.

The estimates of morbidity also show the seriousness of the problem. In 1961-1962, 125,000 cases of tuberculosis and 36,000 deaths were reported in the Americas. This information is incomplete because no figures are available for several parts of the Continent. However, if it is assumed that the rates for both the reporting and the nonreporting areas are similar, the number of cases would be approximately 240,000 and that of deaths 60,000, or 4 cases to each death. In 1958 there were 3 cases per death, which reflects better registration. In the United States of America there were 11 known cases

¹⁵ *Off. Rec. Wld Hlth Org.* 127 (Resolution WHA16.23).

¹⁶ *WHO Technical Report Series* 243.

per death. If this figure were applied to Latin America, there would be about 670,000 cases. If it is assumed that there are 2 unknown cases for each known case, the total number of persons with the disease in Latin America would be 2 million. Let us admit that all the foregoing argument is based on estimates which, for the most part, come from technologically advanced societies and are applied to developing countries. In our opinion, however, this fact makes the figures more reliable because the probability of infection and disease is clearly greater in the Latin American countries than in the United States of America and Canada. In emphasizing the seriousness of the situation, we wish to overcome a certain complacency which has been growing as a result of the undeniable success obtained.

The fact is that there is still a great gap between what is known and what is applied to reduce the incidence of tuberculosis. Not less important is the persistence of traditional schemes into which it is difficult to incorporate modern ideas and methods to benefit large sectors of the population at risk. Because it is a health problem, all State resources must participate in solving it progressively. Of equal importance is private initiative and, above all, the motivation of communities toward their own well-being. Tuberculosis must be given its place among the priorities of the problems covered by national health plans. Tuberculosis control activities must be incorporated into the routine activities of local health agencies. To sum up, the largest possible number of persons must be helped with the available resources through the existing public and private institutions. This thesis has been put into practice in demonstration areas in 11 countries which the Pan American Sanitary Bureau assisted in 1963, as shown in the Report.

THE Seminar on Leprosy held in Cuernavaca, México, in August 1963, has had a vast impact. The purpose of the Seminar was to examine the problem in the light of the principles and methods governing the epidemiology of chronic diseases and the administration of control programs. It is yet another expression of the clear tendency in the Americas to replace the "vertical" approach, which emphasized a particular health problem, by the "horizontal" approach, in which the essential is the societies and the persons who make them up and create their culture. The Seminar made a thorough analysis of planning, organization of control activities, and professional education and training. It devoted particular attention to methods of case-registration, including

diagnosis of the clinical form, and to continued observation of patients and of contacts. The Seminar was held at a very favorable time in the evolution of ideas about this disease. As we have said, the obscurantism which surrounded it has disappeared and the walls of leprosarria in which patients were segregated have been broken down. Most of them have returned to their families and their social environment. There is a tendency to speak of leprosy patients and not of lepers, of human beings affected with a disease which can be cured, or whose contagiousness can be reduced to a marked extent. The Seminar has made specialists aware of the social perspectives of the problem and of how to deal with it as a mass disease. It has stimulated the active search for new cases—hence the continual rise in its incidence—and their rational treatment. The magnitude of the undertaking is clearly shown by the figures for 22 countries at 31 December 1963 included in the Report. The active register had risen to 167,038 patients, of which only 61.1 percent were under supervision. The seriousness of this fact is accentuated if it is borne in mind that 45.4 percent of the patients are suffering from the lepromatous form, which is especially infectious. What is more only 45 percent of the contacts registered are under periodical surveillance, and the total number is thought to be much greater. Much remains to be done to help patients and known contacts and to trace those that undoubtedly exist.

Yaws is still present to some extent in certain territories in the Caribbean region and in Jamaica, because systematic activities to reduce the reservoir of the disease are not being carried out. No autochthonous cases have occurred in Trinidad since 1961 nor in Tobago since 1959.

In Haiti, only 15 confirmed cases of yaws were registered during the year so that the incidence was 0.34 per 100,000 population. The program is at present being carried on in combination with the smallpox eradication program. In the Dominican Republic, 38 cases were diagnosed in 1963, the incidence being 1.6 per 100,000 population. Generally speaking, endemic yaws spreads slowly in the Continent so that its incidence can be further reduced by organized and continuing programs. Experience shows that if a region does not possess a minimum health structure, as is the case in many rural areas in the Americas, the early diagnosis and treatment of patients and their contacts is much more complex and costly. This holds true for every eradication program; hence the importance of having all health services take part in the campaign and of motivating the community to solve a high-priority problem.

The prevalence of **common childhood diseases** such as measles, whooping cough, diphtheria, and tetanus neonatorum is still very high if we bear in mind that there are procedures for effectively immunizing persons against these diseases. An exception should be made in the case of measles since attenuated live-virus vaccine, injected with or without gamma globulin, is still not being produced on a commercial scale and therefore cost is too high. Nevertheless, the results achieved in certain countries, in particular in Chile and in Brazil, are very promising. The high incidence of the other diseases mentioned above, and the occurrence of epidemics, can only be explained by the fact that no systematic control activities are carried on in health centers, because on occasions good quality immunizing agents are lacking, or because the communities are not told how these diseases can be prevented in children. This shows how necessary it is to improve the quality of local health services and to enlarge the coverage they provide by means of a system of regionalization.

CLOSELY RELATED to this issue is the recommendation of the Task Force on Health at the Ministerial Level concerning the **Latin American common market for biological products**.¹⁷ It declares that all countries should have biological products for the diagnosis, prevention and treatment of certain human diseases. In order to ensure that this will be so, the annual production of the Continent should be increased, and arrangements should be made for ensuring the quality of the product, facilitating free interchange of biological products, and training the necessary technicians. In 1963 the Organization, in conjunction with the Inter-American Development Bank, had two of its experts make a detailed study of the main Government laboratories producing biological products. Their report will be used as a background document for an expert committee that is to examine the production, control, financing and distribution aspects of the matter. The report of the committee will enable the Governments to decide how best to implement the recommendation of the Ministers Meeting and the role to be played by the Pan American Sanitary Bureau.

“**THE HEALTH** of human beings is inextricably related to the health of animals, not only because of the intercommunicability of certain diseases—the **zoonoses**—but

because of the depressant effect that some animal diseases have on the socio-economic status of a country.” Thus begins the chapter of the report dealing with the zoonoses. And it goes on to say: “Improvement in research methods and investigations have increased man’s knowledge of the number of diseases which either man or animal can transmit to the other.”

It must be recognized that in Latin America there is no sustained program for the control of those prevalent zoonoses which affect both the population and the economy. Among them are rabies, tuberculosis, brucellosis, hydatidosis, and anthrax. Organized programs for the control of these diseases are the exception. Generally speaking, control programs are sporadic or, as in the case of rabies, are launched only when epidemics occur. This is not the place to analyze the reasons for this situation; nevertheless it is essential to emphasize the importance of the problems and the need for conducting pertinent activities, at the local level as part of a general health program and at the national level in coordination with the Ministries of Agriculture. If this were done, it would be easier to define the areas in which international cooperation when needed, could be effective.

To provide such cooperation is, in effect, the long-term aim of the Pan American Zoonoses Center. In the short run, the emphasis is on the education and training of professional staff, advisory services for the diagnosis and control of common zoonoses, and research in connection with identification, vaccines, and therapeutics—testing regarding rabies, hydatidosis, brucellosis, leptospirosis, and other diseases. An account of the work done in these fields is given in the pertinent chapter of the Report.

In our opinion, with the experience it has acquired, the Center should enlarge its present functions and take on others, including food hygiene, which is of importance in Latin America. We believe that the time has come to explore the possibility of further financial resources for the institution, so that it can carry out all the purposes that were enunciated when it was established. The assistance given by the Government of Argentina, which has enabled the Center to make the progress it has done up to the present, is worthy of great praise.

Special mention must be made of the foot-and-mouth disease problem. As is known, the Pan American Foot-and-Mouth Disease Center is administered by the Pan American Sanitary Bureau and financed by funds from the Program of Technical Cooperation of the Organization of American States. The importance of foot-and-mouth disease for the general economy, especially the agricultural areas of South America where the disease is prevalent, the ever present threat of its re-introduction

¹⁷ *Official Document PAHO 51*, p. 40.

into Central America and México, and its bearing on the nutrition of Latin Americans, in particular those under five years of age, are some of the factors that justify the important place which control programs occupy in the work of the Center. In 1963 work was continued in the fields of diagnosis, training of technicians, research, preparation of vaccines, especially with modified live-virus of the three types common in South America. The Report describes the trials made in groups of animals with mono- and bivalent vaccines. Of particular importance was the epizootiological survey and the studies on the survival of foot-and-mouth disease virus in cured meat.

Sufficient knowledge is now available to allow foot-and-mouth disease to be brought under further control. Any organized programs that are undertaken must, however, have sufficient financial backing to ensure their continuity, for such activities are inherently complex. Should Governments decide to request it, international financial assistance is justified for this type of activity because of the significance of the disease for the economies of the countries and the well-being of their people.

THE TECHNICAL Discussions at the XIV Meeting of the Directing Council were devoted to what is considered the most characteristic pathological entity of Latin America, namely, **diarrheal diseases of infants** and of children under five years of age. It has been estimated that diarrheal diseases account for a quarter of the million children under one year of age that die each year in Central and South America. If the diarrheal diseases mortality rate in the whole Hemisphere were the same as it is in North America, then the above-mentioned figure would be reduced by some 98 percent.

In most of the children under five years of age who die in Latin America each year, death is the outcome of a complex chain of synergic factors, noteworthy among which are malnutrition and repeated attacks by infectious environmental agents. It would appear that diarrhea contributes directly or indirectly to most of the deaths which occur after the neo-natal period. Nevertheless, this health problem, like many others, is deeply rooted in the economic situation, in the distribution of income, in ignorance, and in the broadening of opportunities as a result of education and social mobility, in the cultural characteristics which are reflected in the customs and beliefs of people; in short, in development in the broadest historical and cultural sense.

IN ORDER TO reduce the magnitude of the problem and to prevent deaths whose numbers are excessive in relation to the ingenuity man has shown in this century, direct specific activities by **health services** are essential. The fact that the deaths of children under five years of age in Latin America are due to causes which are in large measure preventable is an affront to the spiritual and intellectual capacity of the Continent and to the caliber of its people. The necessary techniques are simple and their effectiveness has been proven; all that is required is to apply them on a national scale, after having won the collaboration of the community and, within it, especially that of the mothers, whose instinct is powerful enough to offset their illiteracy. It is our wish not to discount the significance of social and economic factors in the etiology of the mortality of children under five years of age, but to emphasize what can be done to reduce mortality of children in the one month to two years age group by direct activities of health services. This was the aim of the Technical Discussions held at the XIV Meeting of the Directing Council, and also of the discussion of the problem during the Ministers Meeting. The working papers¹⁸ prepared by distinguished experts and members of the Organization contain all the necessary background information and recommend practical measures for dealing with the problem on a national scale. The ideas contained therein were supplemented by the suggestions of the participants in both the above-mentioned meetings.

Some of the most difficult obstacles to overcome in reducing the mortality of children under five years of age are the economic, geographical and cultural conditions in the rural areas. That it is an illusion to imagine that this problem can be solved exclusively by university trained professional health workers is clear if we bear in mind the rate at which such workers are trained and the rate which mortality maintains. What is more, even with the best of vocations it is not easy to adapt oneself to difficult conditions of life which offer little or no incentive. In addition, even in the best of circumstances there are rarely enough applicants to fill the posts vacant in the capital cities and in the large cities of the Continent, and in some countries professional health workers are not being trained quickly enough to replace those who die or become incapacitated. It is therefore essential to use well-trained auxiliary workers and to give nurses, midwives, and other professionals increased responsibilities in the field of supervision. Minimum yet sustained health care by a competent auxiliary worker is preferable to sporadic

¹⁸ PAHO TFH/8; TFH/14, Rev. 1; CD14/DT/1, CD14/DT/2 and CD14/DT/3.

care—where geographical conditions allow it—by a trained professional. A time will come in the Americas when development will make it possible for all the basic health activities to be carried out by professional health workers. Likewise, it is necessary to work with measurable objectives so that the social impact of health activities can be ascertained and the influence of non-specific although fundamental factors can be distinguished.

That progress has been made in reducing infant mortality is shown by the fact that in 1930 the mortality rate in 7 countries of the Americas ranged from 65 to 234 per thousand live-births, whereas, in 1960, in the same countries, the rates ranged from 26 to 132. These statistics are, of course, incomplete, but even making allowance for population growth the differences are noteworthy. In view of the experience available today in the Hemisphere, all the necessary measures should be taken to reduce this mortality rate by half, the objective laid down in the Charter of Punta del Este.

Because of their close connection with mortality and morbidity in children under five years of age, nutrition, environmental sanitation, and the organization and administration of health services call for comment, and this we shall do in the light of the advisory services provided by the Organization in 1963, as described in this Report.

IT IS TO BE hoped that, as a result of the recommendations contained in the Charter of Punta del Este, **agricultural production** policies in Latin America will harmonize the basic biological needs of the population of each country with the imperative economic need to export. As pointed out in the report of the Economic Commission for Latin America (ECLA): "In the twenty years just ended agricultural production expanded by 80 percent (2.6 percent annually), that is, at a higher rate than in other regions of the world . . . Nevertheless, if population growth is taken into account, the per capita production increment barely amounted to 0.2 percent annually, a negligible proportion exceeded in the other regions of the world where demographic growth is much slower than in Latin America. Moreover, this annual rate of growth of 2.6 percent for aggregate production was well below that of consumption, which increased at a rate of 3.7 percent."¹⁹

Deficiencies in production are being aggravated by the emphasis in agricultural policy on products which have little or no nutritive value although they may be im-

portant for the economy of many countries. We refer in particular to tobacco, coffee, sugar, cotton, cocoa, bananas, among others. As a result, it has been necessary to increase imports of indispensable proteins which, in some cases, has seriously affected the balance of payment. According to the above-mentioned ECLA report: "these imports constitute a relatively small percentage of total consumption; nevertheless, they add up to a very considerable sum, i.e., about 450 million dollars' worth of items, which, given a rational production policy and reciprocal trade, could be largely obtained in Latin America itself."²⁰

ALL THE ramifications and all the implications of the **nutrition problem** are much better understood in Latin America today. In the health field research has been actively pursued to discover vegetable proteins whose nutritive value is equivalent to that of animal proteins. The most conspicuous success in this field is the preparation of INCAPARINA which, as stated in the Report, is now being used in several countries of Latin America. In addition, the food distribution programs have been expanded in an attempt to palliate the present food shortage. Nevertheless, it is to be hoped that agricultural policy will enable the countries to become self-sufficient in animal proteins and in other basic foods.

Education in all aspects of food and nutrition sciences is the most effective and lasting method of overcoming malnutrition. In our opinion, the results of a better oriented agricultural policy based on increased agricultural production and increased consumption of food by the population would be more in evidence if it were buttressed by a concentrated effort of specialists in nutrition, agriculture, and community organization. The training of these technicians must be intensified so as to ensure that the present pressing needs will be satisfied.

The work of the Organization in various aspects of nutrition in 1963 is described in the Report. Particular attention is given to the outstanding accomplishments of the Institute of Nutrition of Central America and Panamá.

WITH RESPECT to **urban water supply** and the amount of international funds contributed for the program, the Report points out that "these funds will furnish adequate water services to about 17,650,000 persons in 16 coun-

¹⁹ *Towards a Dynamic Development Policy for Latin America*, New York: United Nations, 1963, p. 36.

²⁰ *Loc. cit.*

tries, or 38.5 percent of the total population to be served if the 10-year target for urban water supply fixed in the Charter of Punta del Este is to be reached. The figures show that the rate of progress of the programs in the urban areas in Latin America has been highly satisfactory in the first 3 years of that 10-year period and give promise that the target fixed in the Charter will be met and improved on."

Once again, the efforts of the Inter-American Development Bank in this field, as in other aspects of the economic and social development of Latin America, is worthy of comment. In a relatively short period of time it has become the true development financing agency. It is to be hoped that, in the future, it will have the necessary resources to be able to grant the credits the Governments need for attaining the objectives of the Charter. The close correlation which the Bureau has maintained with the Governments and the Bank in the formulation of a series of water projects has been particularly gratifying. It is likewise to be hoped that other public and private lending agencies will increase their capital loans to the countries. What has been done in the last three years—a very admirable manifestation *per se* of the social function of health in the Americas—must be completed for the sake of those who still await similar benefits. If this is not done, the accelerated population growth will bring to naught the achievements which have cost the Governments so much effort, and, even more important, will result in an unnecessary loss of life.

Reference has already been made to the problem of rural areas and the efforts undertaken by the Pan American Sanitary Bureau in 1963 to lay the foundations for gradual solution, which will begin with sanitation. We hope that these proposals will take shape in 1964.

The Report gives a detailed account of the advisory services provided by the Organization in urban and rural water supply, sewage disposal, occupational health, industrial hygiene, and the training of professional and auxiliary personnel. These activities, which were quite significant, were allocated funds amounting to a little over 10.5 percent of the total budget of the Organization.

WITH RESPECT to the **organization and administration of health services**, the Pan American Sanitary Bureau advised the Governments following three fundamental guidelines: integration of prevention and cure of diseases and health promotion activities; regionalization involving the coordination of all the resources of an area, at different levels, so to enable the basic health needs of the population to be attended to; continuing

education for students and graduates and for auxiliary workers so that they can gain experience in training and thus knowledge of activities aimed at the total health of the community, taking into account its stage of development.

These, then, are the guidelines on which the activities of our consultants were based. It must be recognized, however, that their simultaneous application in the Americas is the exception rather than the rule. The usual pattern is for preventive to be separated from curative services and for coordination with teaching institutions to be lacking. In the field of medical care there is no correlation between the activities of Ministries of Health and those of the social security services. In many instances, the institutions and services are unnecessarily duplicated. If such duplication could be overcome, more persons could be cared for with the same resources. And this is a pressing need. In Latin America the health services, regardless of their organization and their function, do not cover the entire geographical extent of the countries or the entire population. In the latter's "scattered rural areas"—where dwellings are not close enough together to form communities and there are no social relationships between the people—there is a complete absence of health services or they can be said to hardly exist. Where the rural population is concentrated in communities with 500 or more inhabitants, medical care is usually sporadic or intermittent, and is not supported by preventive measures and health promotion activities. The population does not take part in health work nor is it motivated to do so; it is purely passive. In the urban areas there is a greater concentration of resources. Nevertheless, there are instances where the demand for medical care outstrips the available means, a fact which is aggravated by lack of coordination between the agencies responsible for preventive and health promotion activities.

We are well aware of the danger of oversimplifying a phenomenon which is so complex, extended over so vast territory, and has such variegated cultural features. We realize how important it is for a study of the quality and quantity of resources to be made in each country with a view to preventing and curing diseases. Such an analysis would, in our view, delineate for each region or each area the health care being provided by public and private bodies. For the Continent as a whole, and for each country, it will describe the situation in the urban and rural environment and outline remedial measures. The fact of the matter is that more persons should be cared for with the technical staff now available and the supplies and equipment in use. This should be done without delay and within each country coverage should be broadened to the

extent that geographical conditions and resources permit. There is therefore no justification whatsoever for giving priority to institutions or for making investments which do not basically aim at the common good, which, in the very special case of health, is that of all the population without distinction.

The Ministers Meeting recommended that the countries "secure the legal and institutional instruments required for the effective coordination of the planning and executive elements responsible for preventive and curative services of the State, as well as coordination between these and private, semiautonomous, and autonomous organizations providing health services of any type."²¹

The existing systems are both a cause and a consequence of the training of physicians and of other related professions. Although what it is hoped to obtain from education has been clearly expressed in theory, in practice it is rare for technicians in this field of knowledge to perform their task with an overall view of the problems, a grasp of their social and ecological roots and a tendency to coordinate their activities so as to attain the essential aim: to prevent diseases, halt their spread, and promote health.

In the last 10 years, sustained progress has been made both in ideas and in methods in the field of university training. However, much remains to be done, in the many teaching institutions in the Americas, in order to put into effect the recommendations of the seminars on the teaching of preventive medicine which were sponsored by the Organization in 1955 and 1956.²² The subject of the Technical Discussions held on the occasion of the 16th World Health Assembly was "Education and training of the physician for the preventive and social aspects of clinical practice."²³ An analysis was made of the present situation and the measures for accelerating the training of professionals suited to the social conditions in the countries.

The Report describes the activities of the Bureau's consultants in specific projects all aimed at improving the organization and administration of health services in the Americas. Naturally, the functions and work areas are those determined by the Governments. Although, by and large, the results are good, they show that many activities being carried out are not national in scope and have benefited only certain sectors of the communities. They are, however, aimed at fundamental problems which will undoubtedly have priority when a general health plan for the whole country is drawn up. In our opinion, both initiatives should be accelerated simultaneously until

they merge into a single effort under the guidance of the Ministry of Health; in other words, the communities must be provided with services for solving immediate problems and at the same time arrangements must be made for a rational programming which is broader in scope.

IN THIS CONNECTION the collection and elaboration of **vital and health statistics** are of special importance. The Pan American Sanitary Bureau reports have shown how much progress has been made in this field, especially in the training of technicians at various levels. They have also drawn attention to the serious gaps which need to be filled. Latin American statistics are believed to be too incomplete to provide a basis for planning or evaluation. In fact, there is no systematic registration of the work done or of the results achieved, that is to say, of their social impact. With the exception of those programs whose purpose is to eradicate a disease—an absolute objective—measurable objectives are seldom defined and are seldom of a practical nature: in other words, they are not a quantitative expression of preventive and curative acting, qualitatively efficient, that are aimed at the gradual solution of each problem. If no point of reference is established, it is difficult to ascertain the import that the work done will have for the community. Neither will it be possible to calculate the cost nor to justify further expenditures. Furthermore, the determination of what the service intends to do and how it is to be done gives officials a permanent incentive to correlate the progress made with pre-established targets, and likewise makes it possible to motivate communities and to obtain their participation.

The situation is complicated by the fact that vital statistics are also incomplete and the normal indicators used to measure health, namely morbidity, mortality, and the like, cannot be expressed accurately because of the unreliability of statistical data.

The Governments that signed the Charter of Punta del Este undertook to achieve the health objectives spelled out in the Ten-Year Public Health Program of the Alliance for Progress. That program enumerates the problems which experience has shown to be prevalent in the Hemisphere, and whose solution has been attempted, in some measure, in all countries of the Americas. It is essential to record activities being carried out and to measure their effects against the targets laid down in the Ten-Year Public Health Program. It will clearly be necessary to gradually improve the systems for the compila-

²¹ *Official Document PAHO 51*, p. 37.

²² *Scientific Publication PAHO 28*.

²³ WHA16/Technical Discussions/6, Rev. 1.

tion and elaboration of data at the national and local levels, along the lines to which we have referred. In some countries, it will be advisable to establish registration areas of the largest possible geographical extent in which the necessary statistics will be collected. While similar services are being organized in other regions, the information gathered there can be used to make projections applicable to the whole country.

In 1963 the work of the Pan American Sanitary Bureau in the field of statistics included the compilation and elaboration of data, direct advisory services to countries, the training of technicians and other specific activities, all of which were guided by the principles to which reference has already been made.

IN THE FIELD of **mental health**, the Organization has succeeded in the last three years in compiling objective and reliable data concerning the prevalent problems and the professional and material resources available. This background information was examined at two seminars, one held in Cuernavaca in 1962,²⁴ and the other in Buenos Aires in 1963²⁵; there resolutions were adopted recommending that activities for prevention and cure of mental diseases should be incorporated into general health programs and formulating criteria for so doing. In addition, the Mental Health Information Center on Latin America, which was established in January 1963, thanks to a grant awarded by the National Institutes of Health of the United States Public Health Service, laid the groundwork for the systematic collection, analysis, and distribution of information concerning mental health problems and activities in Latin American countries. The Center is organizing a permanent system which will facilitate communication between professionals in this field and promote research.

At the next stage in the development of mental health activities of the Pan American Sanitary Bureau, emphasis will be placed on studies of the epidemiology of mental diseases so as to ascertain what the most common types of disorders are, and to organize programs for the prevention and treatment of such disorders in health centers. For this purpose, it will be essential to have definitions, at least operational definitions, that will enable comparative country studies to be made. The influence of such studies will make itself felt in the teaching of psychiatry and mental health, and in the work of the medical care and preventive services.

The work undertaken in the fields of **dental health**

²⁴ *Scientific Publication PAHO 81.*

²⁵ *Scientific Publication PAHO 99.*

and of **radiation and isotopes**, described in the Report, shows progress in both training of personnel and services provided.

THE GOVERNMENTS of Latin America are generally agreed about the importance of efficient **administration** in achieving the aims of any activity, whether in the public or the private sector. The subject was examined in some detail at the Meetings of the Inter-American Economic and Social Council. As a result of Resolution XXXV of the X Meeting of the Directing Council, the Pan American Sanitary Bureau, since 1957, has been giving advisory services to Governments to help them introduce sound administration into their health services. In recent years three seminars—the last of which, held in 1963, was for the English speaking and Dutch speaking countries and territories in the Caribbean Area—have provided opportunities for an examination of various aspects of public administration in Ministries of Health, and have led to the formulation of pertinent regulations. In some countries direct advisory services were given in the field of administration to malaria eradication programs. Since 1962 the Organization's consultants have been helping the Governments introduce improvements in the services responsible for personnel, finance and budget, supplies, and procurement and other administrative functions. A full account of this work is also given in this Report.

In this fundamental field of the activities of Ministries of Health and their agencies much remains to be done and it needs to be done urgently. "It is indispensable to create an administrative conscience and a sense of responsibility in all officials, in keeping with the high purposes of the health services."²⁶ It is necessary to train officials either by means of in-service training or university courses, depending on their rank. At the same time, systems and methods must be simplified; in short, the administration must be rationalized in order to make it more economical and more efficient and capable of better serving the purposes of each program in terms of health and well-being.

WITH RESPECT to the activities undertaken by the Bureau in the field of **education and training**, the Report describes the advisory services given to teaching institutions and the fellowships awarded.

²⁶ *Official Document PAHO 51, p. 26.*

In the field of medical education, assistance was given in the training of teachers of medicine and in ascertaining present and future needs for medical manpower and their implications for education, in addition to direct advisory services to medical schools.

It is only in recent years that the basic concepts and methods of pedagogy have been introduced into the teaching of medicine. The reason for this is that there is a substantial difference between teaching and learning, and that the greater the motivation and participation of students, the more they learn. Learning, in other words, is an expression of the human relations between the professor and his students. A professional health worker who knows his subject very well and has great experience in it is not always capable of transmitting it in such a way that students grasp it and acquire that fundamental cast of mind that enables them to form their own judgments and apply the knowledge gained. In 1962 and 1963, thanks to the initiative of the Pan American Sanitary Bureau, the faculty of various schools of medicine began to receive advice on teaching methodology. This development has aroused much interest in Latin America and that warrants the expansion of this type of activity to the extent budgetary limitations will allow, since its results are so clearly beneficial. It is worth recalling, *mutatis mutandis*, that Leon Bernard maintained that medicine should be practised as a form of friendship, and we would make bold to add, as an expression of kindness. It is to be hoped that if medicine is taught and is learned in a climate of mutual understanding between professors and students, then when students practice it in the future their attitude towards the persons they care for will be the same, regardless of whether they are healthy or ill.

Of major importance was the Round-Table Conference on Health Manpower and Medical Education in Latin America, sponsored by the Milbank Memorial Fund and the Organization. Its purpose was to study ways of determining both the number and type of professional and auxiliary health workers that would be needed by the countries of the region, bearing in mind economic development and population growth. The aim, then, was in key with that of the Charter of Punta del Este, which stresses the need to plan education. The Conference recommended a series of studies in three fundamental areas: measurement of health needs and demands and establishment of targets; the resources health services must have in order to reach those targets; the changes that should be introduced into the policy for medical education.

The methods proposed will, it is hoped, be tried out in

one country in 1964, and, if it is possible, use will be made of the information collected to enable the Government to prepare a national health plan. It is hoped to devise methods for calculating the human resources needed in health work that can be applied both in Latin America and in other countries of the world.

A summary account of the direct advisory services given to 26 schools of medicine in 13 countries and other activities undertaken in the field of medical education is given in the Report.

Nursing education programs were carried out at three levels: for auxiliary nurses; for nurses, to improve their basic training; and for graduate nurses, to give them advanced training. At the Ninth Seminar on Nursing Services, where the training of auxiliary nurses was examined, it was pointed out that at least 100,000 nursing auxiliaries were employed by the public health services in Latin America, and had very little training. A great many of them, of course, work in hospitals. This situation justifies the need for accelerating the training of these employees, who should have at least the minimum knowledge necessary to enable them to exercise their profession, which has an essentially humanitarian aim. Since they are members of the health services, the only funds needed are those for organizing training courses that should be held simultaneously in various parts of the country and should be conducted by nurses. Furthermore, it has become equally essential to increase the number of health aides who, under supervision of professional health workers, can serve in rural areas where even the minimum health services are lacking.

The advisory services given to schools of public health, in particular the analysis of the teaching of administration that was made at the Third Conference of Deans of Schools of Public Health, are worth mentioning. The teaching of the fundamentals and methods of prevention and health promotion is as important in the teaching of veterinary medicine as it is in medical education. Because of this, the Organization sponsored a seminar that discussed the problem thoroughly and made recommendations which, it is hoped, will be applied in all the schools in the Hemisphere.

Considerable work was done in 1963 in training technicians in various aspects of environmental sanitation. This is described in the Report. These activities are in keeping with the wishes of the governments as mirrored in the important investments they have made in water supplies and, to a lesser extent, in sewage disposal. Noteworthy advisory services were also furnished in the field of industrial hygiene and air pollution by the Institute of Occupational Health sponsored by the Government of

Chile, the United Nations Special Fund, and the Organization, which acts as the executive agency for the project.

We should like to draw attention to the financial assistance given by the Organization of American States to some of the courses conducted in 1963.

In 1963, 570 fellowships were awarded, or 7.5 percent more than in 1962. The number of applications received—791—was 12.8 percent greater than in the preceding year. If the fellowships that were not dealt with in previous years are added to this figure, it is clearly seen that the demand for fellowships is far in excess of the financial capacity of the Bureau to supply them. This illustrates the interest shown by Governments and universities, and is an incentive to obtain more funds for fellowships on which progress in the field of prevention and cure of diseases and the promotion of health, as part of the process of national development, largely depends. As in previous years, the work of the Bureau in this field is set forth in a series of tables.

It is clear that insofar as the possibilities of each Government for training professional and auxiliary workers in basic health services are increasing—and the progress made in recent years is impressive—the fellowships the Organization will award in the future will be for specialization in various branches, and for a deepening of ideas and methods or the acquisition of new knowledge. The time will come when the Governing Bodies will wish to revise and redefine the Organization's fellowship policy, in the light of this valuable experience.

THE FINANCING of the Pan American Sanitary Bureau activities was seriously affected in 1963 by the fact that several Governments of the Continent were in arrears in their **quota contributions** to the World Health Organization and the Pan American Health Organization. Of the total funds received, including arrears for previous years, 80 percent of the sums budgeted were spent. The larger of the amounts owing was that to the Pan American Health Organization. The situation gave rise to a careful analysis of the problem at the meetings of the Governing Bodies of the Organization, and the instructions given the Director of the Bureau have since been acted upon. Although the results have been less favorable than were hoped for, we are encouraged by the interest shown by the Governments in their Organization, and the fact that failure to pay contributions on time is a consequence of the economic situation of each country. An expression of this interest on the part of the Governments is the many projects which the Govern-

ments requested but which could not be included in the program of the Organization for 1963, and which would have cost an additional amount of \$2,842,556. We are confident that the payment of contributions to the Organization will gradually improve in the near future.

In our opinion, the program of administrative rationalization has a certain bearing on the situation. This program has been underway in the Pan American Sanitary Bureau since it was first conceived in 1959. The term "to rationalize" had many meanings, one of which is to apply scientific principles of administration to an undertaking. It is efficient organization for the purpose of obtaining certain objectives, of increasing output, but of reducing costs. Among the methods used is mechanization. Since the Pan American Sanitary Bureau administrative rationalization program was put into practice, the number of personnel has been reduced by 57, which up to 31 December 1963 had resulted in savings amounting to \$434,000.00. This amount has been invested in direct services to Governments, the details of which can be found in the Report. In our opinion this policy should continue insofar as it is useful for accomplishing the purposes of the Organization. It must be pointed out, however, that in every institution administrative practices, which are a means and not an end, are meant to allow the fullest possible benefit to be derived from knowledge and experience; in our case it is the health of the peoples of the Continent.

THE CONSTRUCTION of the new **Headquarters building** was begun on 18 September 1963 and the ground breaking ceremony was honored by the presence of the Representatives of the Governments attending the XIV Meeting of the Directing Council of the Pan American Health Organization, XV Meeting of the Regional Committee of the World Health Organization, and by that of the Director-General of the World Health Organization, Dr. M. G. Candau; the Secretary General of the Organization of American States, Dr. José A. Mora; the President of the Kellogg Foundation, Dr. Emory W. Morris; and other dignitaries. Unless there is some unforeseeable hitch, the building will be completed in mid-1965. The Kellogg Foundation has given the Pan American Health Organization the necessary funds in the form of a generous non-interest-bearing loan to the Governments of 5 million dollars, which is to be paid off in the form of health programs over a period of 20 years. The Government of the United States of America donated the site—another example of this country's understanding of, and interest

in, the work of the Pan American Sanitary Bureau. Of a value comparable to that gift is the expert advice contributed by U.S. Public Health Service officers in consultations with our own technical staff.

BY RESOLUTION XXXI of the XIV Meeting of the Directing Council, the Pan American Health Organization endorsed the **research program**, and approved the necessary allotments to enable the Office of Research Coordination to continue its activities in 1964 when the grants the National Institutes of Health of the United States Public Health Service made for planning and initiating activities will come to an end.

By the end of 1963 the research program of the Pan American Health Organization encompassed 38 projects, for which 12 agencies had provided funds amounting to \$1,875,000. The Institute of Nutrition of Central America and Panama and the Pan American Foot-and-Mouth Disease Center account for most of the money spent and most of the research carried out.

Viewed as a whole the projects are in keeping with the policy outlined by the Advisory Committee on Medical Research and approved by the Governing Bodies. The policy is aimed at solving problems related to health in ways that will promote human well-being. The research projects are of great importance for Latin America and involve international cooperation. The information obtained will also be valuable for other regions of the world, provided that the cultural traits of different societies are taken into account.

Today we have a better understanding of the role of the Pan American Sanitary Bureau in the field of research and, as was to be expected, it resides primarily in two fields: (a) promotional, by means of an analysis of public health problems in the Americas, which results in an exchange of information and experience between distinguished investigators from the Continent and, on occasions, from other regions of the world as well as by visits to institutions dealing with specific problems, fellowships for potential scientists, and the distribution of scientific information; (b) operational, in which the Bureau carries out programs that are international both because of the nature of the problem involved and because several countries take part in the program. Good examples of the latter are the inter-American investigation of mortality and the use of modified live virus against foot-and-mouth disease. It is hoped that for these promotional activities it will be possible to obtain funds from the regular budget of the Organization in the years to

come. The importance of this undertaking is illustrated by the fact that up to December 1963 the Bureau had had the priceless collaboration of 141 distinguished experts from the Continent. Nevertheless, we would like to see a continuous expansion of the program which the Pan American Sanitary Bureau is carrying out with funds provided by various public and private agencies.

A characteristic need of Latin America today is a study of how to apply proven knowledge in order to solve certain problems within the framework of the cultural patterns of each society. What are called "operational studies" have acquired particular relevance in the Continent because they make it possible to define targets for the solution of specific problems. These studies bear on the application of biological and administrative methods to enable the results of research to be placed at the service of mankind.

POSSIBLY THE MOST important method for obtaining the objectives of the Charter of Punta del Este, both in practice and in potential, is **development planning** and the planning of each of the sectors involved in national development, among which is the health sector. In little more than two years the idea of planning has come to be more and more accepted by Ministries of Health. It is to be seen in the interest shown in drawing up plans, in enacting or amending pertinent legislation, in setting up planning units in the Ministries, and in establishing administrative links between these units and the national developing planning boards. At the same time it has been necessary to train planners and to develop a method for framing local and national health plans. The Pan American Sanitary Bureau has been active in this field since the Charter was first signed. This is exemplified by the two courses held jointly with the Latin American Institute for Economic and Social Planning and by our participation in the course on planning held in Venezuela and in the course at the Johns Hopkins University School of Public Health. Furthermore, outstanding technicians on the staff of the Center for Development Studies attached to the Central University of Venezuela in Caracas, of the Ministry of Public Health and Social Welfare of Venezuela, and of the School of Public Health of that country, together with Organization consultants, have prepared a document dealing with conceptual and methodological problems of health planning which is being revised with a view to publication. The method it proposes has been tried out in various areas in the Continent and was used in drawing up the first national health plan in El Salvador.

Advisory services have been given to several countries on various aspects of the formulation of health plans. These activities have brought to light both the complexity of this task and its potential value both for the country and for international organizations. They gave a clear indication of where planning techniques need to be improved and where research needs to be carried out, and disclosed the difficulties in the way of putting any plan into action and of attaining pre-established targets, difficulties which arise essentially from deficiencies, common in both local and national health services, in applying technical standards and administrative procedures. Of no less importance in this matter is the fact that vital and health statistics are incomplete, which makes it very difficult to use them to assess the real facts of the situation, to determine the prevalence of problems and the priority to be given them, to set up targets, to evaluate results, and to revise programs in the light of the progress made. It is clear that there is an urgent need to measure the capacity of existing resources, both in personnel and in supplies and equipment, which knowledge is useful in drawing up a sound plan and checking its implementation.

It has also become clear that it is necessary to intensify the dialogue between experts in the various disciplines that are components of social well-being, who up to the present have been working independently. In short, 1963 has shown the importance and complexity of health planning, but it has also brought further advances based on solid foundations. This effort should continue until each country can channel its resources into activities aimed at the solution of the most prevalent problems at the lowest cost, in an integrated system of preventive and curative measures. Meanwhile, projects to deal with problems that are fundamental both in the Continent and in each country in particular must be expanded, as must be the instruments needed to solve them, among the most important of which are education and training. It has been said on more than one occasion and it still holds true today that planning is not an end but a means of facilitat-

ing the investment of efforts and funds for the common good.

IN KEEPING with the repeatedly stated wishes of the Governments, the Pan American Sanitary Bureau continued to maintain close relations with other **international organizations**, governmental or private, whose common purpose is to serve man both as an individual and as a member of society. The Organization of American States, including the Executive Secretariat of the Inter-American Economic and Social Council and the recently established Inter-American Committee of the Alliance for Progress; the W. K. Kellogg and Rockefeller Foundations; the Milbank Memorial Fund; the Agency for International Development of the United States of America; the United Nations Children's Fund; the United Nations Food and Agriculture Organization; and others, stand out among the organizations with which close working relationships have been maintained.

CONCERNING MEASURES for fulfilling the **health objectives** of the Charter of Punta del Este, the Ministers declared in their meeting in April: "Their execution will mean greater well-being; failure to carry them out may lead to discouragement or frustration.

"In the field of health this veritable challenge takes on the most tragic proportions. The motivation exists or is latent; it can only be intensified or stimulated by concrete activities of such scope that they will bring home to the people both the magnitude of the effort and the basic fact that health is a good the conquest of which will enable them to attain their aspirations. In that conquest, man is the protagonist and the only beneficiary of development."²⁷

This is the task to which we are dedicated and these the aims we seek to attain.

²⁷ *Ibidem*, p. 44.

I. PLANNING AND RESEARCH

PLANNING

The work of the Pan American Sanitary Bureau (PASB) in connection with the formulation of national health plans within the framework of the Alliance for Progress reached peak intensity in 1963. The most important single event of the year was the meeting of the Task Force on Health at the Ministerial Level, held in Washington, D.C., from 15 to 20 April. The principal planning activities of the Bureau at the technical level comprised training of health planners, advisory services to Governments, the dissemination of information on health planning, and collaboration at the international level with other agencies of the inter-American system.

Task Force on Health

The Task Force on Health of the Alliance for Progress was organized by the Pan American Sanitary Bureau as provided in Resolution A.4 of the Charter of Punta del Este. Ministers of health and their representatives from 20 American countries met in Washington, D.C., from 15 to 20 April 1963. Their purpose was to recommend the guide lines to be followed for the fulfillment of the health objectives of the Charter of Punta del Este in general, and of the Ten-Year Public Health Program proposed in Resolution A.2 of the Charter in particular. Working documents were based on the reports of the PAHO Advisory Groups that had been convened in 1961 and 1962 (see *Annual Report of the Director, 1961 and 1962*)¹ and on studies carried out by Bureau staff and by specialist consultants.

Three major sets of recommendations were adopted. The first group, relating to specific programs, considered malaria eradication, tuberculosis, smallpox eradication,

Chagas' disease, nutrition, and environmental sanitation. The second group, relating to more general measures, covered national planning for health, the improvement of health services, the education and training of professional health personnel, research, and ways and means of reaching the goal of raising life expectancy at birth by a minimum of 5 years during the decade. A third group of recommendations, developed during the course of the meeting, concerned a Latin American Common Market for Biological Products, the quality and cost of essential drugs, the participation of women in the Ten-Year Public Health Program of the Alliance for Progress, national committees for the Alliance for Progress, and coordination with international organizations.

The Report of the Task Force on Health was presented to the 1963 Meetings of the Inter-American Economic and Social Council (IA-ECOSOC), São Paulo, Brazil, where it met with unanimous acceptance at both the Expert (29 October-9 November) and the Ministerial (11-16 November) levels. Specific PASB program activities in response to the recommendations of the Task Force on Health are described under the appropriate subject headings in this Report. In respect of planning, the Task Force made the following main recommendations:

Planning and evaluation units, staffed with trained personnel, should be established in Ministries of Health, and the Ministries should be duly represented in national development planning bodies. Planning requires organizational and administrative changes in health services, including administrative rationalization, training of personnel, improved financial systems, and program budgeting. Statistical systems should be modified and improved to meet the requirements of planning, and indices should be developed to indicate health progress. Registration areas should be selected in each country, where vital and health statistics to serve as a basis for planning and for the calculation of life expectancy could be collected from a representative sample of the population. Training in planning should be intensified. Governments should define national health policy, and systematic planning should

¹ *Official Documents PAHO 44 and 50.*

be undertaken by areas within countries, together with research in experimental areas. In view of the scarcity of resources, particular attention should be paid to the establishment of valid priorities.

Training

At the beginning of 1963, only 26 health officials in the countries of the Hemisphere had received formal training in planning at international centers of instruction. By the end of the year, however, key personnel trained in international and national courses exceeded 100.

An intensive course in health planning for English-speaking health officials of the Americas was held at the Johns Hopkins University from 8 April to 31 May. The course was attended by 10 senior health officials from 8 American countries, 1 health official from Egypt, and 4 senior staff members of the Pan American Sanitary Bureau and the World Health Organization (WHO). Major financial support for the course was provided by the United States Agency for International Development (AID), and the Bureau provided some fellowships and teaching staff.

The second Spanish-language international course in health planning was held at the Latin American Institute for Economic and Social Planning, in Santiago, Chile, from 2 September to 8 December. This course was attended by 23 health officials from 16 Latin American countries and by 9 senior staff members of the Pan American Sanitary Bureau.

By the end of 1963, most of the newly named Country Representatives (see Zone and Field Offices, Chapter VI) had received formal training in national health planning as part of the Bureau's policy of assigning responsibility for assistance to Governments in this field to that corps of consultants in public health administration, whenever possible, rather than to special planning consultants. Almost all the remaining Country Representatives were scheduled for training in planning in 1964.

The Bureau actively promoted the extension of planning training to the second echelon of national health officials through national in-service courses. In this connection, a special course was held with PASB assistance in San Salvador, El Salvador, during May 1963. Sixty national officials received training, and the field practice consisted of collecting the basic information for establishment of the national health plan in conformity with Resolution A.2 of the Charter of Punta del Este.

Headquarters and field staff of the Bureau also gave

lectures and participated in brief seminars and round-table discussions designed to provide general orientation and familiarity with planning concepts to national health officials without direct planning responsibilities and to members of the medical and paramedical professions in general.

Advisory Services to Governments

In accordance with established policy regarding planning, advisory services to Governments were provided on a continuing basis by Chiefs of Zone and Country Representatives. In addition, through Headquarters staff of the Office of Planning and short-term consultants, specialist services were provided in El Salvador, Nicaragua, and Trinidad. A consultant in public health administration with special training in planning was assigned on a long-term basis to the British Territories in the Caribbean, with headquarters in Barbados, and planning consultants were assigned to Zones IV and VI.

By the end of 1963, with Bureau assistance, the Ministries of Health of 15 Latin American countries had established planning units. Health planning activities had also begun in several countries without units so titled.

Dissemination of Information

A document on conceptual and methodological problems in health planning was completed by the Center for Development Studies (CENDES) of the Central University of Venezuela. The Pan American Health Organization (PAHO) contributed financial assistance and the services of PASB staff members toward the preparation of the document; publication was scheduled for late 1964.

A report on the status and problems of national health planning activity in the Americas as of mid-1963 was prepared for IA-ECOSOC and distributed by the Organization of American States (OAS).²

Collaboration at the International Level

The Bureau continued close collaboration with other agencies of the inter-American system. In the promotion of social and economic planning, Headquarters and field staff continued to work with the tripartite missions of the OAS, the Inter-American Development Bank (IADB), and the United Nations (UN) Economic Commission for

² OEA/Ser. H/X. 4, CIES/305, 27 August 1963.

Latin America (ECLA) and continued to provide technical services for the evaluation of national health plans within the framework of general plans for economic and social development of *ad hoc* committees of the Committee of Nine of the Alliance for Progress.

Bureau staff served as Technical Secretariat for the meeting of the Health Group of Special Committee VI (Health, Housing, and Community Development) of the IA-ECOSOC, at San José, Costa Rica, 26 July-1 August 1963, and at the Second Annual Meetings of the IA-ECOSOC at the Expert Level and at the Ministerial Level. The recommendations of the Health Group, which were approved at the Ministerial Level, covered the fields of planning, statistics, personnel training, organization and administration of services, environmental sanitation, communicable diseases, nutrition, and medical care. In respect of planning, the following recommendations to the Governments of the Member Countries were adopted:

That those that have not yet done so establish health planning units at the ministerial level, with the participation of the other responsible agencies in this field.

That they take such steps as may be required to provide suitable financing for health planning units and, if necessary, request international assistance in order to carry out a training program for officials on various levels.

That national units of economic and social development planning take such steps as may be required to ensure continuing participation by representatives of the health sector, not only in plans for this sector, but also in planning, analyzing, and developing other programs included under the national plan.

That the departments of preventive medicine of medical schools and the public health schools incorporate health planning education within their regular study programs.

That the technical services of the Pan American Health Organization be utilized by the *ad-hoc* committees for the study of national plans submitted by the countries.

That in like manner, the services of that Organization be utilized in the formation of the tripartite groups to assist the governments in preparing their national development plans.³

Health Economics

Because of the close relationship between national health plans and general plans for economic and social development, in 1963 the health economics function was

transferred from the Office of Evaluation and Reports to the Office of Planning.

RESEARCH

December 1963 marked the termination of the two-year research-planning grant, from the National Institutes of Health (NIH) of the United States Public Health Service (USPHS) which enabled the Organization to establish its Office of Research Coordination and promote the expansion of biomedical research in the Americas through a PASB-coordinated program. Continuity of this work during 1964 was assured by including in the regular budget of PAHO the costs associated with the activities of the Office of Research Coordination.

The objectives of the research program are: (1) stimulation of biomedical research (including bioengineering and biosocial studies) in fields related to the PAHO program; (2) promotion of permanent institutions for research training and medical education; (3) development of national research studies related to health manpower and medical education requirements to meet particular health needs of each nation as well as of the region; and (4) facilitation of the development of scientific resources and communications in the Americas.

Within the guidelines of the PAHO Advisory Committee on Medical Research (ACMR), established in 1962, and the technical recommendations of consultants, the Organization implements the above objectives through: (a) the identification of research problems, with emphasis on those that are best resolved by multicountry collaborative efforts, and (b) the seeking of financial support for research projects which qualify under the standards required by granting agencies.

In 1961 PASB began convening scientific groups to review research needs and opportunities in Latin America, to provide background data for national and international research planning. All together, 116 participants and 73 observers from 15 countries of the Americas and 13 other countries attended these meetings. Effective coordination with the WHO research program was maintained at all levels. To evaluate resources and outline research proposals, throughout 1962 and 1963 consultants visited institutions and laboratories engaged in research activities. By December 1963 the Office of Research Coordination, with the assistance of 141 consultants and advisers and of 41 staff members of PAHO and WHO, had reviewed and appraised the needs and opportuni-

³ OEA/Scr. H/X. 4, CIES/580.

I. PLANNING AND RESEARCH

ties for research in environmental health, dental health, maternal and child health, congenital malformations, nutrition, endemic goiter, Chagas' disease, malaria, schistosomiasis, leprosy, plague, cancer, respiratory virus diseases, arbovirus diseases, tuberculosis, zoonoses, mental health, radiation and isotopes, health economics, medical care, scientific communications, and research training.

The recommendations and conclusions from 51 reports were presented to the ACMR in 1962 and 1963 for the Committee's review, study, and assignment of priorities.

During the last two years, the Organization strove to implement the Committee's recommendations. On 31 December 1963 an analysis of the 45 currently active research projects directly stimulated by PAHO and falling within the recommendations of the Advisory Committee showed that 17 projects, involving \$1,239,000, had been approved since January 1962 and that 3 projects, totaling \$2,425,000, were under consideration by granting agencies. Including continuation grants obtained before 1962, the research funds available for use in 1963 were approximately \$2,377,000.

II. HEALTH PROTECTION

A. ERADICATION OR CONTROL OF DISEASES

MALARIA

Progress of Eradication Programs

By the end of 1963 all the countries of the Americas had programs at different stages of development or had eradicated malaria (Figure 1). The balance sheet of the continental malaria eradication program registered progress, although the progress was not uniform in all countries. In several countries, financial, administrative, or epidemiological factors hampered the normal development of the campaign, consequently effecting great changes in the classification of malarious areas.

The Government of Brazil re-examined the status of the malaria problem in the country and notified drastic changes from what the country had reported through 1962. The 1963 changes shifted the delimitations of areas. The reduced limits of the area in the maintenance phase left out of that area 3,902,000 persons, those of the area in the consolidation phase left out 4,341,000 persons, and those of the area in attack phase left out 11,606,000 persons; conversely, the area in the preparatory phase was expanded and the population living within the newly established limits totalled 27,110,000 (Table 1).

In Argentina the population living in areas from which malaria had been eradicated increased from 987,000 in 1962 to 1,004,000 during the early part of 1963. Perú, for the first time, had an area in the maintenance phase, with a protected population of 43,000. On the island of Guadeloupe the malarious area that in 1962 was in the consolidation phase entered the maintenance phase, and now the area in the later category has a population of 260,000. New areas in the maintenance phase in Venezuela increased the protected population from 5,269,000 in 1962 to 5,656,000 by September 1963.

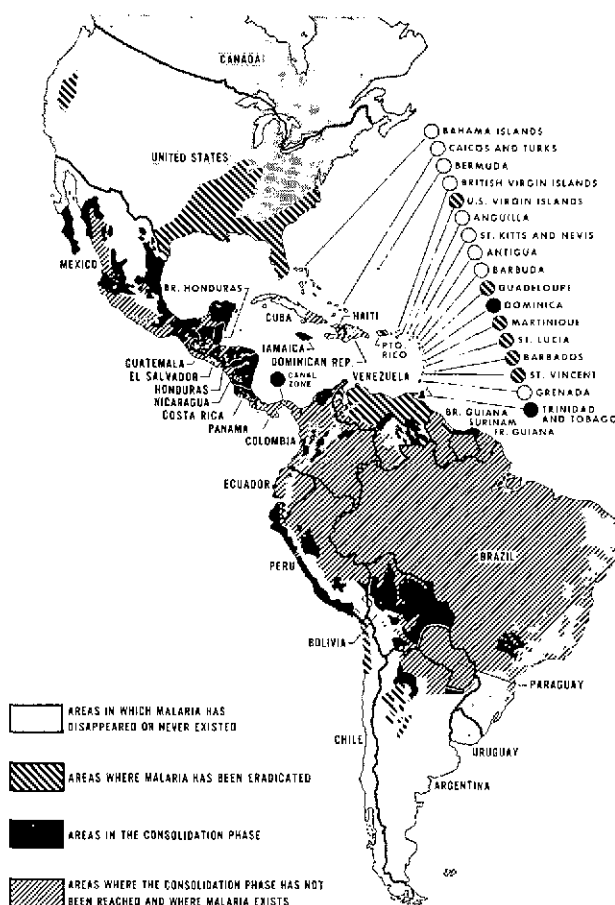


FIG. 1. STATUS OF MALARIA ERADICATION IN THE AMERICAS, 31 DECEMBER 1963.

The total of 30,424,000 persons¹ living in areas in the consolidation phase at the end of 1962 increased during 1963 to 33,901,000. The size of the increase, relatively

¹ Data brought up to date.

TABLE 1. STATUS OF MALARIA ERADICATION IN THE AMERICAS, BY POPULATION, 1963
Population in thousands*

Country or other political unit	Total population ^a	Population in originally malarious areas	Population in areas which claim to have eradicated malaria	Population with eradication program in progress		
				Consolidation phase	Attack phase	Preparatory phase
Argentina.....	21,100	2,692	1,004	580	359	749
Bolivia.....	3,609	1,307	—	1,179	128	—
Brazil.....	77,074	34,916	—	1,256	6,550	27,110 ^b
Canada.....	18,600	—	—	—	—	—
Chile.....	8,050	129	129	—	—	—
Colombia.....	15,181	9,564	—	5,305	4,009	250 ^c
Costa Rica.....	1,338	426	—	262	164	—
Cuba.....	7,134	1,921	—	—	1,921	—
Dominican Republic.....	3,348	2,740	—	—	2,740	—
Ecuador.....	4,696	2,550	—	927	1,623	—
El Salvador.....	2,511	1,641	—	—	1,641	—
Guatemala.....	4,120	1,912	—	1,234	678	—
Haiti.....	4,439	3,449	—	—	3,449	—
Honduras.....	2,008	1,892	—	941	951	—
Jamaica.....	1,685	1,309	—	1,309	—	—
México.....	38,313	20,901	—	16,830	4,071	—
Nicaragua.....	1,767	1,697	—	668	1,029 ^d	—
Panamá.....	1,164	1,121	—	—	1,121	—
Paraguay.....	1,864	1,551	—	—	—	1,551
Perú.....	11,073	3,287	43	2,199	1,045	—
Trinidad and Tobago.....	828	828	—	828	—	—
United States of America.....	188,800	45,800	45,800	—	—	—
Uruguay.....	2,846	—	—	—	—	—
Venezuela.....	8,093	6,048	5,656 ^e	102	290	—
Antigua.....	62	—	—	—	—	—
Bahama Islands.....	111	—	—	—	—	—
Barbados.....	232	228	228	—	—	—
Bermuda.....	47	—	—	—	—	—
British Guiana.....	613	613	572	—	41	—
British Honduras.....	100	100	—	100	—	—
Dominica.....	60	14	—	14	—	—
Falkland Islands.....	2	—	—	—	—	—
French Guiana.....	34	34	—	—	30	4
Grenada and Carriacou.....	91	37	37 ^f	—	—	—
Guadeloupe.....	290	260	260	—	—	—
Martinique.....	292	185	185	—	—	—
Montserrat.....	13	—	—	—	—	—
Netherlands Antilles.....	200	—	—	—	—	—
Panamá Canal Zone.....	47	47	—	46	1	—
Puerto Rico.....	2,513	2,513	2,513	—	—	—
St. Kitts, Nevis, and Anguilla.....	59	—	—	—	—	—
St. Lucia.....	97	82	82 ^f	—	—	—
St. Pierre and Miquelon.....	5	—	—	—	—	—
St. Vincent.....	82	—	—	—	—	—
Surinam.....	315	190	—	121	69	—
Virgin Islands (U.K.).....	7	—	—	—	—	—
Virgin Islands (U.S.A.) ^g	37	37	37	—	—	—
Total.....	434,950	152,021	56,546	33,901	31,910	29,664

* Figures have been rounded to the closest thousand.

— None.

^a Latest available official estimates.

^b Part of this population is partially protected by insecticide spraying.

^c Inhabitants living in an area where spraying is partially done or not done at all.

^d 384,264 inhabitants live in an area where transmission occurs but attack was suspended because of financial reasons.

^e Figure corresponds to September; 4,642,341 inhabitants live in an area where malaria was eradicated and the area registered by PASB.

^f Population living in an area where malaria was eradicated and the area registered by PASB.

^g Official information received for the first time.

small (11.6 percent), was naturally affected by the changes that occurred in Brazil.

The areas that entered into the consolidation phase in 1963 represented an increase as to population covered: in Perú, by 154.5 percent; in Guatemala, by 75 percent; and in Bolivia, by 50 percent. Approximately one half of the population living in originally malarious areas in Honduras is covered, since the areas are now in the consolidation phase. In Ecuador, for the first time areas originally malarious entered the consolidation phase; the areas include 30 percent of the population originally exposed to the infection. Other countries which extended coverage to larger numbers of population, living in areas now in the consolidation phase, were Argentina, Costa Rica, México, Nicaragua, and Venezuela.

Argentina continued to have administrative problems, as did Brazil, Colombia, the Dominican Republic, Panamá, and Paraguay. Technical difficulties occurred in some areas of Costa Rica, El Salvador, Guatemala, México, and Nicaragua, and these difficulties in turn gave rise to financial problems.

The outlook for malaria eradication in the Hemisphere, however, continued to be good. Emphasis during 1963 continued to be placed on program improvement. It is the considered opinion of experts that solutions will be found to the technical problems, although a reasonable amount of funds and time will be needed before the problems are overcome completely.

Case-Detection and Epidemiological Evaluation

Epidemiological evaluation and surveillance activities were increased. Case-detection improved in areas in the attack phase and in areas in the consolidation phase; moreover, to determine the source of the infection, more epidemiological investigations were carried out than at any time in the past.

Yet, with the exception of a few places, followup activities did not attain the desired level. Periodic and regular information in the form of blood films from febrile patients was not available from many areas. The epidemiological investigation of cases detected in areas in the consolidation phase in some countries was slow, so that occasionally foci of transmission were inadvertently overlooked for some time with a consequent delay in mounting the pertinent attack measures. Nevertheless, the information accumulated during the years made it possible to arrive at reasonably accurate conclusions about transmission-free areas.

In some countries a calculated risk was taken in suspending attack operations earlier than scheduled, the purpose being to make more resources available for epidemiological surveillance, which was deficient. Some countries also had to face technical problems, the solution of which required additional financial resources. When part of the funds allotted for one purpose were diverted to another, neither of the two needs was adequately met.

Human migration—both within a country and from one country to another, and especially the regular migrations of rural workers—is a factor that must be taken into account in eradication programs. The situation increases in importance as countries open up more land to agriculture, build new roads, and install hydroelectric plants, because the growth of the migratory current of carriers increases the possibility of re-establishing endemic areas.

Considerable effort was devoted to establishing closer ties between the malaria eradication services and the general health services, in view of the fact that the latter should take over the responsibility of surveillance activities when the no-longer-malarious areas enter the maintenance phase. Up to now, because of the practical difficulties involved in transferring this responsibility to the general health service, the national malaria eradication service continues to be responsible for epidemiological vigilance in vast areas from which malaria has been eradicated. Plans are therefore underway to hold two seminars, one in 1964 and the other in 1965, to enable directors of general health services and directors of malaria eradication services to study together the problem of epidemiological surveillance in the final phases of eradication programs. Both seminars will be held for countries that have malaria problems; the first, for countries of South America and the second, for countries of Middle America.

Special Problems

Administrative problems, especially the insufficiency of adequately trained personnel and of funds, have caused the limited efficiency in the conduct of malaria eradication activities in some countries. Local problems of a social nature have hampered the full development of operations in certain areas of Colombia, and in Surinam the strong opposition to the spraying of the interior of houses has made it difficult to conduct the campaign.

The ramshackle dwellings of migrant workers who, because of the rapid and intense agricultural development that is taking place, arrive with their families, and settle on newly opened up land or land given over to seasonal crops, have caused serious difficulties in intra-



A PASB malaria eradication team manhandling a canoe used to transport equipment on one of the rivers in the interior of Surinam. Malaria has been eliminated in the coastal area but persists in the interior, where, in addition to the difficulties of the terrain, the resistance of the inhabitants to intradomiciliary spraying has to be overcome.

domiciliary sprayings. Guatemala continued to be the country with the largest number of such areas, but the problem also existed in Argentina, Bolivia, Brazil, Costa Rica, Ecuador, El Salvador, Honduras, Panamá, Perú, and Venezuela.

Entomology

In 1963 there was little change in our knowledge of DDT resistance of the anophelines that are malarious vectors. In a new cotton-growing area in México, in an area bordering on Guatemala, *Anopheles albimanus* was found to have turned resistant to DDT. This area was already in the consolidation phase, but in the face of renewed endemicity, it was reverted to the attack phase.

The irritability which DDT produces in some anopheline vectors constitutes a serious problem; to ensure that spraying operations continue to be effective, the insecticide must be changed to one that does not have an irritant effect. In the problem area of Costa Rica, *A. albimanus*, the chief vector, is susceptible to DDT but is irritated by it; since the mosquito is susceptible to

dieldrin without being irritated by it, dieldrin will replace DDT early in 1964.

Malathion is being used in cases of dual resistance, i.e., to both DDT and dieldrin, as is the case in certain areas of Nicaragua. Studies in that country indicate that the vector is not resistant to malathion, nor excited or repelled by it.

Parasite Resistance to Drugs

Plasmodium falciparum strains resistant to pyrimethamine and chloroquine were identified some time ago in the Americas, although in fairly circumscribed areas.

In Brazil this type of strain was found in localities at a considerable distance from one another in the Amazon Valley, such as Boa Vista, Pôrto Velho, and Amapá.

P. falciparum resistant to chloroquine was found in 3 areas in Colombia, one on the Magdalena River, another on the San Jorge River, and the third in the oil region of Tibu. The same occurred in British Guiana in the Lethen region, which borders on Brazil.

Venezuela was the first Latin American country in which strains resistant to pyrimethamine were found.

Problem Areas

The expression "problem area" was recently included in an international terminology on malaria eradication.

According to the WHO Expert Committee on Malaria (Rio de Janeiro, Brazil, 12-19 September 1963) "a problem area is a defined geographical area within which an adequate epidemiological evaluation shows that the transmission of malaria persists despite total, complete, regular and sufficient coverage with residual insecticide, and where careful studies have revealed that administrative or operational factors are not responsible for the persistence of transmission and where additional measures are required in order to prevent the occurrence of new cases."²

Such areas have been delimited in Costa Rica, El Salvador, Guatemala, Honduras, México, Nicaragua, Panamá, and Venezuela. It is a surprising fact that most of these areas are located on the Pacific coast. The vectors are *A. albimanus* and *A. pseudopunctipennis* in México, *A. albimanus* in the countries of the Central American Isthmus, and *A. nuneztovari* in Venezuela.

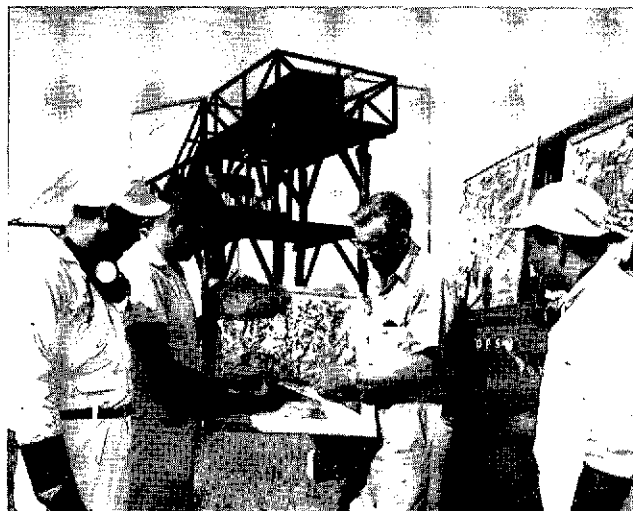
In some of these areas mass treatment of the population affected is having some success, but owing to lack of funds this method has not been used as widely as it would be desirable.

Research

A screening Center for Resistant Malaria Parasites was established in Ribeirão Preto, São Paulo, Brazil, with financial support from the Organization and in cooperation with the National Malaria Eradication Service of Brazil, the Psychiatric Department of the São Paulo State Health Service, and the School of Medicine of Ribeirão Preto, University of São Paulo.

Specimens of blood from patients believed to be infected with chloroquine-resistant strains of *P. falciparum* are sent to the Center for inoculation in other subjects. The first subinoculation work began in April 1963 and 41 had been made by October. Strains showing resistance were sent to the WHO Strain Reference Laboratory, at the National Institute of Allergy and Infectious Diseases, in Bethesda, Maryland, U.S.A.

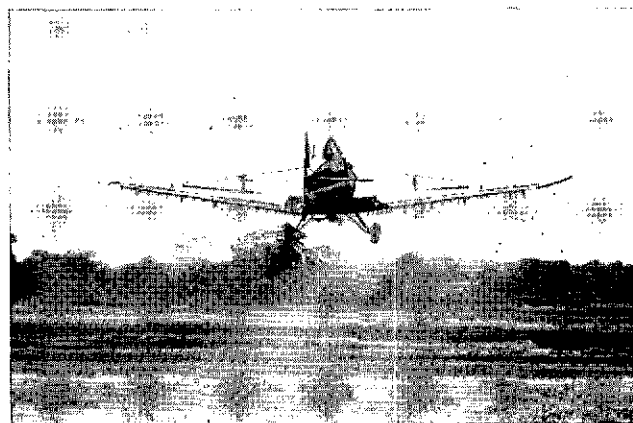
A PAHO Epidemiology Study Team in El Salvador made intensive studies of the reasons why residual spraying failed to interrupt malaria transmission on the Pa-



Public health officials of El Salvador and staff members of the Organization examining aerial survey photographs of the Eden Section in La Libertad, in the coastal area of the country. An airplane will shortly leave to dust the area with fenthion, a new larvicide. In the background, the tower and tank in which the insecticide is mixed.

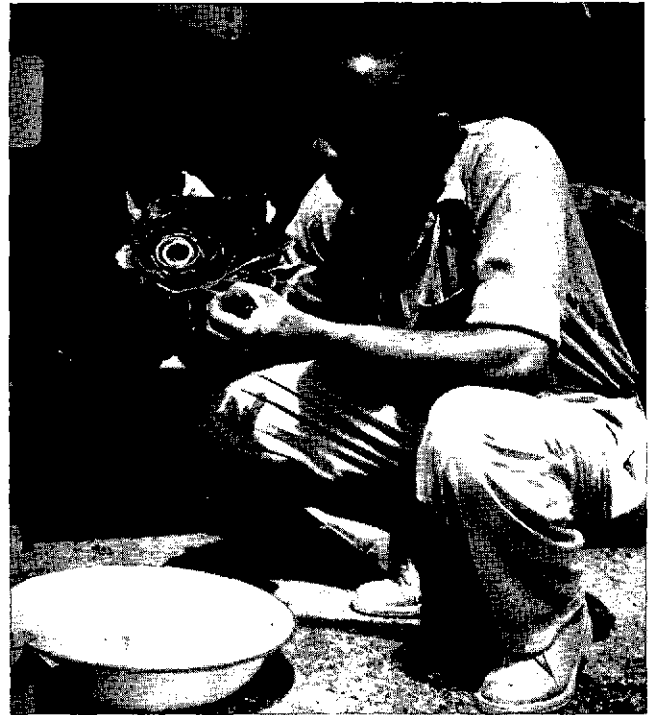
cific coastal plain of Central America and also developed a procedure for the study of problem areas.

Studies of the problem area in El Salvador revealed that physiological resistance of *A. albimanus*, the vector, its irritability to DDT, precarious housing, and outdoor



Trial dusting with fenthion in the Eden Section, La Libertad, El Salvador. This is part of a series of experiments being carried out jointly by the Government and the Organization in an effort to find a solution to the problem of anopheline resistance.

² *Techn. Rep. Ser.* 272, 1964, p. 4.



In Brazil as in Trinidad, bromeliads like the one shown at left present an obstacle to malaria eradication. The leaves of the epiphyte trap from 1 to 4 gallons of rain water and form as many breeding places for *Anopheles bellator* as there are leaf-cups in the plant (above). The plants therefore have to be treated with bromeliadicides to kill them. PAHO/WHO is helping both the above-mentioned countries to eradicate malaria.

biting caused the failure of residual spraying as a sole technique.

The procedure that the Team developed for studying malaria eradication problem areas consists of a year-long series of "synoptic studies" at 2-month intervals. About half of the 15 items listed in the procedure are of entomological nature. The procedure is believed to have ready application to other problem areas, in the Americas and elsewhere.

One of the main conclusions reached through this field

research is that only a limited number of different malariological patterns can occur in any one country and, once the various patterns have been described, localities and patterns can be matched and the appropriate "additional" eradication measures instituted.

The PAHO Insecticide Testing Team in El Salvador continued its evaluation of antilarval measures and concluded that ground application of fenthion and paris green as larvicides, even when reinforced by aerial application of DDT or paris green, was not a worthwhile supplement to DDT house spraying. On the other hand, fenthion applied as a larvicide by crop-dusting airplanes, holds promise as an additional malaria eradication method under certain rather special conditions.

Studies were begun of 4 new residual insecticides, Bayer 39007, Bayer 41831, Sevin, and Hercules 5727, but were discontinued on the latter when reports of its human toxicity were received from WHO. Using DDT-resistant *A. albimanus*, the methods of study were: the bio-assay of plywood and mud surfaces treated with the insecticides

under examination, with appropriate controls; and excito-repellency tests of the new insecticides, alone and in combinations with DDT.

With the PAHO Model Excito-Repellency Test Box lined with paper treated with insecticides at 1 gram per square meter, it was found that when Bayer 39007 and Hercules 5727 were applied over DDT they completely overcame the excito-repellency effect of the DDT; the other insecticides did not do this. The bio-assays also revealed the profoundly adverse effect of sorptive mud walls upon the insecticides, even though there were some good results on plywood panels and on walls made of nonsorptive mud. Further entomological evaluation is needed before it would be justified to undertake extensive field trials with these insecticides.

Samples of muds from El Salvador were tested at the Tropical Pesticides Research Unit, Porton, England, and found to have almost as much sorption activity as the most sorptive standard muds so far discovered in Africa.

In July 1962 tests using dichlorvos, or DDVP, were begun in Haiti in a pilot project carried out in cooperation with the Communicable Disease Center of the U.S. Public Health Service (CDC). The results have not been very encouraging so far, but the project was extended for another year in order to provide a firmer basis for evaluation.

In the State of Santa Catarina, Brazil, there is a malaria eradication problem caused by *Anopheles (Kerteszia) cruzii* and *A. (K.) bellator*, which breed in bromeliads and transmit malaria outside of houses. The mosquitoes breed in rainwater that collects in the hollows formed by the pineapple-like leaves of the bromeliads, which are epiphytic plants that often attach themselves to the trunk and limbs of trees. In June 1963 an experimental spraying of calcium arsenite from an airplane produced a good kill of the bromeliads in a forest. A comprehensive evaluation of the results—botanical, entomological and epidemiological—is underway.

Field experience with spray pumps equipped with the pressure regulator discs, which had shown much promise in preliminary studies in previous years, proved disappointing. Use of the discs had to be discontinued, pending the results of further studies, done in cooperation with CDC.

Chemotherapy

Pilot programs of mass treatment with drugs begun earlier in some problem areas of Costa Rica, El Salvador, Guatemala, México, and Nicaragua were continued dur-

ing 1963, and in some the extent of the work area was increased. The El Salvador program, which included all the population at risk in 2 Departments, was successful to the point that, on the basis of the experience acquired, plans are being made to apply this method to the entire problem area of the country in 1964. In Guatemala and Nicaragua new areas were included in the mass drug-treatment pilot program which now includes some 60,000 persons under treatment in each of the 2 countries. The success obtained in these programs led to plans for the extension of this method to the other problem areas.

Studies to determine the number of biweekly cycles needed to eradicate malaria were continued. The tablets used in treatment are a combination of 150 mg of chloroquine and 15 mg of primaquine for adults and half that dose for children. To ensure correct dosage in the field, the tablets for adults are green and those for children are red.

Since results depend on the percentage of persons who agree to take the drug periodically, health educational activities are carried out before and during the program. In general, the number of refusals to take drugs is higher in cities than in rural areas.

The mass drug-treatment program with medicated salt is being continued in the interior of British Guiana. The results have been good in some areas, but in others transmission continues to persist owing to the introduction of nonchloroquinized salt from Brazil. The national strike in 1963 hampered the operation of the program in some areas.

Training

Three training centers again offered regular courses on malaria eradication techniques. The Institute of Malariology at Maracay, Venezuela, held the 20th International Course on Malaria and Metaxenous Diseases, offered by the Government of Venezuela; the course was attended by 33 students. The School of Hygiene and Public Health of the University of São Paulo, Brazil, which receives a grant from the Organization for the purpose, held the 8th Malaria Eradication Course, attended by 14 Portuguese and Spanish-speaking professionals, and the 10th Medical Entomology Course, attended by 9 students. At the Malaria Eradication Training Center at Kingston, Jamaica, which is financed by the Organization, 3 courses in English were attended by 51 professionals; another course offered in the same language, for nonprofessionals, was attended by 19 students. As in former years, AID gave assistance to the Kingston Training Center.

11. HEALTH PROTECTION: DISEASES

Two fellows, one from México, the other from Nicaragua, received additional training through WHO's exchange program for scientific workers.

Meetings

The 11th Meeting of Directors of National Malaria Eradication Services of the Caribbean Area, Central America, México, and Panamá was held from 3 to 8 June 1963 in México City and was immediately followed by a meeting of the malaria consultants of Zones II and III of the Organization. The 3rd Meeting of Directors of National Malaria Eradication Services of South America was held in Bogotá, Colombia, from 10 to 15 June.

Several other intercountry meetings were also held to study malaria problems common to their border areas and possible solutions (Table 2).

Several consultant malariologists of the Organization attended the VII International Congress of Tropical Medicine and Malaria held from 1 to 11 September 1963 at Rio de Janeiro, Guanabara, Brazil.

Advisory Services

Almost all the National Malaria Eradication Services received direct technical assistance from specialized advisers stationed in the countries. Assistance was also provided through Headquarters staff and through advisers assigned to Zone Offices (see Chapter VII).

Technical staff at Headquarters continued contributing to the orienting and coordination of malaria eradication activities in the Hemisphere. In addition, at the invitation of the Governments, they collaborated with national

specialists and advisers stationed in the countries in the evaluation of several campaigns. The campaigns in Costa Rica, Ecuador, El Salvador, Honduras, México, Nicaragua, and Perú were evaluated during 1963.

Coordination

Pursuant to Resolutions XXVII and XXVIII of the XVI Pan American Sanitary Conference, the international assistance given to the malaria eradication campaigns in the countries of Central America and the Isthmus was to have sufficient flexibility to permit the transfer of material and financial resources from one country to another according to the technical needs of the moment, since Central America and Panamá constitute a single geographical area.

In line with this instruction, the Bureau submitted to the VIII Conference of Ministers of Health of Central America, which was held in San José, Costa Rica, from 3 to 6 July 1963, a draft agreement to create the Malaria Eradication Service of the Isthmus of Central America (SEMICA); the agreement was unanimously approved *ad referendum*. Subsequently, draft regulations for operating SEMICA were prepared and submitted to the interested Governments for study and comments. Approval of these two documents by the Governments of the countries of the Central American Isthmus was pending signature at the end of 1963.

YELLOW FEVER CONTROL AND *Aedes aegypti* ERADICATION

Yellow Fever

In 1963 a total of 141 cases of jungle yellow fever were reported in the Americas—in Bolivia, Colombia, Perú, and Venezuela (Table 3 and Figure 2).

The Organization continued to assist the National Institute of Health in Bogotá, Colombia, and the Oswaldo Cruz Institute in Rio de Janeiro, Brazil, in producing 17D vaccine and in providing free diagnostic services to other countries of the Americas. Annual vaccine production in Colombia amounted to 654,802 doses and in Brazil to 4,743,000 doses (see also Table 4).

The Oswaldo Cruz Institute examined 1,505 liver specimens and the National Institute of Health of Colombia 930 specimens.

TABLE 2. MALARIA ERADICATION PROGRAM: INTERCOUNTRY MEETINGS STIMULATED BY AND HELD WITH ASSISTANCE FROM THE ORGANIZATION, 1963

Dates	Countries	Place of meeting
6-9 February	Guatemala-México	Villahermosa, Tabasco, México
5-9 July	British Honduras- México	Mérida, Yucatán, México
18-19 July	Costa Rica- Nicaragua	Liberia, Costa Rica
12-13 November	Bolivia-Brazil	Río de Janeiro, Brazil

TABLE 3. REPORTED CASES OF JUNGLE YELLOW FEVER IN THE AMERICAS, 1962 AND 1963

Country or other political unit	1962	1963
Bolivia	—	81
Brazil	1	—
Colombia	30	10
Perú	20	49
Venezuela	1	1
Total	52	141

— None.

Aedes aegypti Eradication

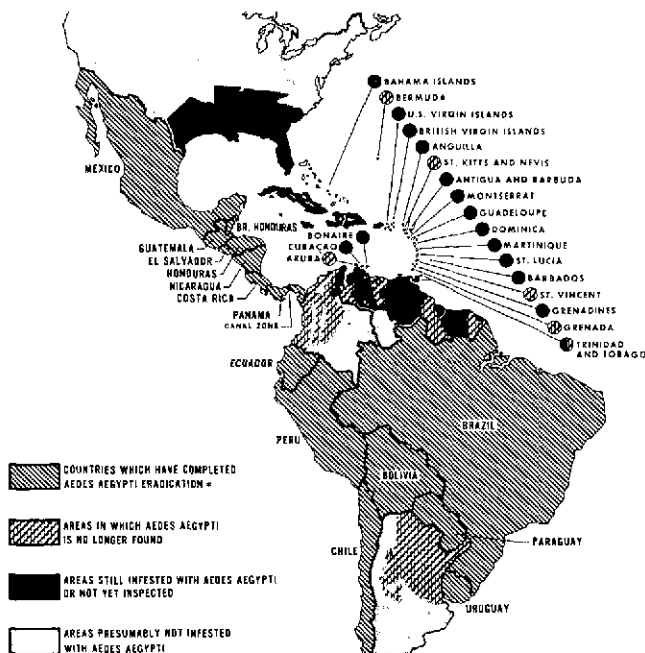
As in previous years, the eradication of *Aedes aegypti*, urban vector of yellow fever, received special attention. In December 1963 the problem was limited to the United States of America, the extreme northern part of South America and, with the exception of a few small islands considered to be free of the mosquito, the Caribbean Area.

The campaign in the United States of America, which will include its Virgin Islands and the Commonwealth of

TABLE 4. DISTRIBUTION OF YELLOW FEVER VACCINE PRODUCED IN THE AMERICAS, 1963

Country or other political unit supplied with vaccine	Produced in	
	Brazil	Colombia
	<i>Doses</i>	<i>Doses</i>
Argentina	74,000	—
Aruba	—	2,750
Bolivia	150,000	—
British Guiana	—	11,000
Cabo Verde (Islands of)	1,000	—
Chile	—	4,010
Cuba	—	1,004
Curacao	—	3,250
Ecuador	—	2,602
Guatemala	—	5,000
Jamaica	—	1,004
Liberia	—	3,000
México	—	10,010
Nicaragua	—	5,000
Panamá	—	5,702
Perú	—	200,000
Portugal	50,000	—
Uruguay	42,000	—
Venezuela	280,000	48,880
Total	597,000	303,212

— None.



ERADICATION CARRIED OUT ACCORDING TO THE STANDARDS ESTABLISHED BY THE PAN AMERICAN HEALTH ORGANIZATION

FIG. 2. STATUS OF THE *Aedes aegypti* ERADICATION CAMPAIGN, DECEMBER 1963.

Puerto Rico, was in the preparatory phase. Field operations were scheduled to begin in the spring of 1964.

In the northern part of South America the campaign was in its final phase in Colombia, was continuing in Venezuela, and had been started in Surinam. However, British Guiana and French Guiana, which were found to be reinfested, the first in 1962 and the second in 1963, had not yet renewed eradication operations.

In the Caribbean Area the campaign was making satisfactory progress in Cuba and was in its final phase in Trinidad. In the remainder of the Area, eradication operations have been interrupted, are bogged down, or are progressing very slowly; all together, the results obtained have not been satisfactory. In almost all the countries and territories of the Caribbean Area strains of *A. aegypti* resistant to both DDT and dieldrin have been found, and this is one of the main difficulties the campaign is facing in this area.

In an attempt to find a solution to this problem, PAHO sent an entomologist to Jamaica in 1962. Since that time, research has been underway on the susceptibility of strains of the mosquito, from different territories in the Caribbean, to various insecticides; on the ecology of *A. aegypti*

in the area; and on new insecticides, to determine which may be substituted for the chlorinated insecticides, to eradicate the vector.

If the outcome of these investigations is finding a new insecticide which has a lengthy residual action and can be used against *A. aegypti*, it will be easier to eradicate the mosquito from the Caribbean, provided that the administrative and financial difficulties encountered in this area are also eliminated. In any case, it should be borne in mind that *A. aegypti* was eradicated from large areas of South America before the era of DDT, so that it is not essential to delay eradication of the vector in the Caribbean until such time as a new residual insecticide is available.

The status of the campaign in the countries and territories in the Hemisphere which have not yet eradicated the disease is summarized below and also in Table 5.

Prior to 1963, the Governing Bodies of the Pan American Health Organization had declared the following countries and territories to be free from the mosquito: Bolivia, Brazil, British Honduras, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panamá, Panamá Canal Zone, Paraguay, Perú and Uruguay.

Argentina. In 1963 the last locality pending investigation, of the 165 initially positive in the area presumed infested, was inspected and found to be negative for *aegypti*. This inspection completed the coverage of the area and confirmed that all the localities were negative. To declare Argentina free from *A. aegypti* all that remains to be done is the special verification of the country to confirm that the mosquito has been eradicated.

Colombia. The operations occasioned by the reinfestation of the city of Cúcuta in 1961 were completed. An investigation carried out in Cúcuta and in 40 localities in 7 neighboring municipalities in 1962-1963 showed that all were negative for *A. aegypti*.

Vigilance inspections in the port areas of Santa Marta, Barranquilla, Cartagena, and Buenaventura, and in the international airport of La Soledad, led to the discovery, in the first-mentioned locality, of a small focus of *A. aegypti* imported from the Caribbean Area. This focus was eliminated and subsequent investigations showed that reinfestation had not spread from the initial focus.

Cuba. The campaign continued progressing satisfactorily. Eradication operations continued according to plan in the Provinces of La Habana, Matanzas and Pinar del Río. During 1963 the initial survey was carried out in 69,783 houses in 327 localities surveyed; 155,270 houses in 122 localities were treated; and verification inspections were made in 526,517 houses in 163 localities.

During initial-survey work, 3,146 houses in 230 locali-

ties were found to be positive; during verification, 22 of the 163 localities inspected were found positive, with 498 houses being infested.

Since the campaign began in Cuba, the initial survey has been made in 1,000 localities of which 723 were found infested. Of the initially positive localities, 453 have been treated; of those treated, 323 were inspected once or more since the treatment and 275 of them were found to be negative.

Dominican Republic. Eradication operations were suspended in November 1962 because of mosquito resistance to DDT and dieldrin and have not yet been renewed. Reinitiation of the campaign continued awaiting the outcome of the studies underway in Jamaica.

Haiti. Eradication operations, suspended in 1958 for financial reasons, have not been resumed. According to available data the country is extensively infested and there are indications that in Port-au-Prince the mosquito has become resistant to DDT.

Jamaica. Since the campaign was halted in 1961 because of unsatisfactory results, anti-*aegypti* work has been limited to some control activities in the international airports and the port areas of Kingston and Montego Bay. The island is extensively infested by strains resistant to both DDT and dieldrin, and it is considered preferable to postpone eradication operations until studies underway in the country indicate which insecticide can be used to replace the chlorinated ones. The studies, begun in 1962 and being carried out by a PAHO entomologist in collaboration with the Government of Jamaica, have not yet led to a solution of the problem that will enable reinitiating the campaign in this island and in other countries and territories experiencing similar difficulties in the Caribbean Area.

México. The country was declared free of *A. aegypti* in 1963 (see project México-26, Chapter VII).

Trinidad and Tobago. In 1963 for the third time new foci of reinfestation were found in the port area of Port of Spain. At the same time, small craft arriving from still-positive Venezuelan ports were found to be infested with *aegypti*, and the reintroduction of the mosquito into Trinidad was attributed to these small craft. To prevent further reinfestations of this type the authorities of both countries are attempting to coordinate control measures. Tobago continued to be considered free of the vector.

United States of America. The first funds for the eradication campaign in the country were approved by Congress in the 1963-1964 budget. At the Communicable Disease Center, of the USPHS, an *A. aegypti* Eradication Department was set up at the end of 1963 with responsibility for carrying out the campaign both in continental

TABLE 5. STATUS OF *Aedes aegypti* ERADICATION CAMPAIGN IN THE AMERICAS, 1963*

Country or other political unit	Date		Area estimated initially infested		Localities inspected since beginning of campaign					Present stage of campaign
	Campaign began	Latest inspection	Total	Inspected	Number	Found initially positive				
						Total	Treated			
							Total	Verified		
Total	Total	Still positive								
			<i>Square kilometers</i>	<i>Percent</i>						
Argentina.....	June 1953	Dec. 1963	1,000,000	100.0	3,741	165	165	165	—	b, c
Bolivia.....	June 1932	Feb. 1955	100,000	100.0	282	65	65	65	—	d
Brazil.....	Jan. 1931	Sept. 1963	5,358,822	100.0	268,576	36,119	36,119	36,119	—	d, n
Chile.....	June 1945	Dec. 1963	104,373	100.0	301	48	48	48	—	d, e
Colombia.....	Nov. 1950	Dec. 1963	280,000	100.0	3,801	355	355	355	2	c, f
Costa Rica.....	April 1949	May 1955	20,000	100.0	1,342	104	104	104	—	d
Cuba.....	Mar. 1954	Dec. 1963	100,000	30.2	1,001	724	476	366	59	c, f
Dominican Republic.....	Oct. 1952	Aug. 1962	42,020	80.4	1,420	351	351	319	15	f
Ecuador.....	June 1946	Dec. 1962	69,454	100.0	2,824	337	337	337	—	d
El Salvador.....	April 1949	Oct. 1963	18,675	100.0	909	190	190	190	—	d, e
Guatemala.....	Jan. 1949	June 1962	36,423	100.0	2,485	138	138	138	—	d, e
Haiti.....	Oct. 1953	Sept. 1958	27,750	49.4	2,379	605	602	435	27	f
Honduras.....	Sept. 1949	Dec. 1963	69,929	100.0	600	53	53	53	—	d
Jamaica.....	Feb. 1950	Sept. 1963	11,424	100.0	14	12	...	...	...	c, f
México.....	Jan. 1951	Aug. 1963	1,000,000	100.0	4,272	600	600	600	—	d, e
Nicaragua.....	Jan. 1950	June 1959	65,263	100.0	3,126	18	18	18	—	d
Panamá.....	Feb. 1949	June 1960	56,246	100.0	2,853	44	44	44	—	d
Paraguay.....	Jan. 1948	Dec. 1963	200,000	100.0	1,561	98	98	98	—	d, e
Perú.....	Jan. 1940	June 1963	638,000	100.0	4,320	191	191	191	—	d, e
Trinidad and Tobago.....	Jan. 1951	Sept. 1963	3,108	100.0	128	122	122	122	10	c, f
United States of America.....	—	—	777,000	—	—	—	—	—	—	f
Uruguay.....	Oct. 1948	Dec. 1963	187,000	100.0	1,020	133	133	133	—	d, e
Venezuela.....	June 1948	Dec. 1963	710,000	71.8	5,741	593	580	544	27	c, f
Anguilla.....	April 1953	June 1962	88	100.0	19	19	19	19	18	f
Antigua.....	Aug. 1954	Oct. 1962	283	100.0	50	47	47	47	25	f
Aruba.....	Mar. 1952	May 1963	174	100.0	9	9	9	9	—	b, c
Bahama Islands.....	June 1954	Oct. 1963	11,396	1.3	13	10 ^e	10 ^e	10 ^e	9	c, f
Barbados.....	Mar. 1954	Dec. 1963	171	100.0	99	98	98	98	48	c, f
Bermuda.....	Jan. 1951	Dec. 1951	53	100.0	9	9	9	9	—	b
Bonaire.....	Sept. 1952	Oct. 1963	246	100.0	6	6	6	6	—	b, c
British Guiana.....	Mar. 1946	Dec. 1963	4,662	100.0	93	21	21	21	2	c, f
British Honduras.....	Oct. 1950	July 1959	22,965	100.0	84	2	2	2	—	d
Cayman Islands.....	—	—	259	—	—	—	—	—	—	f
Curacao.....	Oct. 1951	Dec. 1963	448	100.0	5	5	5	5	5	c, f
Dominica.....	Feb. 1951	Oct. 1956	789	50.0	136	66	66	66	16	f
French Guiana.....	May 1949	Oct. 1963	91,000	100.0	222	55	55	55	1	c, f
Grenada.....	Nov. 1952	July 1959	311	100.0	8	8	8	8	—	b
Grenadines.....	Nov. 1952	June 1962	65	100.0	7	5	5	5	4	f
Guadeloupe.....	Jan. 1957	Oct. 1961	1,619	4.9	53	38	38	27	20	f
Martinique.....	Nov. 1953	Mar. 1962	1,000	100.0	34	21	19	19	2	f
Montserrat.....	May 1956	Dec. 1963	83	100.0	33	16	16	16	2	c, f
Panamá Canal Zone.....	1948	Sept. 1960	1,432	100.0	21	2	2	2	—	d
Puerto Rico.....	May 1950	Mar. 1961	8,896	61.8	481	248	248	246	116	f

TABLE 5. STATUS OF Aedes Aegypti ERADICATION CAMPAIGN IN THE AMERICAS, 1963^a—Continued

Country or other political unit	Date		Area estimated initially infested		Localities inspected since beginning of campaign					Present stage of campaign
	Campaign began	Latest inspection	Total	Inspected	Number	Found initially positive				
						Total	Treated		Still positive	
							Total	Verified		
Total	Total	Total	Still positive							
Saba, St. Eustatius, St. Martin.....	July 1958	Nov. 1963	65	100.0	34	30	30	30	15	e, f
St. Kitts, Nevis.....	April 1953	Jan. 1963	308	100.0	43	43	43	43	—	b, c
St. Lucia.....	May 1953	April 1963	259	100.0	50	50	50	50	37	e, f
St. Vincent.....	Mar. 1953	Mar. 1963	332	100.0	8	8	8	8	—	b, c
Surinam.....	Dec. 1962	Dec. 1963	48,000	30.0	231	74	...	—	—	e, f
Turks and Caicos Islands.....	—	—	430	—	—	—	—	—	—	f
Virgin Islands (U.K.).....	Mar. 1960	Feb. 1963	174	74.6	23	23	23	23	8	e, f
Virgin Islands (U.S.A.).....	—	—	124	—	—	—	—	—	—	f

- None.
- ... Data not available.
- ^a Based on reports received through 30 April 1964.
- ^b Negative for *Aedes aegypti*.
- ^c Program in operation.
- ^d Eradication completed.
- ^e Vigilance continued.
- ^f Positive for *Aedes aegypti*.
- ^g Revised data.

United States of America and in Puerto Rico and the Virgin Islands. According to the Department's program plan, already underway, the campaign will be started simultaneously in the States of Florida and Texas, in Puerto Rico, and the U. S. Virgin Islands, before being extended to the other infested States, which the latest data available indicates as being those of Alabama, Arkansas, Georgia, Louisiana, Mississippi, South Carolina, and Tennessee. The Government requested PAHO to designate a short-term consultant to assist the *A. aegypti* Eradication Department during the initial phase of the program.

Venezuela. The progress of the campaign was slower than had been expected, because of problems connected with the need to replace field personnel and the existence of strains of mosquito resistant to the chlorinated insecticides in some areas of the country. While concentrating all the field personnel available in these areas, work in other areas was held up.

Nevertheless, the initial survey was carried out in 63 localities, 13 of which were found to be infested; 164,826 houses in 123 localities were treated; verifications were made in 226 localities, 86 of which were found still positive; and in different parts of the country 7,846 vessels were inspected, 55 being found positive. In the 63 localities surveyed, 24,486 houses were inspected and 1,799 were found to be positive. In the 226 localities where verifications were made, 681,067 houses were inspected and 12,067 were found to be positive for aegypti.

France

French Guiana. This territory had been considered free of aegypti until September 1963 when the city of Cayenne was found reinfested.

Guadeloupe. The campaign, suspended in 1962, has not yet been resumed. In 1963 antiaegypti work was lim-

ited to control activities in the international airport and ports of the island.

Martinique. Since 1953 the Government has been carrying out a general mosquito control program; but with regard to *A. aegypti* eradication the results are not satisfactory.

St. Martin. The French part of this island, which is administered by Guadeloupe, continued to be considered negative, but its present circumstances are not clear because of a lack of recent information and the fact that the Dutch part of the island continues infested.

Netherlands

Aruba and Bonaire. Bonaire was negative for some years; however, in 1963 it was found to be reinfested by a strain of *A. aegypti* resistant to chlorinated insecticides which had probably been transported from Curaçao. This reinfestation had not been eliminated. Aruba continued to be considered free of the mosquito.

Curaçao. This island continues to be highly infested. Because of mosquito resistance to DDT and dieldrin, campaign activities in 1963 were limited to control operations in the port area of Willemstad.

Saba and St. Eustaquius. These islands continued to be considered negative.

St. Martin. The Dutch part of this island is still infested. No eradication operations were carried out during 1963.

Surinam. Eradication operations were initiated in Surinam in July 1963 in the city of Paramaribo. Up to November, 4 cycles of treatment and inspection had been carried out in this city, and the infestation rate fell from 32 percent to 10 percent. The limited success of these operations was due to technical and administrative difficulties, including low susceptibility of the mosquito to chlorinated insecticides, high rate of absenteeism among field personnel, and high percentage of houses that were not inspected or treated. The initial survey carried out in 15 localities on the coast of Surinam showed them all to be highly infested.

United Kingdom

Antigua and Barbuda. In Antigua financial reasons prevented resumption of the eradication campaign. Barbuda continued to be considered negative.

Bahamas. Shortage of funds and of personnel continued to hamper the campaign in these islands where,

in addition, *A. aegypti* shows low susceptibility to DDT.

Barbados. Thanks to administrative measures taken by the Government (increase in the number of field personnel and increase in salaries) it was possible to shorten the inspection cycle in Bridgetown; the quality of the work improved. Results as far as mosquito eradication is concerned, however, continued to be very meager because of the resistance of the vector to DDT and the fact that its substitution by dieldrin has not yet been approved by the Government.

Bermuda. This island has been considered negative for many years, and a special verification made in 1963 with the assistance of PAHO experts confirmed that the vector had been eradicated.

British Guiana. This territory was reinfested in 1962. The Government has expressed interest in renewing eradication operations, but to date, various difficulties have prevented it from initiating them.

Cayman, Turks, and Caicos Islands. The campaign has not yet been initiated in any of these 3 groups of islands.

Dominica. Owing to financial reasons the campaign in this island is still suspended.

Grenada. This island continued to be considered negative.

Grenadines. In this group, Carriacou, Petit Martinique, Bequia, and Union continued infested, and no mosquito eradication operations were carried out.

Montserrat. The reinfestation found in 1962 was eliminated in 1963, and the island is again considered to be negative.

St. Kitts, Nevis, and Anguilla. St. Kitts and Nevis continued to be negative, but Anguilla is infested and no funds were available for intensifying activities as required.

St. Lucia. Infestation is high and generalized. The Government was unable to resume eradication operations because of financial reasons.

St. Vincent. This island continued to be considered negative.

Virgin Islands. Owing to technical and administrative difficulties no progress was made in the campaign in the first half of 1963, and it was suspended in July.

SMALLPOX

The countries of the Americas reported 295 cases of smallpox (Table 6), of which 242 were reported in Brazil, 4 in Colombia, 45 in Ecuador, and 4 in Perú.

II. HEALTH PROTECTION: DISEASES

TABLE 6. REPORTED CASES OF SMALLPOX IN THE AMERICAS, 1962 AND 1963

Country	1962	1963
Argentina.....	2 ^a	—
Brazil.....	2,812	300
Canada.....	2 ^a	—
Colombia.....	41	4
Ecuador.....	205	45
Perú.....	—	4
Uruguay.....	10	—
Venezuela.....	11	—
Total.....	3,083	353

— None.

^a Includes 1 imported case.

The low incidence of smallpox in the Hemisphere in 1963—the lowest in recent years—is a reflection of the progress achieved in the eradication programs based on vaccination campaigns that the countries are carrying out (Table 7). Improved systems of notifications, registration, and diagnosis of smallpox are gradually increasing our knowledge of the disease in both its qualitative and its quantitative aspects.

Because of the persistence of foci of smallpox in the Americas, countries that have already completed their eradication programs must continue their efforts to maintain the level of immunity among the population at that reached during the course of the campaign. Vaccination can only be discontinued without risk when smallpox has been completely eradicated.

El Salvador, Guatemala, Haiti, and Honduras, where the percentage of population immunized against smallpox was small, made good progress during 1963 in their vaccination programs, which were carried out as part of the routine activities of the regular health services or in combination with special campaigns.

The production of glycerinated and lyophilized smallpox vaccine was sufficient not only to satisfy the needs of the countries that produce vaccine but also to allow those countries to meet the demand of the vaccination programs which countries that do not produce vaccine are carrying out. Thus, Brazil, Colombia, México, and Venezuela are donating smallpox vaccine to the programs of the countries of Central America and the Caribbean Area.

The Organization obtained, for the countries producing vaccine, the services of the Danish Serum Institute in Copenhagen, for testing, free of charge, the potency and quality of the various batches of vaccine prepared in national laboratories.

TABLE 7. REPORTED NUMBER OF SMALLPOX VACCINATIONS IN THE AMERICAS, 1962 AND 1963

Country or other political unit	1962	1963
Argentina.....	1,344,401	638,502 ^a
Bolivia.....	164,449	31,124 ^b
Brazil.....	2,061,179 ^c	5,557,127 ^a
Chile.....	703,297	786,624 ^d
Colombia.....	191,083 ^e	1,327,882 ^f
Costa Rica.....	106,252 ^g	39,224 ^d
Cuba.....	135,319 ^b	50,755 ^d
Dominican Republic.....	35,135	20,492 ^d
Ecuador.....	685,595	764,974 ^a
El Salvador.....	143,835	200,091 ⁱ
Guatemala.....	127,004	109,249 ^d
Haiti.....	180,719	350,156 ^a
Honduras.....	127,144 ^g	51,069 ^d
Jamaica.....	131,652	47,333 ^j
México.....	5,226,096 ^k	3,143,916 ^l
Nicaragua.....	3,335 ^c	19,280 ^d
Panamá.....	11,547 ^m	12,591 ^d
Paraguay.....	28,283 ^e	88,350 ^d
Perú.....	593,336	277,298 ^a
Trinidad and Tobago.....	1,271 ^o	40,730 ^d
Uruguay.....	81,754 ^e	55,364 ^d
Venezuela.....	1,147,574 ^k	1,150,324 ^a
Antigua.....	446 ^e	3,552 ^d
Bahama Islands.....	3,196	7,653 ^d
Barbados.....	86,507	3,171 ⁿ
Bermuda.....	...	...
British Guiana.....	6,982	4,087 ^d
British Honduras.....	10,617	4,953 ^d
Cayman Islands.....	...	...
Dominica.....	2,315 ^e	...
Falkland Islands.....	...	...
French Guiana.....	1,122 ^k	1,922 ^a
Grenada.....	1,031	1,445 ⁿ
Guadeloupe.....	750 ⁿ	...
Martinique.....	10,685	11,641 ⁿ
Montserrat.....	927	873 ^d
Netherlands Antilles.....	2,400 ^e	...
Panamá Canal Zone.....	...	...
Puerto Rico.....	...	...
St. Kitts, Nevis, and Anguilla.....	...	6,237 ^d
St. Lucia.....	3,200	1,500 ⁿ
St. Pierre and Miquelon.....	...	...
St. Vincent.....	2,405	1,512 ^d
Surinam.....	5,286	6,237 ^d
Turks and Caicos Islands.....	...	58 ⁿ
Virgin Islands (U.K.).....	...	...
Virgin Islands (U.S.A.).....	...	...

... Data not available.

^a January-December.

^b January-June; since initiating the eradication campaign in August, an additional 419,845 persons were vaccinated.

^c State of São Paulo.

^h January-September.

^l January-November.

^d January-October.

ⁱ January-September.

^m Incomplete data.

^e January-April.

^j January-June.

ⁿ January-August.

^f January-July.

^k Provisional.

^o January-March.

^g January-November.

In Argentina, where the eradication program was begun in 1960, a total of 638,502 persons were vaccinated in 1963. Of the 17 Provinces covered by the program (one more than in 1962), 80 percent or more of the population had been vaccinated in 7 of them by the end of 1963; in another the level of immunity was 77 percent, but in the remaining 9 the level of immunity was low.

The Bolivian smallpox vaccination campaign was reinitiated in August 1963 in accordance with a national plan approved in 1962. Up to 31 December 1963, 419,845 persons had been vaccinated; 50,863 were primovaccinations. A sanitary inspector, appointed by the Organization to assist in the organization and the conduct of the field activities, took up his post in mid-1963. The laboratory producing lyophilized smallpox vaccine, the equipment for which was supplied by the Organization, is now in a position to produce up to 2 million doses a year; this will be sufficient to meet the demands of the country. A fellowship was awarded to the physician who is in charge of the laboratory to enable him to study modern large-scale methods and techniques of lyophilized vaccine production.

In Brazil the intensive vaccination program in the States of Sergipe and Guanabara, the Federal District, and the Territory of Rio Branco was completed. Other campaigns were begun in the States of Alagoas, Bahia, Ceará, Minas Gerais, Paraná, Pernambuco, Piauí, Rio Grande do Norte, and Rio de Janeiro. The number of persons vaccinated was 5,557,127; the number of cases reported, 242.

The Recife and Pôrto Alegre laboratories, as well as the Oswaldo Cruz Institute in Rio de Janeiro, to all of which the Organization supplied all or part of the equipment necessary to prepare lyophilized vaccine, are producing good quality vaccine, and their joint production is sufficient to meet the present demands of the country.

The smallpox eradication program in Ecuador, which is near completion, continued making satisfactory progress. Up to 31 December 1963 a total of 764,974 persons had been vaccinated, which raised the number of vaccinations administered, since the campaign was resumed in 1958, to 3,273,445. In 16 Provinces the percentage of the vaccinated population ranged from 80 to 98 percent. Vaccination was not yet completed in the Province of Chimborazo, where 65 percent of the population had been vaccinated, nor in the Cantons of Cuenca and Sigsig in the Province of Azuay. The number of persons still to be vaccinated was estimated at 300,000.

Among the problems that the Ecuadorian vaccination program had to overcome was the opposition of the Indian population in the Provinces of Chimborazo and

Bolívar, and in 1963 the program was faced with similar resistance in those of Tungurahua and Cotopaxi. Of the 45 cases of smallpox reported in Ecuador in 1963, 44 occurred in areas still to be covered by the eradication program and the remaining case in a region where, because of resistance by the Indian population, only 3.4 percent of the population had been vaccinated. The Leopoldo Izquieta Pérez Institute continued producing sufficient good-quality lyophilized vaccine to meet the requirements of the country.

In Haiti 350,156 persons were vaccinated in 1963 in the Departments of Artibonite, de l'Ouest and du Nord. In these Departments the vaccinated population was respectively 74.6 percent, 75.1 percent, and 75.8 percent. The lyophilized vaccine used was donated by the Governments of Brazil and Colombia.

Table 8 shows the doses of glycerinated and lyophilized vaccine produced, according to reports received.

In countries not producing vaccine but wishing to carry on vaccination programs, their need was met, through the Organization's mediation, by direct gifts from countries producing vaccine, particularly the lyophilized form. The spirit of generosity and the solidarity of the American countries again manifested itself. Without in any way playing down the spirit of cooperation that animates the countries, the procedure used might be changed in such a way as to ensure more rapid attention to requests. For example, consideration might be given to establishing a glycerinated and lyophilized smallpox vaccine bank,

TABLE 8. REPORTED PRODUCTION OF SMALLPOX VACCINE IN THE AMERICAS, 1963

Country	Doses		
	Glycerinated	Lyophilized	Total
Argentina.....	13,300,000	—	13,300,000
Bolivia.....	—	377,000	377,000
Brazil.....	6,432,000	14,485,000	20,917,000
Chile.....	1,730,000	460,000	2,190,000
Colombia.....	—	2,584,000	2,584,000
Cuba.....	350,000	—	350,000
Ecuador.....	—	1,400,000	1,400,000
El Salvador.....	100,000	—	100,000
Guatemala.....	500,000	1,000,000	1,500,000
México.....	18,000,000	19,000	18,019,000
Perú.....	1,069,060	2,594,600	3,663,660
Uruguay.....	1,874,000	—	1,874,000
Venezuela.....	4,300,000	700,000	5,000,000
Total.....	47,655,060	23,619,600	71,274,660

— None.

funded by contributions from producing countries, which would be kept in custody of, and distributed by, PAHO/WHO.

YAWS ERADICATION

The yaws control activities in which the Organization took part in 1963 were carried out in the Caribbean Area and in two countries in the northern part of South America.

The Ministry of Health of Jamaica, with the assistance of the Organization, made a survey in 1963 to determine the extent and characteristics of yaws in the country. The investigation covered 12 of Jamaica's 13 parishes, lasted for 3 months and, through random sampling of the population, led to the discovery of 673 cases of yaws, of which 265 were infectious forms. When the survey was completed, PAHO/WHO presented to the Government a special report containing recommendations concerning an eradication program. Independently, routine activities of the health services of Jamaica had by September 1963 detected 92 new cases.

In Antigua and Montserrat the necessary steps were taken to keep the disease under control. On the first of these islands 7 cases of yaws were notified in 1963 and on the second, 2 cases.

No autochthonous cases of yaws have been notified in Trinidad since 1961 or in Tobago since 1959. One imported case was notified in Trinidad in 1963.

On St. Vincent, 109 infectious cases were reported up to October 1963 and on St. Lucia, up to May of the same year, 221 cases. Although yaws is thought to be endemic in several parts of the Caribbean Area, no information is available concerning British Guiana, the British Virgin Islands, Dominica, Grenada, St. Kitts, or Surinam.

In Haiti, since 1950 the Organization has been assisting in the nationwide yaws eradication campaign, at present in the vigilance phase. By 1962 the prevalence of infectious forms of the disease had been reduced to 0.6 per 100,000. In 1963 a survey was to be carried out to determine in the different parts of the country the status of the problem and especially the prevalence of infectious forms of the disease. The survey was to be undertaken by an international team composed of an epidemiologist, a statistician, and a laboratory technician. Several local events, however, prevented the already formed team from beginning its study, which since then has been postponed at the request of the Government.

In the same country advantage was being taken of the

yaws eradication activities to carry out a smallpox control program. This program was begun in 1962 and is intended to raise the level of immunity in the population to 80 percent in a period of 4 years.

The program of the Dominican Republic entered the consolidation phase in 1963. In the area covered by the campaign, which includes 11 Provinces and the National District, 28 cases were diagnosed in the course of the year, that is, a rate of 1.6 per 100,000 inhabitants.

At the request of the Governments concerned, visits were made to Colombia and Ecuador to plan a study to determine in each of these countries the present state of the problem. The results of this planning were submitted to the Governments.

LEPROSY

The changes introduced into leprosy control programs in the Americas, especially changes of concept, have been reported in the previous years. Thus, attention was called to the fact that compulsory isolation had been abolished and replaced by voluntary and, where appropriate, temporary hospitalization; that ambulatory treatment had replaced institutional treatment, which had been the standard procedure in the past; that the periodic supervision of patients and contacts was an essential factor in the early diagnosis of new cases so as to break the chain of infection and prevent deformities; that leprosy had been added to the group of communicable diseases, from which it had been separated by a barrier of prejudice; and that leprosy control had been accepted as a regular activity of the general health services.

Efforts were made in recent years to adapt leprosy control programs to the new methods of work stemming from these changes in concept. It may be said that this stage has now been completed in the Americas.

The need for a better knowledge of the characteristics and trends of leprosy in the Americas, and the need to make better use of the available financial resources for the control of the disease, led to special attention being devoted in 1963 to the planning, programing, and organizing of leprosy control activities and to the preparation of professional and auxiliary personnel.

Leprosy Seminar

Under the auspices of PAHO/WHO and in collaboration with the Government of México, a Seminar on Leprosy was held in Cuernavaca, Morelos, México, from

12 to 19 August 1963. The seminar was attended by 63 leprosy specialists, epidemiologists, and health administrators. Of the participants, 16 were staff members of the Organization, and the remainder came from Argentina, Brazil, British Honduras, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Martinique, México, Nicaragua, Panamá, Paraguay, Perú, Surinam, Trinidad and Tobago, and the United States of America.

This combination of specialists was a felicitous one, since it gave rise to an active exchange of opinions on the various agenda items which were approached from different angles.

The agenda covered the planning, programing, and organizing of leprosy control activities, and the training of professional and auxiliary personnel.

The working documents of the seminar, conclusions, and recommendations were published in *Scientific Pub-*

lication PAHO 85 and in the November 1963 issue of the *Boletín de la Oficina Sanitaria Panamericana*.

Progress in control programs

As shown in Table 9, 6,719 cases of leprosy were discovered during 1963 in 16 countries of the Americas. In addition, according to data furnished by 18 countries (Table 10), there were 167,038 leprosy cases recorded in the active register at 31 December 1963, only 89,861 (53.6 percent) of which were under supervision. The fact that about half the cases are not under medical care is serious, especially since the registered cases represent only a part of the actual number of leprosy cases in most of the countries. A glance at Table 10 will show that of the 34,653 patients reported to be suffering from a clinical

TABLE 9. CASES OF LEPROSY DISCOVERED IN 1963, CLASSIFIED BY SEX, AGE, AND CLINICAL FORM, IN 16 COUNTRIES OF THE AMERICAS

Country	Sex		Age		Clinical form				Total
	Male	Female	Under 15 years of age	15 years and over	Lep-romatous	Tuber-culoid	Indeter-minate	Others	
Argentina ^a	261	219	18	462	144	164	161	11	480
Brazil.....	...	...	...	...	...	...	...	...	2,774
Colombia ^b.....	...	...	65	552	...	...	...	...	617
Costa Rica ^c	23	12	2	33	16	4	15	—	45*
Dominican Republic.....	25	14	5	34	21	13	5	—	39
Ecuador ^d	125	73	12	186	97	38	63	...	228*
El Salvador.....	10	1	—	11	3	5	2	1	11
Guatemala.....	6	2	2	6	3	4	1	—	8
Honduras.....	14	4	2	16	4	13	1	—	18
Jamaica ^e.....	...	...	...	...	...	...	...	...	25
México ^f	855	577	106	1,322	663	323	423	23	1,432*
Nicaragua.....	20	11	3	28	3	12	13	3	31
Panamá.....	6	2	—	8	1	5	1	1	8
Paraguay.....	...	...	...	...	...	...	...	...	333
Perú.....	...	...	...	...	40	22	32	3	97
Venezuela.....	386	187	65	490	229	193	96	37	573*
Subtotal.....	1,731	1,102	280	3,148	1,224	796	813	79	—
Percent.....	61.1	38.9	8.2	91.8	42.0	27.5	27.8	2.7	100.0
Total.....	2,833		3,428		2,912				6,719*

— None.

... Data not available.

* Differing sources of data account for the disagreement between total and sum of figures in preceding columns.

^a Provinces of Buenos Aires, Entre Ríos, Misiones, and Tucumán.

^b January-June.

^c Partial information.

^d July-November.

^e 1 January-1 September.

^f January-September.

TABLE 10. STATUS OF LEPROSY IN 18 COUNTRIES OF THE AMERICAS AS OF 31 DECEMBER 1963

Country	Cases in the active register		Sex		Age		Clinical form			Treatment			Contacts			
	Under surveillance	Without surveillance	Male	Female	Under 15 years of age	15 years and over	Lepromatous	Tuberculoid	Indeterminate	Others	Hospitalized	Ambulatory	None	Under surveillance	Without surveillance	Total
Argentina ^a	3,928	7,519	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pilot program ^b	(1,676) ^c	(1,372) ^c	939	737	38	1,638	744	509	378	45	374	1,302	224	8,813	—	8,813
Brazil ^d	47,167	56,068	...	...	...	...	...	...	...	...	18,328	33,855	50,752	73,290	91,092	164,382
Colombia ^e	13,330	1,094	...	...	...	...	...	...	...	...	5,106	9,733	—	...	...	...
Costa Rica ^e	458	182	306	177	16	467	202	86	131	4	54	322	96	2,598	495	3,093
Cuba	3,473	1,238	2,972	1,401	64	3,473	1,832	667	516	460	508	2,865	—	...	...	...
Dominican Republic	134	5	...	...	...	...	...	...	...	...	139	—	...	...	...	...
Ecuador	561	—	215	345	20	541	104	41	82	334	198	363	—	2,139	—	2,139
El Salvador	143	67	...	...	...	...	...	...	...	...	...	...	...	227	432	659
Guatemala	104	36	92	48	13	127	63	42	27	8	24	80	36	231	354	585
Honduras	81	71	100	52	13	139	27	69	56	—	6	75	71	152	1,155	1,307
Jamaica	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
México	6,906	3,356	...	...	...	...	5,039	2,729	2,358	136	...	...	...	...	...	...
Nicaragua ^e	169	54	109	62	6	165	84	105	24	10	72	72	73	254	837	1,091
Panamá	136	49	123	62	4	181	56	81	4	44	105	30	50	372	108	475
Paraguay ^f	2,428	1,188	...	...	...	...	1,801	1,111	777	50	282	2,409	1,048	1,774	12,690	14,464
Peru ^f	1,438	1,370	...	...	...	...	...	...	...	...	563	848	1,356	1,812	10,935	12,747
Trinidad and Tobago	...	...	749	623	...	...	398	880	53	...	263	...	...	...	...	...
Venezuela	9,405	2,980	8,047	4,338	1,226	11,159	5,352	3,744	2,613	676	650	8,045	3,690	26,863	26,200	53,063
Subtotal	89,861	75,277	13,652	7,845	1,400	17,890	15,762	10,064	7,019	1,808	26,892	60,199	57,386	118,525	144,293	—
Percent	58.6	46.4	63.5	56.5	7.2	92.8	45.4	29.0	20.2	5.4	18.5	41.6	39.9	45.0	55.0	100.0
Total	167,038	167,038	21,497	21,497	19,290	19,290	34,653	34,653	34,653	144,487	144,487	144,487	262,818	262,818	262,818	—

— None.

... No data available.

^a All the country.^b Provinces of Entre Ríos, Misiones, and Tucumán, and Buenos Aires City.^c Included in preceding line, therefore not added to the totals.^d Data as of 30 September 1963.^e Incomplete data.^f Data as of 31 December 1962.

form of the disease 45.4 percent are of the lepromatous type, which is the infectious form par excellence of the disease.

If the same percentage holds true for those patients that are not under supervision, then at least half of them are constantly helping to spread the disease.

Of the 21,497 patients whose sex is known, 63.5 percent is male, and 36.5 percent is female; of the 19,290 patients whose age is known, 7.2 percent are under 15 years of age and 92.8 percent are older.

Of the 262,818 registered contacts, only 118,525 (45 percent) are subject to periodic surveillance. This is again a very serious matter since the real number of contacts must far exceed the figure quoted.

A short account of the main leprosy control programs in operation in the Hemisphere is given below.

In Argentina, leprosy is endemic, and its estimated prevalence is 0.51 per 1,000 population. At the end of 1963 the number of registered cases was 11,447. A control program was begun in 1960 under the technical supervision of the Dermatology Campaign Department of the Ministry of Public Health and will eventually include the Federal Capital and the 11 Provinces most affected by the disease. The program was begun in 4 pilot areas in the Provinces of Entre Ríos, Misiones, Tucumán, and the northern part of Buenos Aires Province.

The Entre Ríos pilot program was officially begun in October 1962, and steps were immediately taken to trace the patients enrolled on the program register. Between November 1962 and October 1963, 624 patients were removed from the register because of death, change of address, clinical cure, or disappearance. The number of new patients registered during the same period was 291, which brought the total of patients in that Province to 733, all of whom are now under control. There are now 4,098 contacts, of which 3,354 are under surveillance.

Work was begun in Misiones Province in June 1963. From June to October, 329 former patients were traced and 139 new cases were diagnosed; 429 patients have still to be traced. In the Greater Buenos Aires area 3,035 persons living in temporary shelters were examined, among whom an additional 11 cases were found. Control programs were also initiated in the Provinces of Tucumán and El Chaco.

A complete system for the registration of leprosy data is being tested in Entre Ríos Province and, if satisfactory, will, after completion of the test period, be gradually put into general use throughout the country.

A continuing activity of the program was personnel training, which benefited physicians, nurses, social work-

ers, elementary school teachers, health auxiliaries, and volunteer collaborators.

In cooperation with PAHO/WHO and UNICEF the Government held an international course for physicians working in leprosy control programs, which was attended by physicians from Argentina, Paraguay, and Uruguay. Conversations were held with the University of the Litoral, at Rosario, Argentina, with a view to organizing a personnel training course open to students from Chile, Paraguay, and Uruguay.

The Government of Brazil is conducting a leprosy control program in cooperation with PAHO/WHO and UNICEF. Owing to local circumstances, and especially the limited funds, there have been no basic changes in this program. The total number of known cases is 104,398, of which 47,167 are under supervision; during the year, 2,774 new cases were diagnosed. Known contacts number 164,382 in all, of which 73,290 are under surveillance.

Colombia continued its control program. In line with the recent technical and administrative reorganization of the Ministry of Public Health, specific control activities were made the responsibility of the health services in the various Departments into which the country is divided, whereas the technical and policy-making activities were centered in the Leprosy Department of the Division of Epidemiology. Incomplete figures for the first semester of 1963 indicate that 45,392 persons were examined, among whom 617 new leprosy cases were detected. Most of the patients were found among those who had come of their own accord for dermatological consultations and, next in line, among the contacts of the patients. Of the 14,424 patients in the country's register, 13,330 are under treatment and medical surveillance. By the end of the year, 17.7 percent of the patients who were being treated had been lost to medical supervision for various reasons; 33.7 percent were excreting leprosy bacilli.

The Governments of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panamá have organized leprosy control services that are part of the national health agencies; in addition, they made arrangements for and encouraged the training of physicians in the diagnosis, treatment, and control of the disease, as well as the training of paramedical personnel in control techniques. A start has been made on the transformation of leprosaria into leprosy hospitals to which patients may come voluntarily for a temporary stay.

In Cuba the regular health services are in charge of leprosy control. There is a total of 4,711 patients enrolled in the active case register, of which 3,473 are under medical supervision.

In Ecuador the leprosy control program was initiated in collaboration with PAHO/WHO and UNICEF during the second semester of 1963. It is conducted as a regular activity of the Manabí health area, and as a separate activity in the other areas. It is planned to incorporate leprosy control activities into the general health services as soon as these are organized.

In the first 6 months of the program, 67,736 persons were examined and 198 new cases detected; of these, 98 were lepromatous, 38 tuberculoid, and 63 indeterminate. During the same period, 7 general practitioners attended a 4-month leprosy training course; and 5 nurses and 28 health auxiliaries, a 3-month course. The forms needed for the program were designed and printed, and a manual of standards and procedures was drawn up and distributed.

In Paraguay the efforts to incorporate leprosy control into the regular activities of health centers were continued. The high number of known patients not receiving medical treatment, and the equally high number of registered contacts over whom no surveillance is exercised are problems of great concern that continue to occupy the attention of the health authorities.

The Government of Perú requested PAHO/WHO to provide technical assistance for reviewing the country's leprosy problem and for preparing a national control program in line with modern concepts in the field. This assistance will be more specific in 1964.

Trinidad and Tobago had 1,372 registered leprosy patients in 1963; and in Venezuela the leprosy control program continued to make steady improvement in its technical and administrative aspects.

Other activities

The Organization completed the preparation of a manual, for recording leprosy data, which was tested in the control programs of the Provinces of Entre Ríos and Misiones in Argentina. It is planned to make similar tests in other countries until the system is perfected.

A start was made on a glossary of epidemiological and administrative terms used in leprosy control. The Governments were consulted as to the terms and expressions they would like to see included.

To determine the impact of the Leprosy Seminar on the conduct of control programs, an evaluation of the seminar was begun, with the collaboration of the Governments, through a series of periodic surveys which will last to the end of 1965. The first survey was made at the

end of 1963 and showed that the questionnaire used was well adapted to the purpose.

As the leprosy control programs improve, interest in and concern with the physical rehabilitation of the patients are increasing. The Organization has therefore taken preliminary steps to organize a course on this subject which is to be given in 1965.

TUBERCULOSIS

To extend and improve tuberculosis control activities in the Americas, the Organization continued to cooperate with the Governments in the preparation and development of demonstration areas, the training of physicians and nurses, and the reorientation of present tuberculosis services.

In spite of the limitations already pointed out in previous years, in 1963 the Organization continued its efforts to ascertain as accurately as possible the prevalence and incidence of tuberculosis in the Hemisphere. Table 11 shows the number of reported cases per 100,000 from 1957 to 1962, and Table 12, the tuberculosis mortality in the same period.

In Argentina the National Tuberculosis Center continued its activities with the assistance of PAHO/WHO and UNICEF. The work accomplished was evaluated in relation to the targets set; studies intended to obtain information on the performance of personnel were completed; activities were extended through the so-called "peripheral dispensaries" in rural areas; and a registry of data was maintained and periodically examined. A total of 49,369 radiological examinations revealed 495 new cases; 45,346 persons were tuberculin-tested and 15,412 others underwent both clinical observation and laboratory tests; 563 cases were under ambulatory treatment and 65 were hospitalized.

Initial findings in Bolivia, where the program was begun in December 1963, confirmed the seriousness of the problem, although some data concerning morbidity and infection in the under-15 age groups were still pending review.

The preparation of the plan of operations for the tuberculosis control pilot project in the State of Rio Grande do Norte, Brazil, was completed in November. This UNICEF-assisted project provides for integrating the tuberculosis services into the State health plan.

Short training courses for nurses and nursing auxiliaries were given in Colombia, where public health officers

TABLE 11. REPORTED CASES OF TUBERCULOSIS, WITH RATES PER 100,000 POPULATION IN THE AMERICAS, 1957-1962

Country or other political unit	Cases											
	Number						Rate					
	1957	1958	1959	1960	1961	1962	1957	1958	1959	1960	1961	1962
Argentina.....	19,647	16,508	17,387	18,865	19,098	18,000 ^a	99.8	82.3	85.2	90.9	90.6	84.0 ^a
Bolivia.....	596	522	1,779	1,136	1,244	1,714	18.0	15.5	52.2	32.9	35.5	48.3
Brazil ^b	13,735	7,986	14,079	9,943	11,837	...	204.2	115.7	138.2	100.8	158.9	...
Canada ^c	7,979 ^d	7,502 ^d	6,579	6,345	5,784	6,284	47.8	43.8	37.5	35.4	31.7	33.8
Chile.....	...	...	...	...	...	...	...	...	...	...	...	...
Colombia ^e	13,787	14,579	13,858	14,392	13,961	14,362	114.6	119.3	110.1	106.5	101.5	105.2
Costa Rica.....	605	560	649	624	492	602	58.6	52.0	57.6	53.3	40.2	47.3
Cuba.....	1,838	1,177	1,849	1,856	2,625	2,725	28.8	18.0	27.8	27.3	37.8	38.6
Dominican Republic.....	2,184	2,199	2,189	2,122	1,197	1,060	80.8	78.5	75.5	70.8	38.5	32.9
Ecuador.....	4,699	5,463	4,692	5,223	5,758	5,082	119.6	134.9	112.2	121.0	129.2	110.6
El Salvador ^e	3,011	2,918	3,872	5,251	5,388	4,581	262.7	231.2	294.0	358.2	365.8	302.6
Guatemala.....	1,942	1,153	3,649	3,802	3,362	3,495	56.3	32.5	99.9	101.0	86.5	87.0
Haiti.....	1,188	2,278	3,067	2,860	3,332	3,875	30.5	57.3	75.4	68.8	78.4	89.2
Honduras.....	...	1,439	1,609	4,566	1,985	2,157 ^e	...	83.0	90.1	248.4	104.9	226.6 ^e
Jamaica.....	701	574	838	629	495	335	45.3	36.5	52.5	38.8	30.3	20.4
México.....	10,392	11,157	11,348	12,417	13,801	16,242	32.6	33.9	33.5	35.5	38.2	43.6
Nicaragua.....	1,014	1,330	744	581	707	391 ^a	76.1	96.5	52.2	39.3	46.3	24.8 ^a
Panamá.....	1,878	1,385	1,673	1,487	1,104	1,423	188.6	135.4	159.3	137.8	99.5	124.9
Paraguay ^e	1,381	1,206	1,126	1,113	920	1,223	135.3	107.6	65.2	63.0	77.3	100.2
Perú ^e	22,552	19,336	22,796	19,485	21,503	24,005	472.8	397.5	425.3	348.4	440.9	465.8
Trinidad and Tobago.....	380	281	298	243	...	398	49.7	35.6	36.5	28.8	...	45.2
United States of America ^e	67,171	63,537	57,535	55,494	53,727	54,159	39.2	36.5	32.5	30.8	29.4	29.1
Uruguay.....	3,164	3,134	2,134	1,928	2,044	1,836	116.1	113.5	76.3	68.1	71.1	63.0
Venezuela ^e	7,211	7,494	7,887	8,722	8,487	8,138	200.3	201.2	204.3	217.7	168.1	154.2
Antigua.....	16	22	28	8	6	2 ^a	30.8	41.5	51.9	14.5	10.7	3.4 ^a
Bahama Islands.....	117	107	124	187	122 ^a	156	119.4	105.9	120.4	178.1	113.0 ^a	140.5
Barbados.....	79	72	68	43	47	74	35.3	31.7	29.6	18.5	20.2	31.9
Bermuda.....	2	11	7	12	22	10	4.9	26.8	16.7	28.6	48.9	21.7
British Guiana.....	192	202	172	186	172	212	37.1	37.9	31.3	32.9	29.6	35.5
British Honduras.....	56	74	38	72	54	58	67.5	86.0	43.2	79.1	57.4	60.4
Cayman Islands.....	...	...	...	...	3 ^a	3	...	...	...	...	37.5 ^a	37.5
Dominica.....	85	83	94	166	...	161	149.1	143.1	159.3	276.7	...	263.9
Falkland Islands.....	3	4	3	3	—	6	150.0	200.0	150.0	150.0	—	300.0
French Guiana.....	21	14	...	...	37	26	70.0	45.2	...	...	108.8	74.3
Grenada.....	...	...	34	45	37	29	...	...	38.6	50.6	41.1	32.2
Guadeloupe.....	298	234	459	241	106	208	118.7	91.1	173.9	89.3	37.4	72.0
Martinique.....	215	271	225	190	149	151	83.3	102.7	83.0	68.6	51.0	50.8
Montserrat.....	6	7	...	...	9	4	46.2	53.8	...	...	69.2	30.8
Netherlands Antilles.....	45	24	52	30	23	33	24.3	12.8	27.7	15.8	11.8	16.7
Panamá Canal Zone.....	26	28	16	8	16	21	50.0	65.1	38.1	19.0	37.2	44.7
Puerto Rico.....	3,120	2,800	2,487	2,137	1,812 ^e	1,816 ^e	138.0	121.8	107.1	90.5	75.2 ^e	73.9 ^e
St. Kitts, Nevis, and Anguilla.....	22	27	70	47	23	8	40.7	49.1	125.0	82.5	39.0	13.3
St. Lucia.....	118	120	75	67	59	53	142.2	142.9	88.2	77.9	65.6	55.8
St. Pierre and Miquelon.....	10	15	17	9	7	17	200.0	300.0	340.0	180.0	140.0	340.0
St. Vincent.....	29	15	37	35	...	...	38.2	19.5	46.8	43.8	...	...
Surinam.....	119	135	187	126	204 ^a	143	50.0	54.4	72.2	46.7	72.1 ^a	46.6
Turks & Caicos Islands.....	...	...	...	...	2	—	...	...	...	...	33.3	—
Virgin Islands (U.K.).....	...	...	2	2	2	2	...	...	28.6	28.6	25.0	25.0
Virgin Islands (U.S.A.).....	8	9	15	6	12	4 ^a	27.6	30.0	48.4	18.2	34.3	11.1 ^a

— None.

... Data not available.

^a Provisional.^b State of Guanabara and capitals of other States and Territories, with exceptions; data for 1960 incomplete.^c Newly reported active cases.^d Excluding Northwest Territories.^e Reporting areas.

TABLE 12. DEATHS FROM TUBERCULOSIS, WITH RATES PER 100,000 POPULATION, IN THE AMERICAS, 1957-1962

Country or other political unit	Deaths											
	Number						Rate					
	1957	1958	1959	1960	1961	1962	1957	1958	1959	1960	1961	1962
Argentina.....	...	...	3,524	3,363	...	...	...	...	17.3	16.2	...	...
Brazil ^a	8,522	7,973	8,434	...	4,023	1,892	87.4	79.7	84.2	...	52.7	79.1
Canada.....	1,183	1,027	959	823	769	785	7.1	6.0	5.5	4.6	4.2	4.2
Chile.....	4,110	3,776	4,073	4,032	4,112	3,906	57.7	51.7	54.6	52.9	52.5	48.8
Colombia.....	3,614	3,662	3,841	4,074	4,066	4,260	27.3	27.1	27.8	28.8	28.2	28.8
Costa Rica.....	217	165	163	151	105	151	21.0	15.3	14.5	12.9	8.6	11.8
Cuba.....	1,175	1,076	1,146	1,054	...	...	18.4	16.5	17.2	15.5	...	...
Dominican Republic....	614	476	512	467	457	354	22.7	17.0	17.7	15.6	14.7	11.0
Ecuador.....	1,420	1,454	1,220	890	...	...	36.1	35.9	29.2	20.6	...	...
El Salvador.....	406	432	384	408	372	371	17.3	17.7	15.2	15.6	13.7	13.2
Guatemala.....	1,272	1,306	1,207	1,266	1,237	1,261	36.9	36.8	33.1	33.6	31.8	31.4
Haiti ^b.....	...	...	...	...	66	25	...	...	...	...	...	...
Honduras.....	286	244	297	265	236	271	17.0	14.1	16.6	14.4	12.5	13.9
Jamaica.....	...	...	...	...	143	...	...	...	...	...	8.8	...
México.....	9,494	9,399	9,168	9,719	9,403	...	29.8	28.6	27.0	27.8	26.1	...
Nicaragua.....	72	97	113	123	97	125	5.4	7.0	7.9	8.3	6.4	7.9
Panamá.....	267	266	238	288	233	252	26.8	26.0	22.7	26.7	21.0	22.1
Paraguay ^c	219	220	244	292	275	275	28.6	27.7	28.7	32.4	30.6	29.6
Perú ^d	3,224	2,627	3,182	...	3,002	3,164	118.5	83.6	89.4	...	77.4	72.1
Trinidad and Tobago...	139	110	116	95	86	48	18.2	13.9	14.2	11.3	9.9	5.5
United States of America.....	13,390	12,417	11,474	10,866	9,938	9,506	7.8	7.1	6.5	6.3	5.4	5.1
Uruguay.....	599	519	507	453	449	...	22.0	18.8	18.1	16.0	15.6	...
Venezuela.....	1,731	1,547	1,466	1,411	1,312	1,255	26.1	22.5	20.6	19.6	17.2	15.9
Antigua.....	12	7	9	3	9	7	23.1	13.2	16.7	5.5	16.1	12.1
Bahama Islands.....	13	20	12	22	...	9	13.3	19.8	11.7	21.0	...	8.1
Barbados.....	25	18	16	16	13	17	11.2	7.9	7.0	6.9	5.6	7.3
Bermuda.....	—	2	1	1	1	1	—	4.9	2.4	2.4	2.2	2.2
British Guiana.....	139	77	...	...	47	36	26.8	14.4	...	...	8.1	6.0
British Honduras.....	14	14	21	16	8	10	16.9	16.3	23.9	17.6	8.5	10.4
Cayman Islands.....	...	...	...	...	...	—	...	...	...	...	...	—
Dominica.....	27	32	19	29	...	19	47.4	55.2	32.2	48.3	...	31.1
Falkland Islands.....	—	2	—	—	—	—	—	100.0	—	—	—	—
French Guiana.....	7	12	8	11	11	...	23.3	38.7	25.8	35.5	32.4	...
Grenada.....	18	5	7	10	6	11	21.2	5.8	8.0	11.2	6.7	12.2
Guadeloupe.....	73	38	55	59	68	58	29.1	14.8	20.8	21.8	24.0	20.1
Martinique.....	96	108	76	92	71	56	37.2	40.9	28.0	33.2	24.3	18.8
Montserrat.....	6	4	...	5	2	2	46.2	30.8	...	41.7	15.4	15.4
Netherlands Antilles....	3	4	5	...	1	...	1.6	2.1	2.7	...	0.5	...
Panamá Canal Zone....	2	1	1	—	—	2	3.8	2.3	2.4	—	—	4.3
Puerto Rico.....	741	667	679	689	633	582	32.8	29.0	29.2	29.2	26.3	23.7
St. Kitts, Nevis, and Anguilla.....	6	11	14	14	7	11	11.1	20.0	25.0	24.6	11.9	18.3
St. Lucia.....	48	41	39	15	12	11	57.8	48.8	45.9	17.4	13.3	11.6
St. Pierre and Miquelon.	2	3	5	1	3	3	40.0	60.0	100.0	20.0	60.0	60.0
St. Vincent.....	...	...	...	...	...	...	...	...	...	...	...	...
Surinam.....	37	30	20	22	...	6	15.5	12.1	7.7	8.1	...	2.0
Turks & Caicos Islands.	...	...	...	...	—	—	...	...	...	...	—	—
Virgin Islands (U.K.)...	1	—	—	2	—	—	14.3	—	—	28.6	—	—
Virgin Islands (U.S.A.)..	4	3	2	...	1	2	13.8	10.0	6.5	...	2.9	5.6

— None.

... Data not available.

^a State of Guanabara and capitals of other States, with exceptions.^b Hospital deaths only.^c Area of information.^d Area of information: 1957-1960, principal cities; 1961-1962, districts with medical certification.



Pupils of the República de Chile School in Tegucigalpa, Honduras, undergoing BCG vaccination. In 1963, 73,201 X-ray examinations were made in Honduras; 103,939 tuberculin tests were given; and 68,018 persons were vaccinated. The national tuberculosis campaign was initiated the previous year in the form of a pilot project in the Departments of Morazán, Comayagua, and La Paz.

took charge of mobile units and work was continued to incorporate tuberculosis activities into routine public health work. Budgetary reasons prevented beginning the program in the Department of Magdalena.

In Honduras the second year of work was completed in the Departments of Morazán, Comayagua, and La Paz. Radiological examination of 73,201 persons resulted in the discovery of 647 cases, put on ambulatory treatment; 103,939 persons were tuberculin-tested and 68,018 others received BCG vaccination. Owing to the high incidence of radiological shadows, which because of their evolution led to a suspicion of some other etiology, the national authorities made 14,853 histoplasmin tests (positivity rate, 51 percent) and 4,896 coccidioidin tests (positivity rate, 0.6 percent).

Mobile units in México completed surveys in Veracruz, Salina Cruz, Mérida, and Los Mochis, making 30,746 radiological examinations; 3 percent of the films showed shadows suspected of being caused by tuberculosis. In Querétaro and San Juan del Río 17,220 persons were examined; 2.3 percent showed abnormal shadows. The survey continued in the State of Querétaro as part of the planning of the demonstration area which may, in the future, become a training center for personnel from México, Central America, and the Caribbean Islands. In September 1963 a medical officer joined this project.

A plan for a demonstration area in León and Chinandega, Nicaragua, was drawn up. Although at the end of 1963 the agreement was still pending signature, the training of nurses and nursing auxiliaries for the project had already commenced.

An intensive case-finding and treatment program was carried out in the central area of Panamá. Tests made on 206,119 persons showed a tuberculosis-prevalence rate of 0.8 percent and a tuberculin-positivity rate of 22.1 percent in persons under 19 years of age.

In the Tacna Health Area in Perú the demonstration area began to function regularly in July. A total of 22,736 persons was given a chest X-ray and 740 cases were confirmed; 19,239 were tuberculin-tested and 5,714 were given BCG vaccination. A case-finding experiment consisting of a daily sputum examination made by specially trained auxiliary personnel was begun in the less favored communities of the Department of Junín.

The initiation of activities in the San Cristóbal Health Area of the Dominican Republic, for which a short-term consultant will be provided, was postponed until 1964.

Demonstration area projects scheduled to begin operations in 1964 in British Honduras, Chile, Costa Rica, El Salvador, and Nicaragua were in preparation.

A summary of activities in the demonstration areas of Argentina, Honduras, México, Panamá, and Perú showed that in those areas, with approximately 1,252,000 inhabitants, X-ray examinations were made of 405,652 persons; 4,203 new cases of tuberculosis were discovered; and 4,239 cases were under control, undergoing ambulatory treatment. Loss of case-control, between the eighth and twelfth month of observation, ranged from 36 percent to 12 percent. In addition, 375,349 persons were tuberculin-tested and in 3 of the areas 99,665 BCG vaccinations were given.

Pursuant to Resolution XXVII of the XIV Meeting of the PAHO Directing Council, preparations were begun for the Technical Discussions on "Tuberculosis eradication: a task for present planning and future action," which will take place during the XV Meeting of the Council, in 1964. Arrangements were also initiated for a Regional Seminar on Tuberculosis, scheduled to be held, with the assistance of the Government of Venezuela, in Maracay, at the end of 1964. Finally, plans were also made for a meeting in 1964 of the tuberculosis consultants and epidemiologists in the Region, to be held at Headquarters, to map out a general policy and to introduce uniformity into certain technical aspects of registration of data, periodical reports, and forms for evaluation of projects.

With respect to the training of personnel for tuberculo-



Inhabitants of Tequisquiapan, Querétaro, México, undergoing free X-ray examination by a mobile tuberculosis control unit. Since 1962 a program has been in operation in México to determine the extent of tuberculosis and to develop methods for its early diagnosis, to train personnel, and to initiate pilot tuberculosis control programs.

sis control activities, the Organization awarded fellowships to 5 physicians and 1 nurse in 1963. Furthermore, Organization-encouraged intercountry agreements for the training of physicians (Honduras-Nicaragua, Venezuela-Honduras) made it possible to train 1 physician in Venezuela and 1 in Honduras. The Organization also collaborated in the planning of short courses on tuberculosis control techniques for nurses and nursing auxiliaries.

At the end of 1963, ways of expanding the training of X-ray and laboratory technicians were under study.

Possible lines of research on tuberculosis were examined by the Advisory Committee on Medical Research at its second annual meeting in June 1963. Research activities would be directed primarily toward the study and verification of the effectiveness and applicability of

therapeutic and immunization procedures. After the CAIM meeting, some experiments, particularly in the field of bacteriological diagnosis, were undertaken to help estimate the difficulties that might be encountered. A document under preparation on tuberculosis research, within the framework of the general lines recommended by the Committee, envisages a practical plan of action.

PLAGUE

Plague is a potentially explosive disease in the Americas. In 1960 there were 258 cases, followed by 343 in

TABLE 13. REPORTED HUMAN CASES OF PLAGUE IN 6 COUNTRIES OF THE AMERICAS, 1962 AND 1963

Country	1962	1963
Bolivia.....	—	53
Brazil.....	36	39
Ecuador.....	326	258
Perú.....	164	72
United States of America.....	—	1
Venezuela.....	1	—
Total.....	527	423

— None.

1961 and 527 in 1962. With 423 cases reported in 1963, the tide may be ebbing (Table 13).

In Ecuador, beginning in 1960 and continuing into 1963, a serious spillover of sylvatic plague to domestic rats occurred in the Provinces of Manabí, Chimborazo, Loja, and El Oro. Particularly affected was the Province of Manabí where the disease is present in 10 of its 12 Cantons, including the city of Portoviejo, capital of the Province, and its two maritime ports, Manta and Bahía de Caráquez. The focus of Manabí presents special importance because of the danger that the disease might spread to other areas, especially the city of Guayaquil, capital of Guayas Province, with which there is commercial traffic by road. At the request of the Government, a short-term consultant provided by the Organization assisted the national health authorities in surveying the situation. The consultant gave advice on measures to control the outbreak and recommended that the Plague Service be reorganized.

Although most of Perú's 72 cases of plague occurred in Ayabaca and Huancabambo in the Department of Piura, which borders on the Province of Loja, Ecuador, there is particular concern because the disease is spreading toward the East. There were cases in Tabaconas, Department of Cajamarca, and in Copallín, Department of Amazonas, on the banks of tributaries to the Alto Marañón River which, joined by the Ucayali, flows into Brazil as the Amazon River.

Plague was identified in a dead rat in San Francisco, California, U.S.A., on 12 March. A 12-block area of the city was declared infected and intensive studies were carried out. The results were negative for plague and the area was declared free of infection on 29 March.

Late in 1963 a consultant of the Organization began a study in Venezuela, where plague exists in the wild rodent population of a limited area and the Government has expressed interest in planning an eradication project.

POLIOMYELITIS

In 1963 the Organization continued to assist the countries of the Hemisphere with their mass programs of oral vaccination against poliomyelitis, by providing technical advisory services for the conduct of such programs, by facilitating the acquisition of vaccines through its procurement service for the Governments, and by solving urgent problems in emergency situations.

During the year, Costa Rica, El Salvador, Honduras, and Panamá expressed interest in conducting immunization programs through their regular health services, using oral vaccine prepared with attenuated live poliovirus.

Costa Rica, which in 1954 had the most serious epidemic outbreak recorded in Central America to date, mounted a nationwide vaccination program between 1958 and 1960; however, no provisions for immunizing the new susceptible population were made. Consequently, the Government of that country decided to carry out a new nationwide-vaccination program and initiated it in October 1963.

Immunization activities on a smaller scale were carried out in El Salvador and Honduras through the regular health programs. The same applies to British Honduras, Guatemala, and Nicaragua (Table 14).

Panamá, which had two epidemic outbreaks in relatively recent years, began a vaccination program in the capital city and was subsequently extending the campaign to the rest of the country. The most important feature of this campaign was the active participation of the community, both in the acquisition of the vaccine and in the conduct of the program itself. The regular health services were responsible for the consolidation of these activities.

TABLE 14. VACCINATIONS AGAINST POLIOMYELITIS WITH ATTENUATED LIVE VIRUS IN CENTRAL AMERICA AND PANAMÁ, 1962 AND 1963

Country	1962	1963 ^a
British Honduras.....	10,617	4,953
Costa Rica.....	106,252	39,224
El Salvador.....	143,835	200,091
Guatemala.....	127,004	169,249
Honduras.....	127,144	51,069
Nicaragua.....	...	19,280
Panamá.....	11,547	12,591
Total.....	526,399	496,457

... Data not available.

^a Up to 31 October 1963.

II. HEALTH PROTECTION: DISEASES

Two experts of the Communicable Disease Center of the United States Public Health Service, acting as consultants in epidemiology for AID, visited the Dominican Republic in June to evaluate the population's immunological status with regard to poliomyelitis. After completing their study they recommended a mass vaccination program as early as possible, not because there was an imminent danger of an epidemic but because there had been an increase in the incidence of paralytic poliomyelitis in recent years and a considerable epidemic had occurred in 1959.

As a result of this study, which showed in separate calculations that only 38 percent of the child population aged from 6 months to 6 years had antibodies against Type 1 virus, 64 percent against Type 2, and 44 percent against Type 3, the Government planned a vaccination program with trivalent oral vaccine. Unfortunately, financial difficulties prevented carrying out the program.

From the first week of July, there was a sustained increase in the number of poliomyelitis cases occurred and a considerable further increase during August. By 14 September 269 cases of paralytic poliomyelitis, 82 percent of which occurred in children under age 7, had been recorded. Fifteen deaths were reported. Studies made at the Health Department of Puerto Rico and at the Communicable Disease Center in Atlanta, Georgia, indicated that the prevalent virus was Type 1.

In mid-August the Dominican Health Department acquired 6,000 doses of trivalent vaccine from Puerto Rico to vaccinate the contacts of known cases. Two CDC experts arrived on 24 August, as AID consultants, to collaborate in the epidemiological study of this outbreak and in an oral vaccination program. Through the intervention of AID, Lederle Laboratories donated 750,000 doses of monovalent vaccine, Types 1 and 2, and Connaught Laboratories of Canada donated 12,500 doses of trivalent vaccine. To supplement this assistance, the Lily Cup Company, of U.S.A., donated one million paper cups, and Pan American Airways contributed free-of-charge transportation.

Vaccination of the National District was carried out with Type 1 vaccine on 31 August and 1 September. The level of coverage obtained surpassed the most optimistic expectations (166,067 persons vaccinated), since difficulties had been anticipated because of the limited time available to prepare the program.

A PASB epidemiologist arrived in the country in early September, as did a group of medical officers from the Ministry of Health and Welfare of México. This group, composed of an epidemiologist, a virologist, and an orthopedist, brought 50,000 doses of trivalent oral vaccine

donated by the Government of México, which also offered to send more vaccine if the Dominican Republic needed it to meet the emergency. In the days that followed, another 600,000 doses of vaccine were sent.

The first stage of the program was completed by 15 September with total coverage of all Provinces in the country, including the National District. Monovalent vaccine Type 1 was used in 15 Provinces, and in the remaining 12, trivalent vaccine. A total of 754,707 children were vaccinated, of which 134,593 received the trivalent vaccine.

Throughout the campaign the Organization provided advisory services and direct participation by means of all its personnel assigned to projects in the country. The New York City Health Department provided 4 specialized nurses to assist the Dominican health authorities in the treatment of acute cases and in the matter of rehabilitation.

In October, Type 2 vaccine was administered to the population which had received the Type 1 vaccine (the National District and the Provinces of Peravia, Espaillat, Barahona, Santiago, La Vega, and San Pedro de Macoris), and a second dose of trivalent vaccine was given in the remaining Provinces. The campaign was concluded in December when the third dose of trivalent vaccine was administered throughout the country.

In Barbados an outbreak flared up at the end of March. In response to a request from the Government, the Organization sent a consultant to the island.

The outbreak had a 13-week course with a slow accretion of cases during the first 10 weeks, a rather marked peak during the first 2 weeks of June, and an abrupt termination after the third week in June. There were 69 cases in a population of 232,333, or 29.3 per 100,000 population, with a larger concentration of cases occurring in the urban area of the capital city. The highest clinical attack rates were confined to the under-5 age-group. Four deaths were reported.

A mass immunization program aimed primarily at children in the under-6 age-group, using Type 1 oral vaccine provided by the USPHS, was carried out. The decision to use the Type 1 vaccine without, at that time, laboratory confirmation of cases, was governed by three factors: (1) the majority of epidemics are due to poliovirus Type 1; (2) the epidemic that occurred during December 1962 and January 1963 in British Guiana, with which Barbados has a considerable amount of interchange of personnel and commerce, was Type 1; and (3) some evidence exists to support the contention that feeding a heterotypic type of attenuated poliovirus in the face of a

poliomyelitis epidemic may interrupt the cycle of transmission and thus stop the epidemic.

The rather abrupt decline of the epidemic curve following the mass feeding of the oral poliovirus vaccine suggests that the introduction of the vaccine virus into the population interrupted the chain of transmission of wild virus and halted the outbreak. One cannot be completely certain, however, that the termination of the epidemic was not the result of natural depletion of susceptible persons in the population.

The recovery of Type 1 poliovirus from 13 percent of 46 children surveyed and mixtures of Types 1 and 2 and of Types 1 and 3 from 22 percent of these 46 children suggested that the population was well seeded with polioviruses prior to the mass vaccination.

Following the epidemic, oral vaccination was incorporated into the routine program for child immunization.

ARBOVIRUS INFECTIONS

In the course of 1963 arboviruses caused epidemics in man and in domestic animals in several countries of the Americas.

Equine Encephalitis

In Venezuela, in the Perijá District, in the State of Zulia, reports of human cases of equine encephalitis began to be received from March onwards, at the same time that epizootics occurred in livestock (horses, donkeys, and pigs). The human outbreaks continued to appear during the rest of the year; a total of 3,704 cases were reported in 39 localities in 11 States. The virus of Venezuelan equine encephalitis was isolated from human cases, domestic animals (donkeys and horses) migratory birds, and mosquitoes, and examination of the sera of goats, opossums, and forest rodents revealed the presence of antibodies. Epidemiological, clinical, and virological studies have shown that equine encephalitis is a rural endemic disease with seasonal variations.

In Colombia, 158 human cases of Venezuelan equine encephalitis were notified during October and November in the peninsula of La Guajira. This region had also been the scene of a rather large epidemic of encephalitis at the same time of the previous year.

Two outbreaks of encephalitis occurred in the United States of America in 1963. One of the outbreaks affected

40 individuals in Hale County, Texas, between June and August. Laboratory studies showed that the causative organism was the virus of Western equine encephalitis. The other outbreak, in the State of Kansas, affected 120 horses in which the Western equine encephalitis virus was also shown to be active; 34 human cases were reported.

In the Province of Saskatchewan, Canada, an outbreak of encephalitis during the summer months affected 279 horses, of which 47 died. More than 100 human cases were notified, and laboratory studies confirmed the presence of Western equine encephalitis virus in 33 of them.

Dengue

An epidemic of dengue began in Jamaica in March and continued throughout 1963. Cases throughout the island reached 1,391. Laboratory studies made it possible to observe an increase in the hemoagglutination inhibiting antibodies against viruses of the dengue complex.

In Puerto Rico, in July, there was an outbreak of a disease whose clinical characteristics resembled those of dengue. The attack rate in some communities was as high as 50 percent, 25,509 cases were reported in the course of the year. The causative organism was isolated in the laboratory and studies revealed that it had characteristics peculiar to dengue Type 1, but subsequent tests did not confirm it. Laboratory tests made it possible to show an increase in Group B arbovirus antibodies. These studies were continuing in order to typify the isolated organism.

Cases of dengue were imported into the United States of America from Jamaica or Puerto Rico. In July, 4 cases were reported in a family in Michigan; and in August, 6 cases were reported in Minnesota and 5 in New York State.

It was feared that the dengue epidemics of Jamaica and Puerto Rico would spread to the territories of the Caribbean which are still infested with *Aedes aegypti* but, according to reports, only one outbreak occurred, in Antigua, where 300 cases were notified in November and December.

Hemorrhagic Fever

Seasonal outbreaks of an infectious disease affecting certain occupational groups of the population have been occurring in Argentina since 1943. The syndrome, variously known as "corn-stubble disease," Argentinian hemorrhagic fever, etc., has shown especially dramatic characteristics since the autumn of 1958, the case-fatality rate ranging between 6 percent and 20 percent of notified

cases. Since the causative organism, Junín virus, was isolated, efforts have been made to obtain a vaccine to control the disease. Despite the measures adopted by the health authorities and the advances in knowledge of the organism and its method of operation, 500 cases were reported in 1963.

Bolivia has been reporting since 1959 a disease whose clinical characteristics resemble those of Argentinian hemorrhagic fever. In the course of 4 years 470 cases were reported, the case-fatality rate being 30 percent. The disease, which attacks especially males over 15 years of age, broke out in 2 localities, separated by some 110 km., in the Department of Beni. Under auspices of the Organization experts from the National Institutes of Health and its Middle America Research Unit (MARU), of the United States Public Health Service, visited the affected areas in 1962 and in 1963.

In 1962 the NIH investigators had succeeded in isolating from the spleen of a fatal case a virus whose antigenic properties were common to the Junín virus (causative agent of Argentinian hemorrhagic fever) and the Tacaribe virus. In 1963, using hamster brain as a source of antigen, serological conversion was observed in the 3 MARU research workers who contracted the disease during their field studies as well as in other patients with typical symptoms of the disease. It was also possible to observe the presence of complement-fixation antibodies in rodents in the epidemic zones. The clinical and epidemiological findings and the results of laboratory tests support the hypothesis that Argentinian hemorrhagic fever and the Bolivian fever are similar diseases.

The problems raised by the widespread distribution of arboviruses, including the potential danger they represent to programs for opening up new lands, led the Organization to convene a meeting of the main investigators of the Region. The meeting was held in Rio de Janeiro, Brazil, from 5 to 7 September and was attended by 111 participants who discussed the problems presented by arboviruses in the great river basins in the Equatorial part of South America as well as recent epidemics in the countries of the Hemisphere.

PARASITIC DISEASES

Chagas' Disease

The furtherance of research in the chemotherapy of Chagas' disease was one of the recommendations made to the Organization by study and advisory groups. The

Organization's first steps to implement this recommendation was to promote a coordinated program that would take advantage of the available personnel and facilities in a number of research centers active in the Americas.

Early in 1963 a consultant of the Organization made a survey of research opportunities in the chemotherapy of Chagas' disease. On 5 September 1963, during a one-day meeting held in Rio de Janeiro, Brazil, the Chagas' Disease Chemotherapy Research Group was formally organized, composed of 6 investigators well qualified to comment, advise, exchange information, arrange for clinical trials, and encourage as well as conduct research in this area.

The Group defined the scope of its activities and its relations with other groups either already in operation or which might be formed. Nonclinical investigations were divided into 4 areas of experimental studies: chemotherapeutic testing in mice and evaluation of substances which have already shown activity in preliminary tests; effects of various compounds on the leishmanial and trypanosome forms as they occur in tissue cultures of monkey heart; nucleic acid metabolism of the parasite under the influence of drugs, with special reference to the blood forms, thus complementing the studies on the tissue forms; and a program for screening compounds to be tested. The Group also established communication with other researchers having the same interest.

At the end of 1963 a standard antigen to be used with a standard technique in the complement fixation test for the diagnosis of Chagas' disease was available for distribution to countries upon request. The availability of the antigen is the result of an agreement entered into in 1962 between the School of Medicine of the University of Chile and the Organization.

The Organization acquired several hundred copies of the *Anais do Congresso Internacional sobre a Doença de Chagas*¹ and distributed them among scientific and educational institutions and interested persons.

The Government of Uruguay took the initial steps to put into operation the program for the control of Chagas' disease that was prepared in 1962 with the assistance of a consultant provided by the Organization.

Schistosomiasis

Schistosomiasis continued being a public health problem in areas of Brazil, Venezuela, the Commonwealth of Puerto Rico, the Dominican Republic, and St. Lucia.

¹ Universidade do Brasil, Rio de Janeiro, 1961. Two volumes 732 pp.

Schistosomiasis constitutes a drag to many efforts for socioeconomic development, because the advantages gained by agriculture reform and irrigation projects are limited when the disease is draining the strength of the population, even reducing the learning ability in children. The continuation and spread of schistosomiasis in a country can cause losses to the extent of affecting the gross national product or ruin the tourist industry where it represents an important source of national income.

In Brazil, as in most of the affected countries, the degree and distribution of the disease is not known, primarily because schistosomiasis is not a notifiable disease and systematic surveys have not been conducted recently or at all. In Venezuela and Puerto Rico more knowledge is available on the extent of the problem, and control of the disease is being attempted through the use of available, if imperfect, molluscocides and by means of an environmental sanitation program. In the Dominican Republic the infected area is believed, from previous surveys, to be relatively restricted and eradication may, possibly, be feasible.

In St. Lucia, tourism is an important industry. Because the activities of vacationists often involve contact with fresh waters, the health authorities requested assistance to determine the size and nature of the schistosomiasis problem, in order to plan an effective program of control. The consultant provided by the Organization conducted a snail survey, trained local staff in laboratory techniques to carry out an infection survey, and outlined precontrol program studies.

The problem posed by schistosomiasis is compounded of many parts. In 1963 the Organization's activities were devoted mainly to support research efforts and training. The Second Meeting of the PAHO/WHO Working Group for the Development of Guidance for Identification of American Planorbidae Involved in Schistosomiasis was held in Rio de Janeiro, Brazil, from 28 to 31 August 1963, and further progress was made in clarifying the methods of identifying the intermediate-host snails. The Working Group has reduced the number of species of snails involved in this disease from over 100 to less than 10. Furthermore, the Group prepared a draft of a Guide to the Identification of American Planorbidae Involved in Schistosomiasis, which, when edited and ready for use as reference, will standardize the work in this field.

Surveys to determine the existence of schistosomiasis snail vectors and the effectiveness of snail control programs depend on proper identification of snails. To assist further in proper identification, in 1963 the Organization and the Government of Brazil agreed to collaborate in establishing at Belo Horizonte, Minas Gerais, the Inter-

national Center of Snail Identification for the Study of Schistosomiasis. Besides snail identification services and training of technical workers, the Center will test representative samples of snails from different countries to determine their potential as vectors of schistosomiasis.

During 1963 the Organization undertook an accumulation of all available information on schistosomiasis in the Americas and at year's end the material was undergoing the final review for publication.

ZONONOSES

The health of human beings is inextricably related to the health of animals, not only because of the intercommunicability of certain diseases—the zoonoses—but because of the depressant effect that some animal diseases have on the socioeconomic status of a country. Improvement in research methods and investigations have increased man's knowledge of the number of diseases which either man or animal can transmit to the other.

The one-host diseases have, in general, a standard clinical picture and an easily understood epidemiology. These diseases have attained their importance and therefore prime attention because their presence and volume are immediately apparent in man and because the respective ecology involved is relatively simple. But the ecology of the zoonotic diseases, which are more in number, is seldom direct and rarely simple. The source-reservoir relationship and the complicated human-animal life-cycles of the zoonoses as well as their subtle and varying means of transmission deny the wisdom of managing human and animal disease as distinct and separate entities and demand, instead, a multidiscipline approach.

Human cases of rabies, plague, and typhus have been included for many years in the disease-reporting services of the Organization, but only since 1959 has this program included animal-incidence data for the previously mentioned and other important zoonoses. Review of the information reported by the countries reveals an ever increasing interest in the zoonoses although many gaps still remain. Some countries report a large number of human cases of a disease, such as brucellosis, but no animal cases, while other countries report a high incidence in animals but none in the human population. If due knowledge of the zoonoses in all the countries is to be obtained and proper attention is to be given to these many diseases better reporting must be urgently attained in all the countries.

Although in the Americas rabies exists in many countries most of them undertake disease-control activities only when the human incidence increases significantly. Very few countries have a program designed to control or contain this disease on a permanent basis. Rabies diagnostic services are not consistently reliable nor strategically located in most countries. Stray dog control and dog immunization programs ebb and flow irregularly and do not provide a level of immunity sufficient to prevent the reappearance of the disease and the occurrence of human cases. Supplies of human vaccine and of hyper-immune serum are limited and often of poor quality. Since techniques are available for the production of safe and potent rabies biologics, the existence of adequate supplies requires the interest and effort of national health authorities. The Pan American Zoonoses Center has supplied, upon request, needed virus strains and standards for vaccine production and is prepared to conduct confirmatory testing of products manufactured in the countries.

There was no significant progress on a Hemisphere basis against brucellosis. The United States of America continued its program to eradicate bovine brucellosis and attained a small residual of positive reactors. This program was directing major attention to *Brucella suis*, which affects primarily swine but is transmissible to cattle and man. In Argentina the Brucellosis Control Pilot Program tested 66,791 blood samples in 1963 and vaccinated thousands of young cattle with Strain 19 vaccine. The results attained in the Pilot Program warrant the expansion of this disease-control activity to the national scale. The hard-won success in a bovine tuberculosis control program in Venezuela led officials to launch a program for the control of animal brucellosis. In Brazil, the State of Rio Grande do Sul carried out an animal-vaccination program, the only one in this country. In México research workers were engaged in studies of caprine brucellosis. The development of an effective vaccine against the disease was underway in California, U.S.A., with assistance from the WHO. This work is of considerable importance, even though large herds of goats in the Hemisphere are found only in México and Northwest Argentina, because *B. melitensis* is the most severe of the strains that cause brucellosis in man.

Plague, as already reported, is potentially explosive in the Americas, especially in Ecuador and Perú from where it threatens the Amazon Basin.

Although the control of certain zoonoses (such as hydatidosis and jungle yellow fever) presents great difficulties, for others the necessary procedures are relatively simple. A zoonosis easy to control, and for all practical

purposes to eliminate, is anthrax. Diligent and determined control programs of diseased animals in the countries, together with careful control of pertinent imported products and animals, could remove this disease as a public health hazard and an agricultural economic burden. The disease exists in all the countries of Latin America, with the highest known incidence in Argentina, Chile, México, and some areas of Central America.

Few of the longstanding diseases present a problem as difficult as does hydatidosis, and yet this is a disease for which there exist two practical means for successful attack: the control of dogs and the sanitary control of animals slaughtered for meat. Studies conducted by the Pan American Zoonoses Center and others have revealed the existence of some sylvatic hydatidosis, but the type and number of animals involved does not portend this aspect to be significant in the maintenance of the disease. Hydatidosis is an important human and animal disease in Argentina, Brazil, Chile, Perú, and Uruguay. A low incidence of the disease in animals has been reported from Paraguay and Venezuela, and recently a relatively high incidence was revealed in Guatemala.

Hydatidosis invites extensive research studies. None of the tests available can be relied upon to diagnose the disease in human beings, nor is there a specific therapy. For infected dogs, wherein the causative tapeworm is involved, a teniacide exists which, while effective as a clinical drug, did not prove to be useful in mass-treatment campaigns in countries of South America. In a search for an effective mass-campaign teniacide the Pan American Zoonoses Center has devoted considerable attention to the screening of compounds; studies carried out during 1963 revealed two compounds of promising results. As dividends of this research, knowledge is being obtained on the host-parasite relationship.

Tuberculosis is a major public health problem in most of the countries of the Americas, although the incidence curves are dropping, as they are for many countries of the world. To what extent animals are the source of the current human disease is not known, primarily because the countries are not able, or interested, to conduct the necessary typing studies. Excellent typification services are in operation in México and at the Pan American Zoonoses Center. Greater use of these services would reveal information on the extent to which the tuberculosis problem is zoonotic. Tuberculin tests conducted in cattle have revealed the presence of tuberculin-positive animals in each of the countries, with the highest rates found in concentrated animal populations in milksheds near large cities. Besides Canada and the United States of America,

only Venezuela has a program designed to have a major effect on the disease in cattle.

Rabies

Throughout 1963 the Organization supplied requesting countries with many items for their work in rabies control, such as vaccine, vaccine standards, and virus strains for vaccine production and testing. Because in some countries the production and control of antirabies vaccines for human and animal use are still not at an adequate level, the Organization took steps to increase the rabies services of the Pan American Zoonoses Center. The laboratory at the Center was expanded and a specialist in rabies was recruited to assume duties in 1964. Many of the items and services provided, including the reference testing of vaccines, were provided by the Pan American Zoonoses Center.

The lack of an adequate supply of reliable and potent rabies vaccines remains one of the most crucial problems facing the countries. High priority should be given to improving vaccine sources, both commercial and governmental, with stringent control responsibilities vested in national foods, drugs, and biologics control services. In some cases, intercountry acquisition of rabies vaccines would be wiser than attempts to establish local production, since there is sufficient production capacity in Latin America to meet the needs of all the countries if a system is developed to operate existing facilities fully and reliably as common sources of rabies vaccines for the area. Such limited and common sources have been established for yellow fever vaccine.

Stimulation, technical guidance, and intercountry coordination in rabies work, especially for control programs, were continuing activities of the veterinary public health advisers of the Organization. The benefits of this work are exemplified by the reduction in incidence of rabies during the last few years in the countries of Central America.

The fluorescent antibody technique, developed primarily by the U.S. Public Health Service, is a rapid and reliable diagnostic tool in rabies. There being a great need and desire in the countries for training of personnel in the use of this technique, the equipment was established at the Pan American Zoonoses Center. A fluorescent antibody training course was conducted, in collaboration with the national health authorities, in San José, Costa Rica, for trainees selected from the other countries of Central America.

In 1963 rabies virus continued to be present in most of the countries of the Hemisphere (Table 15).

TABLE 15. REPORTED CASES OF RABIES IN MAN AND IN ANIMALS, 1963^a

Country or other political unit	Cases	
	Man	Animals
Argentina.....	28	...
Bolivia.....	1	...
Brazil:		
Paraíba State.....	1 ^b	...
Pernambuco State.....	16	...
Canada.....	—	1,138
Chile.....	2	251
Colombia.....	118	...
Cuba.....	1	...
Dominican Republic.....	1	30
Ecuador.....	16	80
El Salvador.....	4	58
Guatemala.....	—	134
Haiti.....	1 ^b	1 ^b
Honduras.....	2	25
México.....	33	...
Nicaragua.....	1	38
Perú.....	9	...
United States of America.....	1	3,680
Puerto Rico.....	—	17
Venezuela.....	23	404

— None.

... Data not available.

^a Based on official notification to the National Health Services; data received at PASB through 30 April 1964.

^b Incomplete data.

Argentina had a serious outbreak of rabies in spite of campaigns that included mass vaccination of dogs, elimination of stray dogs, and health education of the public.

Brazil gathered basic epidemiological data, increased and improved its diagnostic laboratories, and established a biminsty (health and agriculture) coordination committee.

Colombia reported 116 cases, as compared with 33 the previous year.

Chile, with good diagnostic facilities and a fairly adequate supply of vaccines, failed to control the disease because the preventive measures taken were not in keeping with the extent of the problem.

On the island of Grenada, rabies has been a smoldering problem for many years; the disease is endemic in wildlife, including the mongoose, and occasional epidemics occur in dogs. After a human case occurred in 1962 the health authorities requested advice, and in 1963 the Organization sent a team to study the nature of the problem and to develop a plan for control of the disease.

The resulting report included recommendations on diagnostic services, dog vaccination or elimination, and eradication of the mongoose. (A technique for mongoose eradication had been developed and carried out the previous year, by the U.S. Fish and Wildlife Service, on one of the islands in the U.S. group of the Virgin Islands.)

In México, where a major rabies problem has had the Organization's assistance since 1949, further progress can be reported. The especially complex rabies problem in that country's Northern States moved a step closer to control through an active program conducted in collaboration with the Border States of the United States of America and coordinated by the Organization. This program has been made more effective by planning individual campaigns for inter-Border areas. Training opportunities, disease-reporting, diagnostic services, dog control and vaccination, as well as wildlife control, are stimulated, guided, and coordinated by the veterinary public health adviser assigned by the PASB to its El Paso Field Office. Besides the technical guidance and coordinated services, the Organization assists as a procurement agency for vaccines and other materials ordered by the corresponding authorities.

The Fourth International Rabies Conference (United States-México) was held on 2 May 1963 at Nogales, Arizona. Program progress was reviewed and control plans approved.

An interesting though disturbing report stemmed from wildlife studies conducted in the Border Area by the U.S. Public Health Service. Animals locked in cages that prevented both direct contact and entoparasite transmission developed rabies when kept in infected bat caves, which leads to the hypothesis of air as a possible carrier of infection. There is considerable need for increased research on the ecological history of rabies and a definition of the rabies virus strains involved.

In the United States of America there has been a gradual reduction in reported cases during the last few years; in 1963 only 1 human case was reported although the animal cases increased slightly.

Panama's stringent animal import and quarantine regulations have kept the country free of rabies except for a few bat-induced cases in livestock. Laboratory studies on a single case reported in a dog during 1963 tended to incriminate rabies as the cause, but studies based on epidemiological information left considerable doubt as to the true cause and source of the dog's infection.

Paraguay continued its antirabies campaign, vaccinating 368 dogs during 1963 and eliminating dogs with-

out owners. Of 392 prophylactic treatments begun, 302 were completed.

Venezuela reported 23 human cases in 1963, almost twice as many as the previous year.

Pan American Zoonoses Center

The Pan American Zoonoses Center continued and expanded its research activities. Efforts were concentrated on problems whose solution would have immediate effect, and the work covered important aspects of various zoonoses.

An appreciable number of requests for biologicals and for the testing of antigens and vaccines were received from the countries. This service is helping to introduce uniformity into diagnosis of the most important zoonoses and into the techniques for preparing reagents and biological products.

In 1963, as in previous years, training was accorded due importance among the activities of the Center.

Research

The needs and opportunities for research in zoonoses are so vast that the Center can cover only a very small part of them. The following summaries give some idea of the work done in 1963.

Brucellosis. Samples of 38 lots of antigens for the agglutination test (14 for tube-testing and 24 for plate-testing) used in the serological diagnosis of brucellosis in man and in animals in 10 Latin American countries were tested. The study covered total cell count, purity, pH, sterility, and sensitivity. The results showed that 71.4 percent of the tube-tested antigens and 47.3 percent of the plate-tested ones—both for animal use—were satisfactory. On the other hand, only 14.3 percent of the tube-tested antigens and none of the plate-tested antigens for human use were acceptable.

Preliminary work was done on the evaluation of a rapid whole-blood test recommended for bovine brucellosis. If this test gives results consistent with those of the internationally recognized tests, it would be advantageous as a screening procedure in eradication programs.

A study on the effect of foot-and-mouth disease vaccination on the agglutination titer for *Brucella abortus* was completed. For this research, 120 calves, aged 11 to 13 months, previously inoculated with Strain 19 vaccine were used. Trials were made of three different types of foot-and-mouth disease vaccine to each of which a different adjuvant had been added. A comparison of the

averages of the agglutination titers obtained before and after FMD vaccination showed that the vaccines used had little, if any, effect on the agglutination titer for brucellosis. These conclusions help to clear up a much debated point and one of considerable importance for control programs.

Plate and tube agglutination tests for brucellosis on 701 blood specimens from foxes coming from 9 ranches in the central and southern part of the Province of Buenos Aires, Argentina, showed a surprisingly high number of reactors. *Br. abortus* isolated from visceral triturates show that foxes may play a part in the spread of this disease.

Hydatidosis. Antihelminthic mass treatment of dogs infected with *Echinococcus granulosus* is of fundamental importance for the control of hydatidosis. Arecoline hydrobromide, the drug widely used in recent years, has several important disadvantages. With a view to discovering a better helminthicide, various chemical compounds were analyzed, and naphthalene derivative with a high teniacide action which has been tested in a large number of animals was selected with a view to obtaining more definitive conclusions. This work is being financed in part by a large grant awarded by the National Institutes of Health of the United States of America.

A paper on the prevalence and possible epizootiological role of sylvatic echinococcosis in the spread of hydatidosis in southern South America was presented at the VII International Congresses of Tropical Medicine and of Malaria, held in Brazil in September. The finding of the *Echinococcus* tapeworm in numerous specimens of the pampas gray fox in the Province of Buenos Aires, Argentina, provided evidence that these forest animals may possibly be involved in the spread of hydatidosis. In addition to investigating the prevalence of the infection, studies have been made to determine whether eggs from the fox tapeworms are infective and the species of parasite. The material was fed to a variety of laboratory rodents and domestic animals. Although this phase of the study is not yet complete, it is already known that 2 of 5 cotton rats developed hepatic cysts. *Echinococcus* tapeworms were also found in a weasel trapped near Azul, thus adding a new species to the list of definitive hosts for that parasite. These studies on echinococcosis in foxes have made a valuable contribution to our knowledge of the natural history of the disease, although the dog continues to be the main source of the spread of the infection.

In cooperation with the Medical Research Council of New Zealand, preliminary work was done on the study of the species specificity of hexacanth embryos of *Taenia*

hydatigena (Pallas 1766) in protecting dogs against *E. granulosus*.

In cooperation with the Public Health Service Communicable Disease Center in Atlanta, Georgia, work was done on a modified latex agglutination test for use as a screening procedure in the sero-diagnosis of hydatidosis. The analysis of 221 sera, 23 from patients with surgically proved hydatidosis and the rest from those with other parasitic diseases and bacterial and virus infections, indicate a 100% sensitivity and a 97% specificity for this test.

A large number of serum samples was collected from known infected and noninfected dogs for use in studying serological methods for diagnosing canine echinococcosis.

Leptospirosis. The discovery of natural occurrence of *Leptospira pomona* infection in the pampas cavy led to studies of the experimental disease in cage-bred animals of that species. One of the animals was found to be still shedding the micro-organism in the urine at the 89th day after inoculation. Studies of the infection in the natural cavy population and in associated domestic livestock have also been continued. Results have been reported in part.

Serological evidence of bovine infection with leptospire of the *L. hebdomadis* sero group has been encountered frequently by investigators in many countries. A study just completed in the Center showed that more than half of the serum specimens from a large number of cattle from 38 ranches widely scattered in the County of Azul (Province of Buenos Aires, Argentina) reacted positively for leptospire of this sero group. The full significance of these findings is not clear, since the bovine infection appears to be almost invariably subclinical. It is planned to explore the domestic animals and human population at risk on these ranches.

Studies have been completed on *L. pomona* infection in domestic cats and on the isolation of *L. paidjan* from opossums. Studies on leptospirosis in forest animals were continued, and in 1963 kidney and urine specimens were examined from 422 foxes (*Dusicyon gymnocercus*), 463 cavies (*Cavia pamparum*), 49 armadillos (43 *ChaetophRACTUS villosus*, 5 *Dasyus novemcinctus*, and 1 *ZaEDUS pichiy*) and 7 rats (*Rattus norvegicus*); and 6 strains of leptospira were isolated from foxes, 2 from cavies, 3 from armadillos and 5 from rats. Up to the present time preliminary identification shows that the strains isolated from foxes were *L. canicola*; those from rats, *L. icterohaemorrhagiae*; and those from cavies, *L. pomona*. The identification of the remainder is still pending. As this study is continued, more and more evidence becomes

available of the wide extension of *Leptospira* infection in forest animals.

Rabies. Studies were continued on rabies vaccines for human use. In one of them the antibody response in persons who had received killed duck embryo vaccine was measured. The second involved comparative potency testing in animals of liquid and lyophilized phenol-killed vaccines.

The project on the evaluation of the potency of rabies vaccines for human use used in the Americas was completed. Eleven countries took part in the study (Argentina, Brazil, Bolivia, Canada, Colombia, Cuba, Chile, Ecuador, United States of America, México and Perú) and samples from 22 producing laboratories were examined. The Habel test, which establishes that the vaccine must protect rats at least against 1,000 LD₅₀ of the virus, was used to determine potency. In accordance with this criterion 4 of the 22 batches examined were found unsatisfactory for use. This review gave valuable information about the quality of the vaccines and the way they are produced.

Other Zoonoses. Studies were continued on the attenuated Sterne anthrax vaccine, the principal purpose of which is to improve production methods and techniques for potency testing. A review of the anthrax situation in animals and man was completed. It shows that, despite defective reporting of cases, human and animal anthrax is widespread and that in some countries it is a major health and economic problem. It affects almost all bovine and ovine cattle, and although the information about it is meager, there is no doubt that it causes considerable losses on both large and small ranches.

In the summer of 1963 a serological study was begun on equine encephalitis produced by EEE, WEE, and VEE viruses. The sampling covered 26 ranches in Azul County, Province of Buenos Aires, Argentina. An analysis was made of 196 paired sera specimens which were obtained at an interval of about 4 months, for which purpose the microinhibiting plate hemoagglutination method was used. Seventy-eight of the animals showed an increase in titer for a single virus (57 for WEE, 20 for EEE and 1 for VEE) and in 23 there was a simultaneous increase for 2 or 3 viruses. In the remaining 95 horses no variation was found.

With the participation of collaborators in Argentina, Brazil, Chile, Colombia, Perú, and Uruguay, studies are being carried out on human and bovine Q fever, using the capillary tube agglutination test. Although the study is not yet complete, 6,507 specimens of milk and human and bovine serum have been examined. In Argentina the capillary tube agglutination test was made on specimens

from 217 dairy cows supplying the towns of Resistencia and Corrientes; 48 of them (22 percent) were found to be serological reactors and 12 (5.4 percent) reacted positively. In the same area an examination was made of 45 bovine sera, 25 of which (56.6 percent) were found to be positive. Among the employees of meat packing plants, 2 out of 24 employees in the dairy section and 8 out of 48 in the slaughterhouse reacted positively. In the meat packing plants in Greater Buenos Aires, the complement fixation test was given to 132 employees, 20 of whom were found to be positive and 10 having a history of pulmonary disease. Five out of 11 human sera examined in Salta and 8 out of 38 examined in Mendoza were found to be positive.

During the last quarter of the year a scientific mission was sent to Igatimi, Paraguay, at the request of the Government to study the natural reservoir of leishmaniasis in a little-known jungle area. In the course of 33 days of trapping, 74 mammals and 12 reptiles were captured. Twenty of the mammals showed old and recent skin lesions, from which specimens were taken. Blood was drawn, and liver and spleen specimens were taken from all the animals captured. The specimens were inoculated on Tobie medium and into hamsters and white mice. At the end of the year no positive results had been obtained, although a conclusion in any sense will be of great value in guiding future studies.

As a continuation of the study on the control of forest animal populations, trials were made of various gametocides using white rats, dogs, and foxes in captivity. Unfortunately, owing to lack of funds, it was not possible to complete the following stage which consisted in distributing a gametocide in the study area.

A report on the etiological role of *Salmonellae* in summer infantile diarrheas is ready for publication. This study was made in collaboration with the Azul Children's Hospital, Province of Buenos Aires, Argentina, and was made in the same area at different periods. A study was made of 198 cases ranging between 45 days and 11 years of age. On admission, all these cases showed signs and symptoms of various degrees of gastroenteritis. There was a total of 19 positive cases (9.6 percent); *Salmonella typhimurium* was isolated in 16; *S. newport* in 2; and in the remainders *S. newington*. The highest prevalence was observed in children under one year of age. These included 15 positive cases out of a total of 117 in the group (12.82 percent). Since animals are the natural reservoir of the infection, the control of salmonellosis, unlike what happens in the case of *Shigella* infection, is intimately connected with control of the animal cycle.

Technical Services

One responsibility of the Center is to foster all activities related to the diagnosis, investigation, and control of zoonoses. This is done to the extent feasible within the Center's resources and includes not only providing specialized training, consultation services, and technical information, but also supplying particular biologicals and testing antigens and vaccines (Table 16).

In connection with the Pilot Program of Brucellosis Control underway in Argentina, up to 31 October the Center had examined 66,791 samples of bovine sera. The Center also tested the *Brucella abortus* Strain 19 vaccines used in the program.

Selected breeding stock of different species, as well as standard and special strains, were supplied to institutions in various countries to establish colonies.

Rabies vaccine from Argentina, Brazil, and Colombia were tested for potency. Brucellosis vaccines for Argentina, Brazil, and Venezuela, and *Brucella* antigen for Argentina, Ecuador, and Venezuela were also tested. Reference services for human and animal brucellosis, leptospirosis and anthrax were provided.

The biological materials supplied to 16 countries in the Americas and in Europe included cultures, sera, and antigens for work on brucellosis, anthrax, Chagas' disease, Q fever, hydatidosis, influenza, leptospirosis, rabies, tuberculosis, and trichinosis.

TABLE 16. SAMPLES AND BIOLOGICAL PRODUCTS PROCESSED AT THE PAN AMERICAN ZONOSSES CENTER LABORATORIES, 1963

Material	Number of specimens received according to origin		Total
	From external sources	From Center's research activities	
For diagnosis:			
Whole animals	—	1,901	1,901
Other specimens	66,885 ^a	8,105	74,990
Biological products for testing	34	31	65
Etiological agents for identification	2	26	28
Zoological specimens	—	2	2

— None.

^a 66,791 specimens were blood samples from the Argentina Brucellosis Control Pilot Program.

Training

In 1963, 5 postgraduate students arrived at the Center to undertake, for a minimum period of 12 months, special work related to one or more aspects of the zoonoses. These students, from Bolivia, the Dominican Republic, the United States of America, Uruguay and Venezuela, raised the alumni roster to 20.

Twelve veterinarians of the National Advisory Committee for the Eradication of Foot-and-Mouth Disease, of Argentina, completed a special program of observation, practice, and round-table discussions. Other short-term students were 8 professionals from the Department of Epizootiology and Public Health of the Faculty of Veterinary Medicine, from La Plata, Argentina. Following established guidelines, the Center concentrated its educational efforts on giving specialized training to professional personnel who hold posts connected with teaching or research in official institutions, or have been scheduled for assignments dealing with control of zoonoses. This type of training usually lasts for 12 months and is intended to provide advanced training in laboratory or field techniques, in one or more aspects of the study and control of zoonoses, to physicians and veterinarians.

Scientific Publications

Seven research reports were published concerning hydatidosis, tuberculosis, anthrax, brucellosis and leptospiroses. At the end of the year, 14 articles were in press. The quarterly information bulletin *Zoonoses* appeared regularly, and continued to be widely distributed to institutions and research workers in various parts of the world.

Pan American Foot-and-Mouth Disease Center

The activities of the Pan American Foot-and-Mouth Disease Center may, generally speaking, be classified under the following two main heads: (1) diagnosis, preparatory research, vaccine production and training of technicians, which are carried out at the Center's laboratories in Rio de Janeiro, Brazil; and (2) applied research and field trials, contacts with national authorities responsible for animal health, evaluation of programs for the prevention and control of vesicular diseases, which are conducted in the Member Countries of the OAS by means of visits by the Director of the Center, by regional consult-

ants stationed in Bogotá and Lima, and by laboratory and field personnel.

During 1963 all these aspects of the Center's work were intensified.

Diagnosis

In the course of the year the Center received 941 epithelium and 55 serum samples for purposes of diagnosis and virus typing. This was the largest number ever received from the Member Countries since the Center began these activities in 1952.

In addition to typing these 941 samples, 4,394 complement fixation tests were made on antigens from the various sections of the Center.

Serum protection tests were made on 3,979 bovine and ovine blood samples; and serum neutralization tests were made on 714 blood samples from bovine and ovine cattle, guinea pigs, and hens for the detection of foot-and-mouth disease virus antibodies, in addition to the samples examined during epizootiological survey of the island of Tierra del Fuego.

Research Program

The research program continued on the same broad scale as in previous years, but greater attention was focused on obtaining better live modified vaccines against foot-and-mouth disease; vaccine control in the producing countries; and research on problems created by the existence of foot-and-mouth disease in meat exporting countries.

Modified Live Virus Vaccines. This part of the Center's program was considerably expanded in 1963. The Ministry of Agriculture of Brazil was urged to initiate its own studies on modified live vaccine, and trials were begun in Chile, Colombia, and Ecuador of vaccines which had been produced at the Center. The program also included the award of fellowships, one to a Brazilian and the other to an Ecuadorian veterinarian, to enable them to study basic techniques of virus strain attenuation and vaccine preparation in the Center's laboratories, and then to learn about large-scale vaccine production at the Veterinary Research Center in Maracay, Venezuela.

The trials of the live attenuated virus vaccines were to be conducted according to similar plans in the same three countries, i.e., Chile, Colombia, and Ecuador. The first stage consisted in making a small test in each country to determine the absence of pathogenicity in the modified virus; this was followed by immunity control of the vaccinated bovine cattle to determine whether or not the pro-

tection conferred was adequate. When satisfactory results have been verified, field tests will be made on from 3,000 to 5,000 heads of bovine cattle. All three countries fulfilled the first stage successfully during 1963, and Colombia completed the second stage. In the other two countries the second stage is expected to be completed in early 1964.

The field tests were all made with monovalent vaccines. However, trials of bivalent vaccines were begun in 1963 at the Center, and at Maracay, Venezuela, in cooperation with that country's Ministry of Agriculture. Up to year's end the results obtained were not yet sufficient to permit definite conclusions to be drawn, but everything indicated that bivalent vaccination was followed by the production of protection against both types of virus used.

Attenuated live virus vaccines was most intensely provided and administered in Venezuela, a modified Type A strain developed at the Center being used. In the first months of 1963, administration of this vaccine was associated with the occurrence of anaphylactic shock in bovine cattle previously vaccinated with foot-and-mouth disease or rabies vaccine. Both vaccines had these factors in common: they were prepared in chicken embryo and they contained antibiotics. Joint research undertaken in Venezuela by the Veterinary Research Center and the Pan American Foot-and-Mouth Disease Center disclosed that the factor responsible for the anaphylactic phenomenon was the addition of antibiotics to the vaccine, although the greater amount of chicken embryo tissue in the rabies vaccine also seems to have some bearing.

Anaphylactic shocks were not observed in tests made by the Center with attenuated live virus vaccines in Brazil, possibly because there were no antibiotics in the chicken embryo vaccine prepared there, and also because the number of bovine cattle included in the test was far smaller. Since antibiotics were omitted from the vaccine produced in Venezuela, there have been no subsequent reports of adverse reactions.

Joint Research Programs. At an *ad hoc* scientific conference on foot-and-mouth disease and food technology in Argentina's meat industry, which was held at the National Academy of Sciences in Washington, D.C., in March 1962, it was decided to initiate both short- and long-term research programs on problems created by the existence of foot-and-mouth disease in meat-exporting countries, especially Argentina.

Two main aspects of the short-term research program were begun in 1963 with the participation of Argentina, United States of America, and the Center; one of them was begun in cooperation with Chile. The research consisted of an epizootiological survey in Tierra del Fuego

island, and an experiment on the survival of foot-and-mouth disease virus in cured beef prepared from vaccinated and non-vaccinated bovine cattle.

The epizootiological survey in Tierra del Fuego was conducted from January to April 1963 under the Center's supervision; it consisted of a field observation of the presence or absence of clinical signs of vesicular disease in ovine, bovine, and porcine cattle in the Argentine and Chilean territories on the island, and of the collection of serum samples for the detection of foot-and-mouth disease antibodies.

All but 1,477 of a total of 25,032 blood samples were extracted from ovine cattle. Some 10,000 of these were sent to the Center's laboratories in Rio de Janeiro, where examinations to determine the presence of Types O, A, and C virus antibodies, the one usually found in the affected areas of Chile and Argentina, were begun in May. All samples were first subjected to a serum neutralization test in tissue culture tubes, using BHK 21 hamster kidney cells. Any sample showing inhibition to virus multiplication was subjected to a serum protection test in unweaned mice to determine the degree of inhibition and specificity of the virus. By the end of the year, 6,252 blood samples had been examined.

In the experiment on the survival of foot-and-mouth disease virus in cured meats the Center assisted with the planning of the work, the selection of virus strains to be used in each of three tests to be made with virus Types O, A, and C, and in the preparation of the antisera specific for each type of virus, which were needed in certain phases of the work. The tests consisted in the selection of vaccinated and non-vaccinated bovine cattle in Argentina, their inoculation with virus, the preparation of cured meats from animals of both groups in accordance with the usual commercial practice, and the shipping of the meats and certain other tissues to the United States of America where tests to determine the presence of virus were made in the Laboratory of Animal Diseases at the United States Agricultural Research Service at Plum Island. By the end of the year, all three tests in Argentina had been completed, but investigation of the materials of the third test, to be done at Plum Island, was still pending.

At the various stages of the two research projects, representatives of the Center attended meetings in Argentina, Brazil, Chile, and the United States of America. At one of the meetings, representatives of the Ministries of Argentina and Chile reached an agreement on the measures to be taken to keep the island of Tierra del Fuego free of foot-and-mouth disease, which, judging from the findings of the survey, is its present status.

The expenditures occasioned by the participation of the Pan American Foot-and-Mouth Disease Center in this joint program were borne by AID, including the cost of building new laboratory premises and installations for small animals. Three rooms suitably equipped for tissue culture work were added to the main laboratory building of the Center. Plans for a new building for mice breeding were also completed and tenders for its construction were solicited in December; an expert of the Department of Animal Production of the National Institutes of Health of the United States Public Health Service helped to design the building.

Vaccine Production Control. In countries where foot-and-mouth disease is enzootic, a control program consists of the systematic administration of a good quality vaccine. For this reason, the Center, in cooperation with the countries, attempts to promote the establishment of vaccine production control programs to ensure that the product will possess the minimum potency necessary for effective use. Considerable progress in this regard has been made in recent years. Argentina and Brazil adopted new regulations on production control in 1961, and Argentina began to apply an effective production control program. At a technical meeting sponsored by the Center in 1962, these two countries, together with Chile, Paraguay, and Uruguay, agreed to accept a minimum quality standard according to which the vaccines used should protect at least 75 percent of the bovine cattle vaccinated. In 1963 Chile and Uruguay decided to adopt the techniques and standards used in Argentina; and Brazil established a Technical Coordinating Team for the Foot-and-Mouth Disease Campaign, which declared its intention of inaugurating the nationwide vaccine production control program which had been enacted into law two years earlier.

The Center continued to give assistance in this area by cooperating with Chile and Uruguay in the preparation of suitable draft legislation, and by negotiating for fellowships to enable veterinarians from Brazil, Chile, and Uruguay to study the techniques used in its laboratories, and in the National Foot-and-Mouth Disease Reference and Control Laboratory in Buenos Aires, Argentina.

Training

Training activities included a special course on foot-and-mouth disease, organized by the School of Veterinary Medicine in Minas Gerais, Brazil; the awarding of fellowships to professional personnel; and attending to the needs of veterinarians or veterinary students who came to the Center individually or in groups, and for varying

lengths of time, to study general or special aspects of the Centers' operations.

The Course held at Belo Horizonte, Minas Gerais, from 14 to 31 October was the first occasion in which the center participated in a national training course planned and organized by a teaching institution. Up to that time, the Center had held 17 international courses either at its Headquarters in Rio de Janeiro or at strategic points in the Hemisphere. A total of 328 technicians (188 fellows from various countries) attended these courses.

Eleven fellows pursued studies in fields related to the activities of the Center either at the Center itself or in other countries of South America, or continued studies they had begun in 1962. One fellow from Bolivia continued his studies in Ecuador on the field control of foot-and-mouth disease (2 months in 1962 and 1 month in 1963), and two other fellows from the same country continued their studies in Brazil and in Perú on laboratory techniques (3 months in 1962 and 2 months in 1963 in each case). Five fellows from Brazil began or continued studies: 2 studied vaccine production control in Argentina and Brazil (4 months); 1 studied the preparation of modified live virus vaccine in Brazil and Venezuela (4 months); 1 studied laboratory techniques in Brazil (6 months); and the fifth, who had studied for 11 months at the Center in 1962, completed his studies with a further month on laboratory techniques. A fellow from Ecuador spent 6 months in Brazil and Venezuela studying the preparation of modified live virus vaccine; a fellow from Perú completed his studies (3 months in 1962 and 1 month in 1963) on laboratory techniques in Argentina and Brazil; and another fellow from Venezuela, who had studied laboratory techniques in the Center for 6 months in 1962, continued with the same studies throughout the whole of 1963.

Information and Scientific Publications

Through periodical bulletins and communications, the Information and Publications Service of the Center disseminated reports on its activities and on matters of scientific and professional interest to health authorities and to teaching and research institutions.

The publications prepared by the information service were merged, in January 1963, into a single monthly publication entitled *Cuadernos del Centro Panamericano de Fiebre Aftosa*, which is distributed to about 380 institutions and individuals connected with research and the study or control of vesicular diseases in 54 different countries and territories. The 12 issues published during the year provided a classified bibliography comprising

1,830 entries and 139 abstracts of articles on foot-and-mouth disease. Also published were 4 quarterly issues, containing worldwide epizootiological information; 4 news bulletins; a catalog of the publications received by the Center; translations into Spanish of 3 original papers prepared by the Center staff; a report on activities in 1962; and an editorial article urging the cooperation of livestock breeders in the countries affected by foot-and-mouth disease.

Two scientific articles prepared by Center personnel during 1962 were published in 1963. The first, entitled "Comparison of Serum Protection Tests in Guinea-pigs and Mice for Foot-and-Mouth Disease Antibody Evaluation" appeared in the *Canadian Journal of Comparative Medicine and Veterinary Science* 27 (2):42-44, of February 1963; the translation into Spanish was published in the issue of the *Cuadernos* for the same month; the second, entitled "A Comparison of Serum Tests in Mice for the Detection of Foot-and-Mouth Disease Antibody," was published in the *American Journal of Veterinary Research* 24 (99):371-375 in March 1963, and its Spanish translation in the issue of *Cuadernos* for the same month.

Technical Assistance

Attempts were made by the Center to have foot-and-mouth disease programs included in plans which might receive financial assistance from the Alliance for Progress; it did so in view of the paucity of funds available in almost all the countries for waging national campaigns and initiating regional measures, especially in border areas. These call for the coordination of the individual country plans within the framework of a single regional plan.

Special Committee II of the Inter-American Economic and Social Council, which met in San José, Costa Rica, in July 1963, and at which the Center was represented by one of its regional consultants, recommended that IA-ECOSOC give immediate priority to national and international foot-and-mouth disease campaigns. Subsequently a document was prepared, showing the impact of this disease on the economy of countries in the Americas and what it would mean if this disease were to be introduced into countries still free from it. This problem was considered at the Second Annual Meeting of IA-ECOSOC held in São Paulo, Brazil, from 20 October to 16 November, and in view of its importance, IA-ECOSOC recommended that campaigns against the disease be intensified in the countries affected, and preventive campaigns be waged in countries free from it and, basically,

that any regional or national projects that might be considered at a future South American meeting on foot-and-mouth disease should be submitted to the international loan agencies with a view to obtaining additional financial support for them.

The Director of the Center attended a meeting of the Advisory Committee of the National Academy of Sciences of the United States of America, which was held in Washington, D.C., to discuss the foot-and-mouth disease problem in the Americas. It was agreed on that occasion to recommend financial support for the construction and installation in the affected countries of the necessary facilities for the preparation and control of vaccines and for the diagnosis of the disease. This development is an important step forward in the foot-and-mouth disease campaigns.

As to cooperation among countries in areas of common interest regarding foot-and-mouth disease prevention and control, the Center completed numerous negotiations in 1963, the most important of which are described below.

Argentina. The national foot-and-mouth disease campaign continued to proceed as planned. Systematic vaccination was enforced in an extensive region of the country comprising the principal cattle breeding areas with a bovine population of approximately 30,000,000 heads, or 75 percent of the total herds in the country. According to the established plan, vaccination became obligatory on 1 October in the remainder of Córdoba Province and in all of the Provinces of Mendoza, San Juan, Corrientes, Misiones, and a part of El Chaco. In this way, compulsory vaccination and control will have been applied to almost 95 percent of all the livestock in the country.

In view of the scope of this campaign, the Center made the necessary arrangements for a specialist from the Rothamsted Experimental Station, in England, to go to Argentina to assist a staff member of the Center in evaluating the campaign after it had been in operation for two years.

In view of the satisfactory results obtained in the foot-and-mouth disease control campaign, and the experience gained, the Argentine authorities and cattle breeders decided to undertake campaigns against other animal diseases. A Decree-Law was enacted on 25 July creating a Health Campaign Service, which will be responsible for planning and executing such other campaigns, in addition to the foot-and-mouth disease campaign, as may be necessary.

Bolivia. The Center continued to assist in the establishment of the diagnosis and vaccine production laboratory, which is now in the final stage prior to operation. Serological activities will probably begin in early 1964.

It is also expected that the preparation of the national campaign plan, in which the Center cooperated, will be completed. As a preliminary training measure it was planned to conduct a demonstration vaccination of about 20,000 heads of bovine cattle in the Cochabamba area. The project was approved by the health authorities, and the agreement between the Government and the Organization has been drawn up. The Center has reserved the necessary number of doses of trivalent inactivated vaccine for the program, in the hope that activities may be started as soon as financial difficulties have been overcome at the national level.

Brazil. Of special significance is the Decree of 9 August 1963 which established the Foot-and-Mouth Disease Campaign under the authority of the Ministry of Agriculture. That Decree also entrusted the planning, execution, and coordination of the campaign to a Technical Coordinating Team, composed of four veterinarians who will be employed full time on the task for the next three years. It is foreseen that this is the length of time needed to implement the program, which has both short-term and intermediate objectives.

The short-term program provides for vaccine and sera control, increased vaccine production, collection of epidemiological data, and personnel training, in addition to the dissemination of information to livestock breeders. Simultaneously with the planning and coordination of the various interested agencies and sectors, measures are being adopted to secure the maximum output of official laboratories, the number of which will be increased.

The Center maintained contact with new agencies and continued to cooperate with the Ministry of Agriculture in a demonstration campaign involving the systematic vaccination of about 10,000 heads of bovine cattle in the important dairy zone of Itanhandú, Minas Gerais; the Center is providing the necessary vaccine and assistance. The good results of this pilot program demonstrate what can be obtained with this kind of work; indeed for nearly two years there has been no outbreak of foot-and-mouth disease among the cattle belonging to the farms where vaccinations took place, despite the occurrence of the disease in non-vaccinated animals on adjacent farms, and the introduction of non-vaccinated animals which were the only ones to contract the disease on a farm covered by the plan.

The experimental field work with modified live virus on selected ranches was successfully continued. The Center again assisted the Federal and State laboratories and agencies, and the vaccine production industry in various ways.

The Brazil authorities expressed their agreement with

the meeting to be held with Venezuela and British Guiana to coordinate health activities in the border areas of these countries. This step had been postponed owing to difficulties beyond the control of the three participating countries.

Chile. The cooperative action against foot-and-mouth disease between Argentina and Chile, which was recommended at the Montevideo meeting in 1962, was initiated in the form of a system for the health examination of cattle being exported from Argentina to Chile, or in transit through Chile to Perú, and of an epizootiological survey in Tierra del Fuego island, which belongs to the two countries. The Center took part in both these endeavors.

Field trials with modified live virus vaccine (Cruzeiro A strain) were begun in October simultaneously with similar programs in Ecuador and Colombia. In addition, the Ministry of Agriculture was given assistance in the organization of a national foot-and-mouth disease control plan, the preliminary stages of which will probably begin in 1964.

Colombia. In 1963 this country experienced one of the most severe epizootics of Type A foot-and-mouth disease. The resulting alarm led to repeated interventions by the Center at the Government's request. The relevant report describes the situation in the country with respect to the disease, proposes a series of immediate measures, and indicates the general lines on which a long-term campaign against the disease should be organized.

A Special Committee on Foot-and-Mouth Disease, at the highest national level, was active during the last quarter of the year. Its task was to study the report and to propose how the recommendations should be carried out. The recommendations centered around improved vaccine production in Colombia, the establishment of international programs in the areas bordering on Panamá and Ecuador, and demonstration programs on the Atlantic Coast and in the lowlands of Bogotá. Owing to financial and technical difficulties the Ministry decided not to launch a national campaign until such time as several area programs had been developed and evaluated. These programs included, from September onwards, the introduction of modified live virus vaccine (Cruzeiro A strain) in a controlled field experiment, in accordance with a specific agreement between the Government of Colombia and the Organization.

In the meantime an agreement was reached between the Government, the Regional International Organization for Health in Agriculture and Livestock (OIRSA), and the Organization to launch a foot-and-mouth disease prevention campaign in the northwestern region of the Chocó

Department, which borders on Panamá; a similar program for the area bordering on Ecuador began to take shape.

Ecuador. The Animal Health Center, to which the Government entrusted the responsibility for the control of vesicular diseases, continued to strengthen its organization and activities during 1963 and was given preferential attention by the Center through its regional laboratory and field consultants.

The Guayaquil laboratory was set up in the coastal area to diagnose vesicular diseases and to prepare modified live virus vaccine; it produced the first experimental batch in December. A preliminary study of the epizootiological situation was completed and will serve as the basis for a complete foot-and-mouth disease program in the affected Provinces. A field trial with avianized Cruzeiro A strain vaccine was begun in Guayas Province at the end of the year, in accordance with an agreement between the Government and the Organization.

The remainder of the country continued free of foot-and-mouth disease by maintaining a more active prevention plan in the areas bordering on Perú and Colombia; the campaign there was strengthened because of an outbreak of Type O virus in the Peruvian border and of Type A virus in the Colombian border area.

México, Central America, and Panamá. The Center continued to provide assistance to México, Central America, and Panamá, especially through OIRSA.

Attention continued to be given to the study of measures to prevent the introduction of foot-and-mouth disease into the area, especially across the border between Colombia and Panamá. To this end, numerous negotiations took place, which resulted in the preparation of an agreement between the Government of Colombia, OIRSA, and the Organization to conduct a foot-and-mouth disease prevention program in the northwestern area of the Chocó Department in Colombia. When this agreement is definitively concluded, its application is expected to begin as early as possible in 1964.

The Center continued to assist in analyzing specimens collected during vesicular-disease outbreaks in the area and to answer consultations it received; it also cooperated in the Seventh Course on Plant and Animal Quarantine which OIRSA conducted in México City in June.

Paraguay. In the first half of the year, steps were taken to assist in the planning of a foot-and-mouth disease campaign, which had initially been outlined by the Center. A National Committee was subsequently appointed and entrusted with the planning of the campaign. Contact was maintained with this Committee during December

and by the end of the year the plan was expected to be completed shortly.

In line with this aim, a study was made of the possibilities of establishing a national laboratory for foot-and-mouth disease vaccine production by the Frenkel method, using raw material that could be obtained from meat packing plants located near Asunción. Detailed plans of the laboratory, installations, and equipment were provided, and steps were taken to obtain specimens that could provide more precise epizootiological information.

Perú. Close contact was maintained by the Center with the national authorities of Perú to promote the preparation of a plan for a foot-and-mouth disease campaign and to increase the production of vaccines by the Frenkel method at the national laboratory. A great step forward was made when a vaccine was obtained from the three types of virus adapted to the Frenkel procedure, which eliminated the risk inherent in keeping the Yerba-teros slaughterhouse animals under inoculation in order to produce the Type O virus used in the vaccine. In addition to this improvement, the doses were decreased, and production was increased. Efforts aimed at providing as much of the vaccine needed for a nationwide campaign were continued.

Towards the middle of the year, the Type O virus epizootic reached alarming proportions and had spread

to most of the Departments of the country. It caused great damage, especially in Cuzco, and Ecuador was threatened with outbreaks in the Department adjacent to Piura. An emergency plan which was instituted for Cuzco and Lambayaque provided useful experience for the national campaign planned for 1964; this plan was submitted to the Center for consideration.

Financing of the Center

The funds for operating the Center in 1963 were obtained from the Technical Cooperation Program (TCP) of the OAS, AID, and the Ministry of Agriculture of Brazil. The OAS/TCP contribution amounted to \$603,900, of which \$546,522.84 were used.

It should be noted that under an agreement with PAHO, AID contributed \$237,000 in June 1962 to finance the Center's participation in a joint research program with Argentina and the United States of America. Of that amount, \$69,169.22 were expended in 1963.

The Government of Brazil contributed, through its Ministry of Agriculture, 25 million cruzeiros, which were intended for general services and maintenance of the buildings which the Ministry furnished for the use of the Center. Of that total, 24,997,209.70 cruzeiros were used during the last period.

B. ENVIRONMENTAL SANITATION

Environmental sanitation continued to be regarded as a very important part of the PAHO/WHO program because of its influence in solving socioeconomic problems of the Hemisphere. The concern of the Governments and of international and bilateral agencies with solving the problems connected with environmental sanitation was reflected in the planning and execution of programs aimed at improving environmental conditions of considerable sectors of both the urban and the rural population. As in previous years the main fields of concentration were water supply, sewage disposal, occupational health, and housing. In the first three areas the Organization played an active part, as it did in the education and training of professional and auxiliary personnel in disciplines related to specific activities and to engineering in general.

The need to provide sanitation in the rural areas of the Americas was possibly the aspect of the Organization's program that was discussed and studied most during 1963.

The interest of the Governments in rural sanitation was expressed at the Meeting of the Task Force on Health at the Ministerial Level, which requested the Organization to give priority to the study of the problem that the lack of rural sanitation represents and to submit to the countries possible solutions. The Organization submitted first to its Executive Committee, then to its Directing Council, and finally to the second Meeting of the Inter-American Economic and Social Council at the Expert and the Ministerial Levels a study on the rural water supply problem, including a proposal for the financing of a continental program to solve it. During 1963 a major part of the efforts of the Organization was devoted to collaborate with countries in the formulation of programs for the construction of rural water supplies with national revolving funds, community participation, and external capital. The international and bilateral credit agencies

II. HEALTH PROTECTION: ENVIRONMENTAL SANITATION

have expressed considerable interest in the program, and the Organization has coordinated all relevant efforts.

The water supply and sewage disposal programs in urban areas continued to make satisfactory progress. The Organization again assisted countries in the planning and execution of projects and also provided coordination with international credit agencies. Possibly the most outstanding event in this field in 1963 was the request made to the Organization by 5 of the largest cities in Latin America (Bogotá in Colombia, Buenos Aires in Argentina, Caracas in Venezuela, Montevideo in Uruguay, and São Paulo in Brazil) for technical assistance in studying the complex engineering problems connected with water supply, sewage disposal, and water pollution in their metropolitan areas.

The Organization also continued its activities in other fields of sanitary engineering and in environmental sanitation, including occupational health, garbage collection and disposal, food sanitation and school hygiene, housing, and other environmental problems. To provide more

assistance to the Governments, the advisory staff was increased and in 1963 numbered 40 engineers, 4 sanitarians, and 1 specialist in administrative methods, in addition to many short-term consultants.

WATER SUPPLY IN URBAN AREAS

The Organization was active in the promotion and execution of programs for the construction and expansion of water services. These activities, as in previous years, covered all aspects of water services, but especially organization and administration, financing, design, and training of personnel.

To provide assistance to the countries, by the end of 1963 the Organization had 12 engineers specialized in potable water supplies assigned full time, to Colombia (2), Costa Rica, Dominica, El Salvador, Jamaica, México (2),

TABLE 17. FUNDS USED FOR THE CONSTRUCTION OF WATER SUPPLY AND SEWERAGE SERVICES IN LATIN AMERICA IN THE PERIOD 1960-1963

U.S. dollars

Country	IADB		IBRD	ATD	EXIMBANK	Estimated amount of domestic funds	Population served
	Water	Sewerage	Water	Water and sewerage ^a	Water		
Brazil	39,960,000	14,650,000	—	12,300,000	—	49,694,400	5,600,000
Chile	8,645,000	—	—	2,840,000	—	8,104,000	1,100,000
Colombia	26,165,930	7,833,000	—	—	—	36,334,158	5,100,000
Costa Rica	100,000 ^b	—	—	4,000,000	4,500,000	2,350,000	150,000
Ecuador	5,200,000	3,300,000	—	—	—	2,749,000	370,000
El Salvador	3,280,000	1,520,000	—	—	—	2,530,000	400,000
Guatemala	2,475,000	1,200,000	—	—	—	1,740,000	200,000
Honduras	2,150,000	—	—	3,050,000	—	550,000	180,000
Jamaica	—	—	—	3,700,000	—	—	125,000
México	8,650,000	550,000	—	—	—	6,080,000	275,000
Nicaragua	—	185,000 ^b	3,000,000	600,000	—	3,000,000	250,000
Panamá	2,762,000	—	—	9,815,000	—	2,553,000	380,000
Paraguay	—	—	—	3,517,000	8,250,000	—	400,000
Perú	2,750,540	1,171,360	—	8,600,000	6,500,000	6,489,000	800,000
Uruguay	5,743,000	2,500,000	—	—	7,500,000	18,257,000	1,200,000
Venezuela	26,000,000	—	—	—	—	35,600,000	1,120,000
Total ^c	133,881,470	32,909,360	3,000,000	48,422,000	26,750,000	176,030,558	17,650,000

— None.

^a It has not been possible to separate the amount for water supply projects from that for sewerage projects; however, it is known that sewerage projects are allotted a relatively small amount.

^b Loans solely to finance studies.

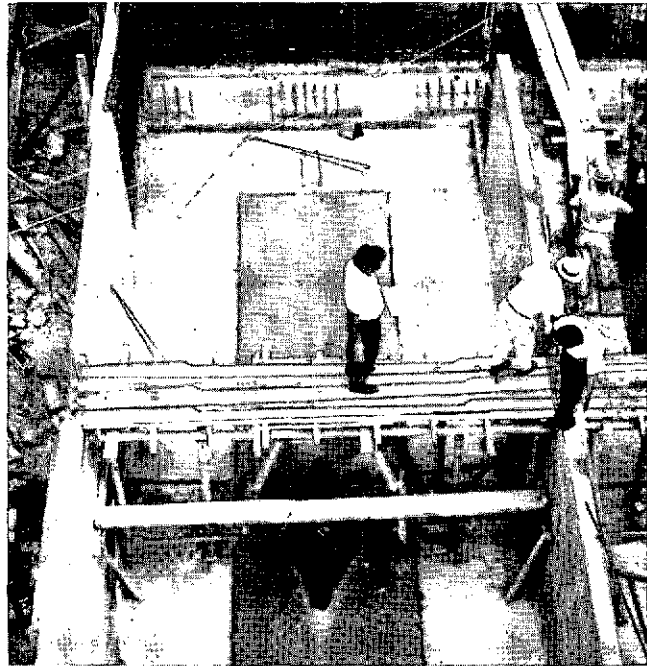
^c International loans: \$244,962,830; total of all funds, \$420,993,388. In addition to the funds contributed by Latin American countries to programs which receive international financial assistance, the countries themselves have made public or private investments of an estimated \$100,000,000 in projects which are either completely financed by them or with the assistance of grants from international agencies or foundations. This additional investment increases the amount of funds invested by Latin America in water and sewerage projects to \$275,000,000.

Nicaragua, Perú, the Dominican Republic, and Venezuela, and 2 specialists in design and administrative methods assigned to Headquarters. Short-term consultants also gave assistance on various aspects of organization and administration to water authorities and public works agencies in Argentina, British Honduras, Ecuador, Guatemala, México, Paraguay, Perú, Trinidad and Tobago, and Venezuela; on accounting and well-drilling to Colombia and Perú; and on laboratories for water treatment plants to Ecuador.

International credit agencies continued to participate in the financing of water supply and sewage disposal projects, especially in the urban areas. Mention must again be made of the contribution of the Inter-American Development Bank, which up to December 1963 had approved loans in the amount of \$166,790,830 and had under consideration applications in the amount of several tens of millions of dollars. The international funds furnished by multilateral and bilateral agencies in the form of loans for water and drainage (Table 17) amounted to \$244,962,830 and those of the Governments and local bodies to \$176,030,558, so that the grand total was \$420,993,388. It is estimated that these funds will furnish adequate water services to about 17,650,000 inhabitants in 17 countries, or 38.5 percent of the total population to be served if the 10-year target for urban water supply fixed in the Charter of Punta del Este is to be reached. The figures show that the rate of progress of the programs in the urban areas in Latin America has been highly satisfactory in the first 3 years of that 10-year period and give promise that the target fixed in the Charter will be met and improved on.

By the end of 1963, central and quasi-independent water authorities had been set up in Bolivia, Costa Rica, El Salvador, Honduras, Panamá, Paraguay, and the Dominican Republic; all had received assistance from the Organization in matters of legislation and administration. The authorities in Costa Rica, El Salvador, and Panamá were carrying out excellent programs for the construction and expansion of water supply systems in urban areas and had obtained considerable loans from international credit institutions. Other countries and territories, including British Honduras, Nicaragua, Perú, St. Lucia, and Trinidad and Tobago, were exploring the possibility of setting up such central authorities for water supply and sewerage.

Central water authorities have existed for many years in Argentina, Uruguay, and Venezuela, where programs for the expansion of water services are under way. The effort made in the last 3 years by Venezuela, with the assistance of the Organization, has been truly remarkable.



Building filters for the Bolívar, Colombia, water supply system. This town, with a population of 3,180, is included in one of the environmental sanitation plans that are being carried out by the Government, with technical assistance from the Organization and other international agencies.

At present the Organization is collaborating with the National Institute of Sanitary Works (INOS) of Venezuela in a study of the administration and organization of the Caracas water supply service; the study is required in connection with the negotiation with the World Bank for the financing of the expansion of that water supply system, which calls for the investment of a further 66 million dollars.

The Organization is also assisting Colombia, Costa Rica, El Salvador, México, Paraguay, and Perú with the preparation of plans and projects that may be financed by international credit agencies. The México and Perú plans envisage the financing of national plans for construction of new systems and expansion of existing systems.

WATER SUPPLY IN RURAL AREAS

Among environmental sanitation activities, mention should be made of the efforts to bring about a continental water supply program for the rural areas of Latin America. In contrast to the spectacular advance made

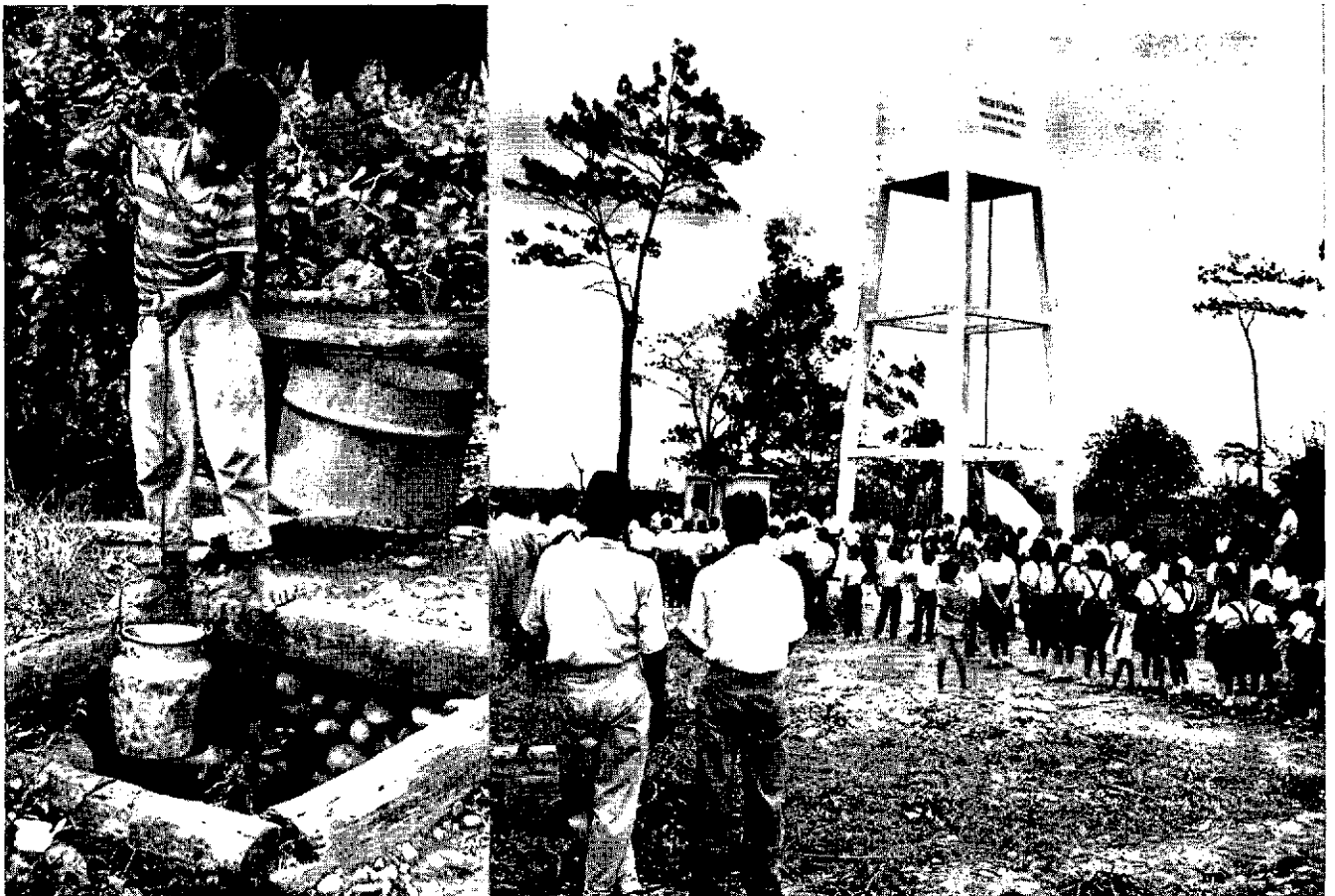
II. HEALTH PROTECTION: ENVIRONMENTAL SANITATION

in urban areas, as far as the targets of the Charter of Punta del Este are concerned, virtually no progress had been made in rural areas by the end of 1963.

Fully aware of the situation, the Task Force on Health at the Ministerial Level recommended that the Organization study the possibility of organizing a continent-wide program aimed initially at solving the problem of water supplies in rural communities. That recommendation was subsequently approved and expanded by the PAHO Directing Council and afterwards by the IA-ECOSOC. The IA-ECOSOC resolution, among other things, recommended that Governments should assign high priority to water programs in rural areas; recognized these programs will require community participation, the setting up of national revolving funds and appropriate agencies for directing the program, and the contribution of external financial resources. IA-ECOSOC also recommended that IADB should assume the responsibility for administering the external funds and that PASB should be responsible for technical assistance and supervision of programs.



Paca, Junín, Perú: under the guidance of an expert, villagers build their own reservoir.



Colombia, Department of Meta: water supplies.

To obtain advice on the fundamental aspects of this program the Organization made plans to hold meetings in 1964 of 3 advisory committees on financing, on organization and motivation of communities, and on technical aspects of the program. In most of the countries, the Ministry of Health or the central water and sewerage agency has expressed interest in this program and in many cases has indicated its willingness to initiate programs along the lines proposed by the Organization.

Almost all the countries continued to carry out smaller programs for the construction of rural water supplies, usually in pilot or demonstration areas. One of the most important was undertaken in Venezuela where, by the end of 1963, 1,415,000, or 40 percent of the total rural population of 3,550,000, had been supplied with piped water in their homes.

The Organization assisted Chile, El Salvador, Honduras, and Perú in various aspects of the work that culminated in the presentation of applications to the Inter-American Development Bank for loans for programs for the construction of water supplies in rural areas. Similar collaboration was given to British Honduras, Guatemala, Honduras, and Jamaica in the planning of rural water supply programs which in some cases received equipment and supplies from UNICEF.

In Resistencia, Argentina, and in Junín, Perú, the rural water service programs based on community participation continued to make satisfactory progress. In Junín, 8 water systems supplying more than 11,000 persons have been constructed and communities assistance has in some cases exceeded 30 percent of the cost of construction; water rates covering the cost of operation and maintenance of the services were also established.

Collaboration was continued in Honduras, where 13 rural water systems were constructed in 1963 and in Uruguay, where 35 new wells were constructed and 37 other wells were improved during the same period. Mention should also be made of the progress achieved in Chile, where the National Health Service constructed 1,943 wells between 1960 and 1963, and in Paraguay, where works built in recent years with the assistance of the Organization are supplying more than 100,000 inhabitants.

WASTE AND SEWAGE DISPOSAL

Parallel to the development of urban water supply programs, the countries have continued to show their interest in solving the problem of sewage disposal and

the pollution of surface and ground water. This interest was evident in the many applications for advisory services submitted to the Organization by capital cities and other large metropolitan areas in the Hemisphere. In 1963 the Organization was asked to provide advisory services in connection with waste disposal and sewage treatment problems in Buenos Aires, Argentina; São Paulo, Brazil; Bogotá, Colombia; and Montevideo, Uruguay. Two consultants made visits to Buenos Aires and São Paulo to advise on necessary preliminary measures; in both cities it will be necessary to combine the resources of several national agencies to begin studies for needed information.

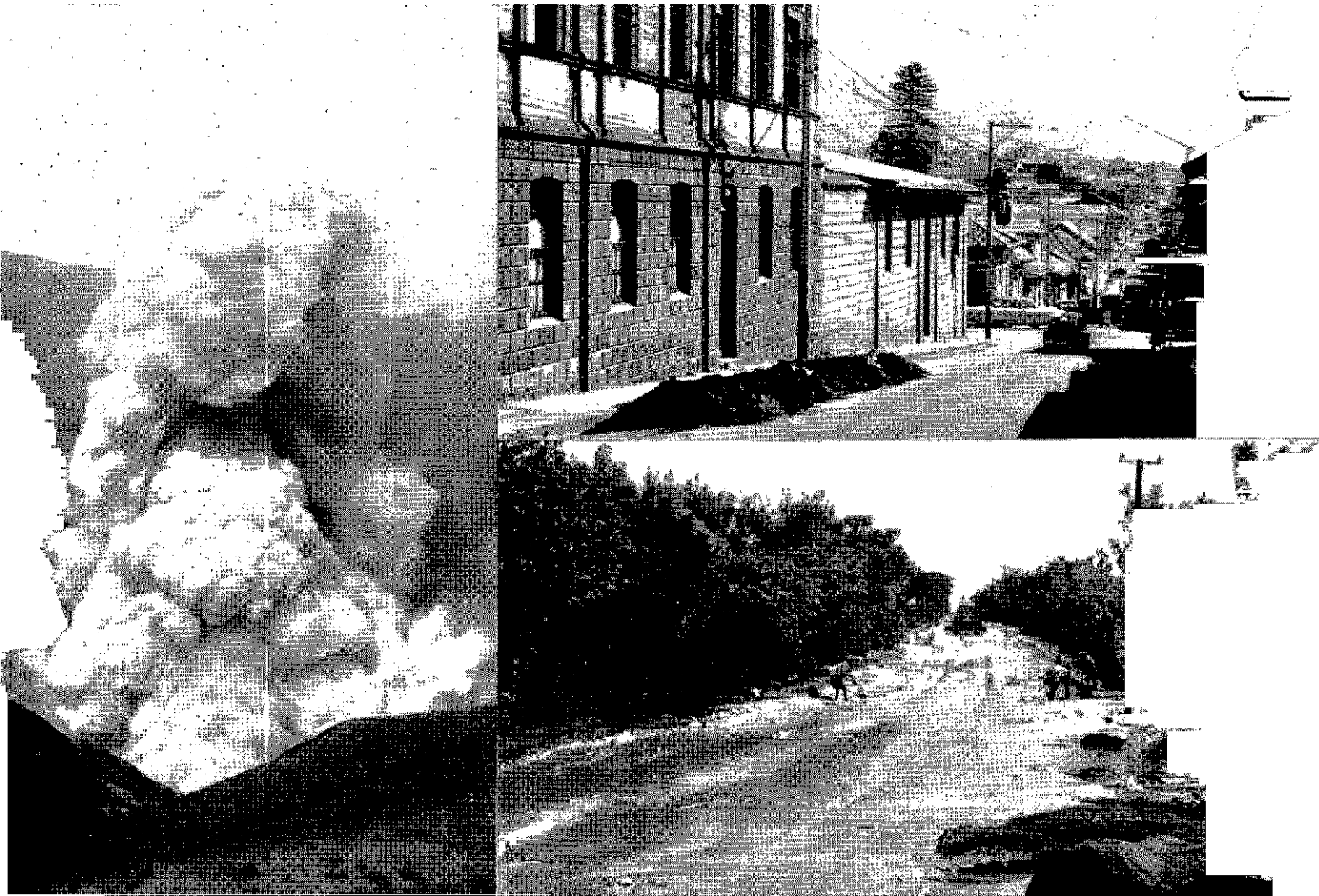
The Inter-American Development Bank continued to participate in the financing of projects for the extension of sewerage systems in many cities of the Member Countries. By the end of 1963 the IADB had awarded loans in the amount of \$32,900,000 to Brazil, Colombia, Ecuador, El Salvador, Guatemala, Nicaragua, Perú, and Uruguay. The loans were either for the construction of new systems or the expansion of existing sewerage systems and sewage treatment plants. Most of these programs are being carried out concurrently with programs for the construction or extension of water supply systems.

Programs for the installation of sanitary privies in rural areas were continued in most of the countries. The privies are meant to solve the problem of sewage disposal in areas that are not equipped with a sewerage system. With the advisory services of the Organization and material assistance from UNICEF, the program for the installation of privies in the Caribbean Area continued in Barbados, British Honduras, Grenada, St. Kitts, St. Vincent, St. Lucia, and Trinidad and Tobago, and by the end of 1963 a total of 80,522 units had been installed. The units installed represent 54 percent of the total program and 93 percent of the target fixed for the year. Similar programs were continued in the Provinces of El Chaco and San Juan, in Argentina, as well as in Colombia, El Salvador, Guatemala, Honduras, Panamá, Paraguay, Perú, Uruguay, and Venezuela.

OCCUPATIONAL HEALTH AND AIR POLLUTION

The Plan of Operations of the project for the Institute of Occupational Health and Air Pollution was signed in June 1963 by the Government of Chile and the United Nations Special Fund; the Organization was designated as the executive agency of the project. The Regional

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The health hazards originated in the eruption of the Irazú Volcano, in Costa Rica, were studied in 1963 by a team of consultants sent by the Pan American Sanitary Bureau. Pictures show volcano in action (left); a street in San José, with the volcanic debris accumulated (above); and the effects of the eruption on a rural road. As a result of the PASB team's advice, a station was set up to make periodic measurements of the gaseous and solid pollutants and establish their effects on public health.

Adviser in industrial hygiene was appointed administrator of the project, with permanent station in Santiago, Chile, but will continue serving the other countries. During the first 6 months of operation of the Institute the Director and the Deputy Director have been appointed, a building was obtained and its remodeling begun, and part of the equipment for the laboratories was ordered. Under the fellowship program of this project, the Director of the Institute had an opportunity to visit similar institutions in the United States of America and in Europe.

The Regional Adviser also collaborated with the health authorities of Colombia and Panamá in solving problems

concerning the organization of occupational health agencies in those countries. A series of lectures on industrial safety was given to students attending a course at the Inter-American Institute of Social Studies in México, D.F.

In March the organizing committee of the first Seminar on Industrial Hygiene met in Lima, Perú. The seminar has been planned for March 1964 in São Paulo, Brazil, as an endeavor for laying the basis for joint and coordinated action in all the countries of the Hemisphere. Outstanding specialists in industrial hygiene in Latin America have been invited to participate in the deliberations.

In response to the request of 3 municipalities adjoining

the city of São Paulo, Brazil, the Organization sent a short-term consultant to study the problem of air pollution caused by the heavy concentration of industrial establishments. As a result of the study, a program for the control of atmospheric pollution is being planned in São Paulo and the Organization will provide technical advisory services for it.

Because in recent years mortality due to pesticide poisoning in Venezuela has been relatively high, the Government sought assistance from the Organization. Two specialists were sent to make a study of mortality and morbidity due to the use of pesticides in agriculture. The report recommends that a pesticide-residue laboratory be set up, that pesticide regulations be strengthened, and that a service for the clinical and epidemiological study of persons continually exposed to pesticides be organized.

In December the Government of Costa Rica asked for the assistance of the Organization in studying the possible health effects of ash and gases from the eruption of the Irazú Volcano, which had been active since March. At the recommendation of an epidemiologist and a specialist in air pollution, sent by the Organization, the national health authorities had a station set up to make periodical assays of the ash and gases from the volcano. The consultants will continue to assist the country in interpreting the results of the studies and will recommend measures to prevent damage to the health of the population affected by the eruption.

EDUCATION AND TRAINING

The training of engineers and the teaching of sanitary engineering underwent a considerable expansion during 1963 as compared with earlier years. The promotion of water supply and sewage disposal programs brought about a considerable increase in the interest of the countries in the training of professional and auxiliary engineering personnel for such activities. The Organization expanded its assistance in this field and in 1963 received financial assistance from the Organization of American States for some of the short courses held in the countries. The principal activities in this field in 1963 follow.

Short Courses: 3 short courses on water supply were held in São Paulo, Brazil; México, D.F.; and Trinidad.

The São Paulo course dealt with the design of water supply systems and was held in collaboration with the School of Public Health and the Polytechnic School (Department of Engineering) of the University of São Paulo.

The Organization provided technical supervisory services for the course, which received financial assistance from the OAS, and was attended by 34 persons, 26 of whom came from 12 States of Brazil and the other 8 from Argentina, Colombia, and Perú.

A short course on pumping equipment and its use in water supply systems was held at the Department of Sanitary Engineering, of the School of Engineering, of the National Autonomous University of México, with the participation of the Ministry of Hydraulic Resources. The course was attended by 25 engineers from agencies and units responsible for the construction and operation of water supply systems in México and by professors of sanitary engineering at the University. PAHO was entrusted with the technical side of the course, which was also financed by OAS.

The third course was held at the Department of Engineering of the University of the West Indies, in Trinidad. This course dealt solely with geophysical exploration of ground water available in water supplies, a matter of vital importance in most of the countries and territories in the Caribbean Area, and was attended by 15 participants from Trinidad and Tobago and from other nearby countries and territories. It was held under the supervision of, and with technical assistance from, the Organization.

Symposia: PAHO held 2 symposia on subjects bearing on the continental water supply program. In February a symposium was held in Medellín, Colombia, on the Administration of Water-Supply and Sewerage Services, with the assistance of IADB and of Municipal Enterprises of Medellín. The course was planned for managers of water-supply and sewerage systems owned by firms that had submitted applications to, or had received loans from, the Inter-American Development Bank for the construction of new structures or the expansion of existing ones. It was attended by 40 professionals from several countries of the Region as well as by officials of different international agencies. Advantage was taken of this opportunity to review various aspects of the administration of the water-supply services and organization of the firms that had received loans, as well as to consider means by which construction and operation of the new services would be accelerated.

The second symposium was held in Caracas, Venezuela, and dealt with the utilization of plastic pipes in public water supply systems. It was organized by PAHO at the request and with the cooperation of the Ministry of Health and Social Welfare, INOS and the Central University of Venezuela. The technical part of this symposium was the responsibility of the National Sanitation Foundation of the University of Michigan, Ann Arbor, an agency which

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in the United States of America is responsible for the sanitary and physical control of plastic tubes for public water supplies. The symposium was attended by 50 professional workers employed by the Government, University, and industry; 10 engineers who were observers from other American countries; and 8 PAHO engineers.

Courses for Auxiliary Personnel: 2 international courses were held for auxiliary personnel connected with sanitation activities and sanitary engineering. The second training course for supervisors of sanitary inspectors in territories and countries of the Caribbean Area was held in Barbados. The Organization provided technical supervisory services for the course, which was assisted by the health authorities of Barbados. UNICEF awarded fellowships to the participants and provided some material and equipment used during the course. It was attended by 30 participants from Barbados, British Honduras, Curaçao, Dominica, Grenada, Jamaica, St. Kitts, St. Vincent, St. Lucia, Surinam, and Trinidad and Tobago.

Plans were under way to hold the third and similar course in Jamaica.

In March and April a course for waterworks operators was held under auspices of the School of Engineering of the National University of San Carlos, Guatemala, with assistance from the Organization and the Municipal Council of Guatemala City. It was attended by 14 participants from countries in Central America and Panamá. This course was the continuation of a series of similar courses organized in the past in this Zone to improve the operation of waterworks and especially of treatment plants.

With the assistance of the Organization, the training of sanitary inspectors and other auxiliary personnel was continued in most of the countries that had integrated public health programs, and 553 inspectors were trained.

Other Courses. The Organization sent 2 consultants to lecture on health education and accounting at the course on the Administration of Water Supply Services held at the School of Civil Engineering of the National University of Colombia, in Bogotá. The Organization also sent fellows from several countries to the course, which is being held in collaboration with AID and the University of Akron, Ohio.

To provide specialized training to engineers engaged in the water programs of their countries, advantage was taken of the following courses organized by AID: utilization of ground water, at the National University of Colombia, in Bogotá, and design of water supply systems at the University of North Carolina, as well as administration of public water supply services, at the University of Akron, Ohio, U.S.A.

Improvement of Education. The Organization continued to collaborate with countries in the preparation and presentation of applications to the United Nations Special Fund for projects to improve the teaching of sanitary engineering in schools of civil engineering. One of these projects, in Venezuela, was prepared with the assistance of a PAHO consultant and engineering staff of Zone Office I and Headquarters. The project is meant to assist the schools of civil engineering of the 4 major universities of the country by preparing well-qualified, full-time teachers and providing basic laboratory facilities for teaching in this field; the Organization will be responsible for the execution of the project.

The second project submitted to the United Nations Special Fund requested financial assistance for the Institute of the Sanitary Engineering, of the Superintendency of Urban Development and Sanitation (SURSAN) of the State of Guanabara, Brazil, devoted primarily to the training of professional and auxiliary personnel and to the investigation of complex sanitary engineering problems affecting the metropolitan area of Rio de Janeiro and other localities in the country.

The Organization also assisted the Government of Costa Rica in the preparation of a project to the Special Fund. The project aims at the improvement of the teaching of sanitary engineering in the School of Engineering and the establishment of an institute for the investigation and study of ground water in the country. Participants in the project are the National University of Costa Rica, the Water and Sewerage Services Authority, the National Electrification Institute, and the Ministry of Public Health.

Assistance was also given to the University of Buenos Aires, Argentina; the National Water Supply and Sewerage Authority of El Salvador; the University of the West Indies, in Trinidad; and agencies of other countries in preparing projects and formulating applications to be submitted to the United Nations Special Fund. They related to personnel training and investigation of environmental sanitation problems.

OTHER SANITATION ACTIVITIES

With regard to housing and urban development, a consultant visited several countries to gather information on possible action in this field by the Organization. In May the First Inter-Regional Seminar on Public Health Aspects of Housing was held in Madrid, Spain, and was attended by 10 participants and 6 consultants from the

Region of the Americas. As a result of the Seminar, plans were begun for a housing project in a rural area of Panamá, with the participation of the Institute of Housing and the School of Architecture of the National University of Panamá and the assistance of the Ministry of Labor, Social Welfare, and Public Health. A specialist on housing was sent to Venezuela to assist the Government to evaluate the rural housing program being carried out by the Ministry of Health and Social Welfare.

Drafts of two manuals on the sanitation of schools and on food sanitation were distributed among officials of the Organization and the Governments so as to obtain comments and suggestions before publication. The manual on sanitation of schools was reviewed by a WHO short-term consultant, a specialist in school architecture, for possible use throughout the world.

An important meeting was held in México between the health authorities of that country and of the United States of America. The sessions dealt with sanitation problems along the Border and aimed at establishing a basis for

joint action. Following this meeting, the Organization assumed the responsibility for coordinating activities through Headquarters staff, the Zone II Office in México City and the Field Office in El Paso, Texas. One of the decisions made relates to an investigation of the garbage collection and disposal systems in the cities along the Border and to means and ways of improving the existing situation, which is unsatisfactory.

In December the IV Seminar on Sanitary Engineering for the countries of the Central American Isthmus was held in Panamá City, with assistance from the Organization, AID, and the sections of the Inter-American Association of Sanitary Engineering in those countries. The seminar was attended by 110 sanitary engineers from the area; one of the most important items discussed was rural sanitation. The meeting is held every 2 years and has helped to strengthen the bonds between sanitary engineers and to promote programs to improve sanitary conditions in the area.



III. HEALTH PROMOTION

A. GENERAL SERVICES

GENERAL HEALTH SERVICES

The Organization continued to collaborate with the countries in the strengthening of their general health services, for which special efforts were made to provide technical assistance to the national health authorities. It also recognized the need for identifying and appraising the totality of the health problems in each country and for establishing priorities in relation to the resources available. As a result of the specialized assistance of the Organization, the various fields of public health in each country were increasingly drawn together and coordinated under services with more comprehensive objectives.

It has been generally accepted that the administrative practices and the existing structure of the health services at the local, regional, and central levels could benefit from changes aimed at modernizing operational systems and patterns of service. It has also been recognized that the financial and physical resources, as well as the skilled manpower available, could not immediately meet the demand for more comprehensive programs and more extensive services in the majority of the countries. It is known that, in most countries of the Hemisphere, the existing network of local health services has left wide areas uncovered and large groups of population unprotected.

With the purpose of using the resources on hand in the most economical fashion and of trying different approaches to the problem of increasing services and coverage, demonstration areas or pilot projects were established as early as 1951 with international assistance from PAHO/WHO and UNICEF. This endeavor attempted to introduce modern administrative techniques in public health and to determine the most useful patterns for the conditions prevailing in each country.

It was evident at all times, however, that this repre-

sented only a first step toward a general reorganization of the national health services. In most of the countries in which projects of this kind were initiated, the experience so obtained was enough to support the establishment of the same type of services in other areas and to develop regional, and even national, long-term health plans. By 1963, out of 21 general health services projects, only 5 still had a demonstration or pilot area. In the rest, the emphasis had shifted to broader scopes and more extensive local activities.

At present these projects operate in three main fields of action, closely interrelated. In the first of these, which could be called the central field, the collection and analysis of basic information, further stimulated by the need for expediting the preparation of national health plans and the recent emphasis on planning for economical development, have been a constant preoccupation of the national health authorities. The analysis of the general structure and the evaluation of programs and operations of national health services have also constituted an area of major activity. International staff assigned to projects for the development of general health services have offered active cooperation in this field.

In the second field, increasing demand for more and better services is generally encountered. Health authorities, fully aware of this public demand, have assigned special priorities to the improvement of operations and facilities of existing units and to the expansion of the present network of health services. The Bureau has received frequent requests of international assistance, normally consisting of advisory services; equipment and supplies from UNICEF have also represented a decisive factor of progress in this regard. As stated above, in the majority of projects of this nature, developed with the cooperation of PAHO/WHO, national authorities no longer concentrate their interest on small areas, but aim

at building up a tighter network of services, at first in selected areas or regions and eventually in the whole country. The problem of providing better coverage to the population becomes increasingly obvious. To have a global picture of actual resources, data should be compiled on services established and maintained by governmental agencies other than the Ministries of Health, as well as on all those operated by semiofficial and private organizations and institutions.

The campaigns for the solution of certain health problems, such as malaria, smallpox, yaws, tuberculosis, have produced or are about to produce positive results. The responsibility for maintaining the gains of those special campaigns when they reach the vigilance (maintenance) phase is expected to be transferred primarily to the general network of health services. The assimilation of the increased responsibility and the carrying out of the concomitant new activities make it necessary to foresee a further enlargement of the program of these local health services. Ready reference information recently put together for the malarious area of South America indicated that a more thorough investigation of present facilities is needed, inasmuch as an immediate problem must be faced in an area of 5 million square kilometers, with a population of 90 million inhabitants, where malaria eradication campaigns have reached the stage of maintenance or vigilance. According to the accepted philosophy and strategy of malaria eradication, the protection of these areas becomes then a routine operation of the general health services, and this is precisely what makes it imperative to fill the existent coverage gaps. Practical measures in this direction are expected to be discussed and suggested by health officials of countries of the Hemisphere in two seminars scheduled for 1964.

The third field of action is the one related to training of personnel, both locally and abroad, as a means of increasing the availability of much needed manpower. In spite of considerable efforts made by the Organization, bilateral-assistance programs, and private foundations in providing fellowship funds and facilities for the training of professional and auxiliary health personnel, the results achieved thus far have not been commensurate with the desired rate of expansion of the services and have covered only a part of the actual needs. During 1963 the Organization awarded fellowships for the training of 570 public health workers, of which 78 were in the field of general public health administration, 65 for advanced training in public health nursing and 114 in general environmental sanitation. Local training represented a major activity developed under these projects. The number of courses known to have been organized added up to 129 and

covered a wide variety of subjects. Among the 6,012 persons trained through these local courses, there were 3,054 auxiliary nursing personnel, 1,115 nutrition workers, 553 sanitary inspectors, 242 graduate nurses, 196 physicians, and 852 other health workers.

In keeping with the terms of reference of the Organization, assistance to the countries in the field of general health services consisted in technical advisory services, fellowships, and occasionally a limited amount of supplies and equipment. In 1963, out of 61 consultants assigned to field projects, 20 were physicians, 17 were engineers, and 15 were nurses. Due to unavoidable circumstances, 23 other posts could not be filled during the year. The above-mentioned international personnel worked with 160 national counterparts, among which were 53 physicians, 21 engineers, and 33 graduate nurses.

NURSING SERVICES

The nursing services in any given community, like other health-related services, reflect the advances within the social and biological sciences that are adopted by that community and incorporated into the total health program. The development and expansion of nursing services, however, depend on the quality and experience of nursing personnel assigned to health services.

In the face of budgetary limitations which often make implementation of plans difficult, Governments continued their efforts to recruit, prepare, and utilize small but increasing numbers of nurses and nursing auxiliaries. The following is a resumé of the activities in which the Organization cooperated with the health authorities of the countries in advancing and improving nursing services.

In 1963 PAHO/WHO had 17 nurses assigned to health services projects in 14 countries; in addition, one nurse was assigned to each Zone Office and one was stationed at the El Paso Field Office. The members of this technical corps, in cooperation with national nurses, carried out many and varied activities to improve and extend nursing services. These activities were concerned with the introduction of practical and up-to-date administrative techniques into public health and hospitals nursing services; also, increasing emphasis was placed on tuberculosis nursing and nutrition education.

Assistance was given during an emergency situation caused by a poliomyelitis outbreak, partly through re-

assignment of 4 PAHO/WHO nurses to the stricken country. Efforts were also made to define the usefulness of the traditional birth attendant and her place in public health services.

The first seminar for South America on administration of nursing services was held in Paracas, Perú, from 22 April to 4 May. Forty six nurses representing Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Perú, Uruguay, and Venezuela participated. Fourteen nurses from Headquarters, Zone, and projects and 2 AID nurses served as full-time staff. A statistician assigned to Zone IV Office and a health educator from the Ministry of Health, Perú, served as special consultants. The final report of the Seminar¹ was published in November and distributed to nursing services and nursing education personnel.

Efforts in education continued through stimulation and participation of in-service education courses and of national and intercountry seminars. Assistance was also provided in program planning and execution of programs.

Emphasis continued to be placed on the training of nursing auxiliaries, of which over 3,000 were trained throughout the countries with the assistance of the Organization.

Headquarters and field nursing staff participated in a meeting of INCAP's Advisory Committee on a Textbook on Nutrition. Twenty professionals representing 11 countries, including nurses, nutritionists and dietitians directly concerned with teaching nutrition in schools of nursing, reviewed existing programs and practices in schools of nursing and health services and prepared an outline of topics suitable for inclusion in a textbook. A report of this activity was prepared and distributed by INCAP.

The Regional Adviser on nursing services participated in the thirteenth Congress of the International Confederation of Midwives, held in Madrid, Spain, and also served on the Advisory Committee on International Nursing of the American Nurses' Association. This Committee concerns itself primarily with problems relating to the Exchange Visitors Program which provides orientation assistance to foreign nurses who wish to undertake a work-study program in the United States of America.

Studies of nursing resources and needs completed in 1963 or still underway, continued work on the study of functions of sanitary inspectors and public health nurses, and followup on a time-study of nursing staff activities reflect the slow but steady development of interest and progress in research in nursing.

¹ *Nursing Reports PAHO*, 3, 1963.



A nursing auxiliary giving a smallpox vaccination in Huamantla, Tlaxcala, México.

VETERINARY PUBLIC HEALTH SERVICES

Veterinary medicine is playing a larger role in the human community because animal diseases directly or indirectly affect man's well-being. Some of the animal diseases transmissible to man—the zoonoses—are capable of causing both large numbers of human deaths and important upsets in national economy. It is important that physicians and other scientists become more aware of the influence of the zoonoses, so that they may be better prepared, through cooperative efforts, to institute and conduct the necessary control measures. It is in this context that veterinarians in increasing numbers are joining the ranks of the health scientists, to provide veterinary public health services in health agencies and to participate in biomedical research.

Last year there was further expansion of veterinary public health services in the countries. Chile, Colombia, Panamá, Perú, and Venezuela, which were the earliest to establish veterinary public health services in their respective Health Ministry, extended decentralization, by establishing additional veterinary public health services at Provinces, States, or Departments as veterinarians trained in public health became available. The supply of such professionals is, however, markedly less than the number

III. HEALTH PROMOTION: GENERAL SERVICES

needed and therefore an important aspect of the Organization's cooperation has been the public health training of veterinarians.

Five fellowships were provided during 1963 for veterinarians from different countries to undertake training at schools of public health abroad or at the Pan American Zoonoses Center. In addition, consultant services were provided in regard to the training of veterinarians in schools of public health in Brazil, where two such schools now exist, and in Chile, Colombia, México, and Venezuela. The Organization has also made efforts to encourage and assist schools of veterinary medicine to improve their teaching of public health. To this end, an international seminar was conducted in México City during August 1963 with participants from Argentina, Brazil, Canada, Chile, Colombia, the Dominican Republic, Ecuador, Guatemala, México, Paraguay, Perú, Uruguay, the United States of America, and Venezuela.

In Brazil, where public health veterinarians have worked for a number of years in State and national health services, a new post was created to establish a chief of veterinary public health services in the Ministry of Health. Venezuela expanded its veterinary public health services in the supervision of seafood supplies. A growing export industry, involving shrimp from Lake Maracaibo, prompted the increased attention. Veterinary public health activity in Perú was increased because of the need to supervise fish-flour plants, recently established. Finally, in Panamá arrangements were made for a collaborative program whereby the veterinary public health staff will share in the field activities of the national health services for control of foods, drugs, and biological products. This is a procedure whereby many of the countries might provide a much needed increase in food and drug control activities. In all of the foregoing, the Organization assisted the countries through stimulation, orientation, and advice.

With few exceptions, the major activity of the veterinary public health services is devoted to diagnosis, epidemiology, control, and surveillance concerning the zoonoses, including the concomitant activities in food hygiene. During 1963 a substantial amount of this activity was devoted to country-wide surveys and investigations to determine the true incidence and prevalence of the existing zoonoses, together with their relative importance.

Bovine-strain tuberculosis and brucellosis in animals exist in all countries. Both are diseases which invite mass campaigns designed to detect and remove infected animals, plus vaccination of young stock in the case of brucellosis. Most of the countries, however, have not begun large-scale investment in programs to control animal

tuberculosis and brucellosis. Venezuela has taken a long step forward in a bovine-tuberculosis program and has made a good beginning in the control of brucellosis. Argentina, with laboratory support from the Pan American Zoonoses Center, established some years ago a pilot-area project through which the Government is learning the necessities for a nationwide program. In the other countries, with some exceptions, tuberculin and brucellosis testing is conducted mainly as a private service to herd owners.

Leptospirosis, Q fever, teniasis, and salmonellosis are zoonotic problems of unknown size and importance and require extensive surveys to learn the actual situation.

The amount and distribution of rabies has been plotted throughout the Americas, with the exception of Brazil, and control and prevention plans have been prepared; however, rabies continued in most of the countries because of economic problems, adequate programs existing only in Venezuela and some of the countries of Central America.

PUBLIC HEALTH LABORATORIES

The importance of the role played by health laboratories in the control and eradication of communicable diseases, in sanitation, and in medical care has shaped the policy which the Organization has pursued in assisting the Governments. The Organization has continued to provide advisory services for the establishment of new, or the improvement of existing, services through both its regular staff and long- and short-term consultants.

Advisory services were again given to the Government of Haiti: in connection with the reorganization of the central laboratory services to help them attain maximum efficiency; in epidemiological investigations on brucellosis, tuberculosis, syphilis, and tropical ulcer; in the training of personnel for the malaria eradication and yaws eradication campaigns; in studies of potability of water supplies in connection with environmental sanitation programs; and with regard to the supervision of the laboratory of the Arcahaie health area.

In Argentina, the National Institute of Microbiology began to implement the recommendations of the Organization.

The national health plans of various countries brought to light weak points in the organization of laboratory services, and El Salvador, Guatemala, and Honduras, among others, requested the Organization to provide them

with advisory services. Thus, new projects intended to reorganize central laboratories and to establish new peripheral units were started and will make it possible to initiate activities to meet the growing national demands.

Training

In laboratory services, as in most other health activities, the number of suitably trained personnel is insufficient in relation to the number of duties to be performed. To remedy this situation, the Organization has paid special attention to the training of scientific and technical personnel by providing assistance for courses organized by the countries and by awarding fellowships for studies abroad.

A course on laboratory techniques involving the use of fluorescent antibodies was held at the University of Costa Rica in cooperation with the Communicable Diseases Center of Atlanta, Georgia, U.S.A., and was attended by 15 persons from El Salvador, Costa Rica, Guatemala, Honduras, Nicaragua, and Panamá. At the National Institute of Virology of México, with assistance from the Organization and Cornell University, 6 persons underwent training in research programs on the ecology of arboviruses.

At the Adolfo Lutz Institute, in São Paulo, Brazil, the course for laboratory technicians, which a consultant helped to organize and conduct, was again given as part of its normal activities. During the year assistance was also given to the Bacteriological Institute of Chile and an agreement covering the training of scientific personnel in various laboratory activities was concluded.

Virology Laboratories

The Governments have shown great interest in the reorganization or establishment of virology laboratories. This is due in large measure to the development and use of immunizing agents such as poliomyelitis vaccines and measles vaccines as well as to the changes taking place in the ecology of communicable diseases, which have highlighted the increasingly important role played by viruses in human pathology. For example, the recent occurrence in Argentina and Bolivia of hemorrhagic fever gives rise to the fear that other outbreaks may appear as progress is made in the opening up of new lands to cultivation.

In Brazil the Organization has been providing the services of a consultant to assist in the establishment of a

virological diagnostic laboratory at the Oswaldo Cruz Institute in Rio de Janeiro. As a result of personnel training it has been possible to inaugurate methods for the isolation and typing of enteroviruses. Much progress was made in research programs, including the study of strains of continuous culture cell lines suitable for the multiplication of enteroviruses as well as the development of high-performance techniques for the demonstration of antibodies.

The National Health Laboratory of Costa Rica, with technical advisory services from the Organization, established a section for the diagnosis of virus diseases. Work on the isolation and typing of respiratory viruses was underway.

The Organization assisted in the postgraduate level research programs on the ecology of arboviruses being carried out at the National Institute of Virology of México with the assistance of Cornell University. These studies, which have been going on since 1961, are aimed at probing the role of migratory birds as disseminators of arboviruses in temperate and tropical regions in the northern part of the Hemisphere. The 6 students enrolled in the special-ecology course held in 1963 took part in mosquito-capture activities, studies of birds and forest mammals, and use of mice and chicks as sentinels.

The outbreaks of hemorrhagic fever in different localities of the plains of eastern Bolivia, with mortality rates of up to 33 percent of the reported cases, represent a problem capable of frustrating any attempt to settle those fertile lands. The studies carried out by the team of the NIH Middle America Research Unit and coordinated by the Bureau resulted in the isolation of a virus with characteristics similar to those of the Junín virus, the causative agent of Argentinian hemorrhagic fever. Attempts are being made to produce a vaccine and to obtain immune gamma globulin from convalescent sera, which, if successful, would be a start for control of the disease.

Production and Control of Biological Products

To maintain their high-quality standards, the Organization has continued to assist laboratories responsible for preparing and testing biological products. This assistance consisted in technical information provided by regular staff; equipment for the Biological Laboratory of Guatemala, the National Institute of Microbiology of Argentina, and the National Institute of Bacteriology of Bolivia; and grants to the Oswaldo Cruz Institute, of Brazil, and to the Yellow Fever Section of the National Institute of Health

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of Colombia, for the production of yellow fever vaccine in accordance with special agreements.

The Organization continued to urge national laboratories producing biological products to take advantage of the services of control centers. This system causes laboratories to use up-to-date control techniques and leads to the use of more suitable production methods. In 1963, 22 products were submitted to control-center laboratories.

Biological Reagents

The Organization continued to provide biological reagents—such as strains of bacteria, viruses and spores, standard antigens, vitamins, and antibiotics—to national laboratories, and also sent them materials for the preparation of biological products. In 1963, 374 items were distributed to 16 countries (Table 18).

Control Services for Foods, Drugs, and Biologicals

In most countries of the Americas the services for the testing, control, and registration of foods and therapeutic substances need both a thorough and complete appraisal

and to be modernized. Most of the legislation is also inadequate and outdated.

In addition to the routine control activities of the services, special efforts are required to assure that food processing methods and the use of foods additives do not result in products harmful to the consumer; that drugs, especially the new ones, do not have dangerous side effects; and that vaccines and other biologicals are of useful potency and yet safe when properly used.

To assist the countries in this important field of public health, the Organization established some years ago a project under which specialists visit countries, upon request, to study existing conditions and facilities and to make recommendations for changes and improvements in control services, laboratories, and legislation. Fellowships are also provided for the training of key personnel in national services.

The scarcity of available specialists in this field has limited the expansion of the Organization's assistance to the countries. Despite active recruitment in 1963, the Organization was able to acquire the services of only 3 qualified specialists.

A consultant cooperated with the Government of Colombia in a study of the biological control aspects of the national service. The consultant recommended the establishment of a division of biological control, which would

TABLE 18. CONSIGNMENTS OF REAGENTS AND OTHER BIOLOGICAL PRODUCTS MADE BY PASB TO NATIONAL LABORATORIES IN THE AMERICAS, 1963

Country	Number of consignments						Total
	Bacteria	Rickettsia	Virus	Antigens	Antisera	Other products	
Argentina.....	12	—	6	18	7	3	46
Bolivia.....	—	—	—	—	—	2	2
Brazil.....	113	7	10	21	6	17	174
Chile.....	2	—	—	—	—	—	2
Colombia.....	1	—	1	2	—	1	5
Cuba.....	1	—	—	1	—	—	2
Ecuador.....	—	—	—	—	—	1	1
Guatemala.....	10	—	3	5	2	3	23
Haiti.....	—	—	—	—	—	1	1
Honduras.....	4	—	3	1	—	—	8
México.....	81	—	2	3	2	2	90
Panamá.....	—	—	—	5	—	—	5
Perú.....	—	—	—	—	1	—	1
United States of America.....	2	—	—	—	—	—	2
Uruguay.....	—	—	—	—	—	2	2
Venezuela.....	—	—	—	2	7	1	10
Total.....	226	7	25	58	25	33	374

— None.

be made responsible for physical standards and inspection of manufacturing establishments, for the preparation of requirements and control testing of products, and for the licensing of manufacturers and products. It was also recommended that legislation for the control of biological products for use in man and animals be promulgated.

Technical advice was provided to Panamá in the reorganization of its food and drug services. A consultant arrived in the country towards the end of 1962 and continued his services into 1963. The consultant's report was submitted to the Ministry of Health which, on the basis of the detailed study of the existing workload and problems and of the type and size of services needed, decided to develop the services in the areas of drugs, foods, and biological products in the order listed. Plans were prepared for the reorganization of the administration of the service, and for the provision, recruitment and training of field staff. Continuing consultant services were provided by the veterinary public health advisers stationed in the Zone III Office and in Panamá.

A unique characteristic of the service being developed in Panamá is the fact that the laboratory analyses are conducted at the laboratory of the University of Panamá. Two professional staff members of the laboratory received specialized training abroad through fellowships from the Organization, and a special consultant gave advice on the animal colony. The University plays no role in the administration of the food and drug regulations but provides, for listed fees, the laboratory services required by the Ministry. As this University laboratory is further developed, it would be in a position to provide similar services to neighboring countries that lack a food and drug laboratory.

The third consultant cooperated with the Government of Venezuela in a study that may serve as a basis for establishing regulations, standards and procedures that will encourage an expansion of well established and reliable food industries and help start new companies, for the purpose of improving the quality and increasing the quantity of food supplies for domestic consumption.

At the VIII Meeting of the Ministers of Health of Central America and Panamá, held in San José, Costa Rica, from 4 to 6 July, it was recommended that PASB study, as soon as possible, the conditions of production and manufacture of food in Central America and Panamá and propose minimum standards for the commerce of these foods in that area. To carry out this recommendation, PASB appointed a consultant to survey the area with regard to commercial food products and prepare the minimum standards to be presented to the respective Ministries of Health for their study and approval.

As another contribution of the Organization, printed items of technical interest and importance were sent to each of the countries, and specific standards, testing aids, and technique descriptions were provided in response to requests. A close surveillance was maintained in this field and whenever a country took important action—such as prohibiting sale of a product, suspension of a permit, or placing a product under conditioned license—all other countries in the area were advised through the corresponding Zone Office.

HEALTH STATISTICS

New developments in programs and goals of the Organization broadened the scope of the statistical activities at Headquarters to include studies of health manpower and medical facilities in Latin America, methods of evaluating the progress achieved by the countries of the Hemisphere toward meeting the objectives of the Alliance for Progress, and conferences to plan for research. Headquarters continued collecting, analyzing, and distributing statistical data on quarantinable and other notifiable diseases. The Regional Advisory Committee on the International Classification of Diseases held its third meeting, mainly to formulate a Regional Proposal for the Eighth Revision of the *International Classification of Diseases*; and the Latin American Center for the Classification of Diseases (in Caracas, Venezuela) continued collaborating with PAHO/WHO on the application of the *Classification*.

In the field of research, the Inter-American Investigation of Mortality was continued; and conferences were held to explore the possibility of developing studies on the etiology of congenital malformations and on cancer, as well as of beginning studies on rheumatic fever.

Headquarters Activities

Notifiable Diseases

The *Weekly Epidemiological Report*, released every Wednesday, shows the number and location of the cases of quarantinable diseases reported in the Americas and throughout the world as well as the reported cases of 8 other notifiable diseases, by individual country of the Americas. The status of the *Aedes aegypti* eradication campaigns in this Hemisphere continued to be published.

III. HEALTH PROMOTION: GENERAL SERVICES

Epidemiological notes and data gave details on progress of current outbreaks of special interest, such as dengue, encephalitis, poliomyelitis, and influenza. Requests from personnel of Governments and research institutions for this report continued to increase in 1963, indicating the usefulness and potential of the publication.

Health Statistics, a quarterly publication, summarized the monthly data on notifiable diseases in the Americas. Provisional figures on cases of quarantinable diseases reported for 1963 are given in Table 19.

*Reported Cases of Notifiable Diseases in the Americas*² appeared for the first time as an annual publication, with data for 1961. The data were published in separate English and Spanish editions. This report was based on annual summaries provided by national health authorities in response to a joint request of both the PAHO and the WHO.

As in the earlier publications of the series, reported cases and rates per 100,000 population were shown for 40 diseases for countries and territories of the Americas, using corresponding data for previous years for comparisons. Tabulations by age and political divisions were continued; new tabulations, on the seasonal distributions of selected diseases and on deaths from notifiable diseases, were added. In mid-1963 similar annual data for 1962 were requested from the national health services, for publication in 1964.

² *Scientific Publication PAHO 86*, 1963.

TABLE 19. REPORTED CASES OF QUARANTINABLE DISEASES IN THE AMERICAS, 1963^a

Country	Jungle yellow fever	Small-pox	Plague	Louse-borne typhus
Bolivia	81	—	53	141
Brazil	—	300 ^b	39	—
Chile	—	—	—	11
Colombia	10	4	—	2
Ecuador	—	45	258	258
México	—	—	—	39
Perú	49	4	72	13
United States of America	—	—	1	—
Venezuela	1	—	—	—
Total	141	353	423	464

— None.

^a Based on official notification to Health Services; data received at PASB through 30 May 1964.

^b Incomplete data for the States of Guanabara, Paraíba, and Pernambuco; and for the city of Natal, Rio Grande do Norte.

Regional Advisory Committee on the International Classification of Diseases

The third meeting of the Regional Advisory Committee on the International Classification of Diseases was held in Washington, D.C., from 10 to 13 June 1963. The chief purpose of this meeting was to review the comments received from 29 countries and territories on selected sections of the *International Classification of Diseases*³ and to formulate a Regional Proposal for the Eighth Revision.

Preliminary to the formulation of a Regional Proposal, provisional proposals for Infective and Parasitic Diseases and for Nutritional Deficiency Diseases and Nutritional Deficiency Anemias had been developed and submitted in February 1963 to Ministers and Directors of Health of the Americas, with the request that their comments be returned in time to be discussed at the June meeting. Based on the comments received from 29 countries and territories, the Committee developed a Regional Proposal for these sections. Other recommendations also included in the Committee's report⁴ were that WHO give serious consideration to publishing the Revision in a single volume so that it would serve for both mortality and morbidity statistics and for indexing diagnoses; that each country present for international publications statistics of causes of death, at least with the detail provided by the Intermediate List of 150 causes; and that when a diagnostic index is to be maintained in a hospital in a Spanish-speaking country, the Spanish-language *Adaptation*⁵ be used in indexing diagnoses from case histories and in the preparation of hospital morbidity statistics. The Committee urged that both the PAHO *Adaptation* and the *International Classification of Diseases* be prepared in Portuguese.

In view of the urgent need in the countries of the Americas for a manual on hospital morbidity statistics, the Committee also recommended that the WHO Draft Manual on this subject be translated into Spanish and into Portuguese.

Latin American Center for Classification of Diseases

The Latin American Center for Classification of Diseases (in Caracas, Venezuela) continued, with the assist-

³ World Health Organization. *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death*, Vols. 1 and 2. Geneva, Switzerland, 1957.

⁴ *Scientific Publication PAHO 83*, July 1963.

⁵ *Scientific Publication PAHO 52. Clasificación Internacional de enfermedades, adaptada para índice de diagnósticos de hospitales y clasificación de operaciones.* (Second printing, February 1963.)

ance of a grant from the Organization, contributing to the development of complete, reliable, and comparable mortality statistics in Latin America, through the promotion and improvement of the use of the *International Classification of Diseases* in the countries of the Hemisphere.

In 1963 the Center carried out preliminary work for consideration for the Eighth Revision of the *Classification*, by assisting in the development of proposals, through trials carried out in Argentina, Colombia, Panamá, Perú, and Venezuela, which served as a basis for the Regional Proposal submitted to WHO headquarters. The director of the Center participated in the 1963 discussions of the WHO Subcommittee on the Classification of Diseases at which the Regional Proposal was considered for integration into the Eighth Revision.

The teaching activities of the Center were intensified, with eight courses provided during the year (Table 20). Including the 1963 courses, in which 190 persons from 11 countries received instruction, the Center has provided, since its beginning in 1955, 35 courses attended by 602 students from 21 countries and the British and Netherlands Territories (Table 21).

The international course given at the Center in 1963 was the first to include a sizeable group of statisticians

from Brazil and was a first step toward introducing instruction on the use of the *Classification* in that country.

Although in the past the main objective of the Center's contribution was to improve mortality statistics, the need to apply the *Classification* to morbidity statistics and hospital diagnoses resulted in an expansion of the Center's work. Adapting in 1961 the *Classification* for use in diagnostic indexing in Spanish was the first step. In 1963 the *WHO Draft Manual of Hospital Morbidity Statistics* was translated into Spanish and distributed by the Organization. During the same year, the Center began adapting and translating into Spanish a manual⁶ for training nonmedical personnel in the use of the *Classification* on hospital records. Another publication translated by the Center, which makes available considerable training material in Spanish, is the *Nosology Guidelines* of the National Center for Health Statistics of the United States Public Health Service.

The director of the Center serves as co-principal investigator and as a medical referee of the Inter-American Investigation of Mortality. This necessitates the reviewing of all the information obtained through special in-

⁶ Commission of Professional and Hospital Activities. *Programmed Instruction in Use of ICDA*, 1963.

TABLE 20. COURSES OF THE LATIN AMERICAN CENTER FOR THE CLASSIFICATION OF DISEASES, 1963

Host country	Sponsoring agency and city	Date	Students		Total
			Number	Country of origin	
Argentina.....	School of Public Health (for statisticians at the intermediate level), Buenos Aires	8-20 July	30 1 2 1	Argentina Bolivia Paraguay Venezuela	34
	School of Public Health (for public health specialists), Buenos Aires	12-22 July	25	Argentina	25
Colombia.....	School of Public Administration (for statisticians at the intermediate level), Bogotá	17-20 September	36	Colombia	36
	National Administrative Department of Statistics (DANE), Bogotá	28 September-4 October	11	Colombia	11
	School of Public Health (for public health specialists), Bogotá	7-8 October	22	Colombia	22
El Salvador.....	Ministry of Public Health and Social Welfare, San Salvador	6-24 May	20	El Salvador	20
Perú.....	Training Center, Ministry of Health and Social Welfare, Lima	14-25 October	27	Perú	27
Venezuela.....	Latin American Center for Classification of Diseases, Caracas	19-30 August	11	Brazil	15
			1	Ecuador	
			2	México	
Total.....			1	Panamá	190

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TABLE 21. COUNTRY OF ORIGIN OF STUDENTS TRAINED AT THE LATIN AMERICAN CENTER FOR CLASSIFICATION OF DISEASES, 1955-1963

Country or territory	1955-1962	1963	Total
Argentina	101	55	156
Bolivia	32	1	33
Brazil	4	11	15
Chile	17	—	17
Colombia	81	69	150
Costa Rica	6	—	6
Cuba	2	—	2
Dominican Republic	16	—	16
Ecuador	2	1	3
El Salvador	1	20	21
Guatemala	9	—	9
Haiti	1	—	1
Honduras	3	—	3
Jamaica	5	—	5
México	8	2	10
Nicaragua	6	—	6
Panamá	47	1	48
Paraguay	26	2	28
Perú	25	27	52
Trinidad and Tobago	2	—	2
Venezuela	8	1	9
British Territories	7	—	7
Netherlands Antilles	3	—	3
Total	412	190	602

— None.

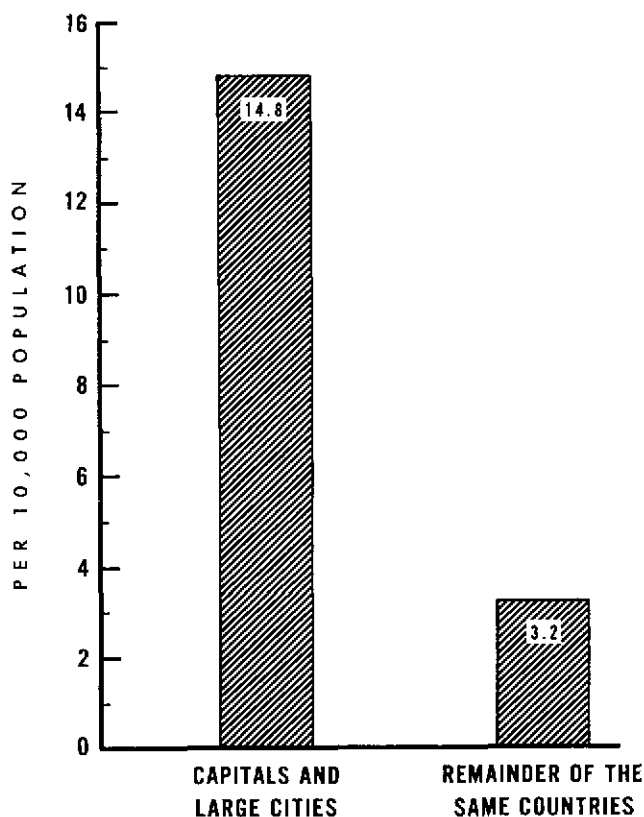


FIG. 3. PHYSICIANS IN CAPITALS AND LARGE CITIES OF 12 LATIN AMERICAN COUNTRIES AND IN THE REMAINDER OF THE SAME COUNTRIES AROUND 1960.

TABLE 22. NUMBER OF PHYSICIANS AND HOSPITAL BEDS, WITH RATES, IN CAPITALS AND LARGE CITIES AND IN THE REMAINDER OF THE SAME COUNTRIES IN LATIN AMERICA AROUND 1960

Area	Twelve countries ^a			Fourteen countries ^b		
	Estimated population	Physicians		Estimated population	Hospital beds	
		Number	Per 10,000		Number	Per 1,000
Capitals and large cities ^c	30,584,575	45,197	14.8	36,516,465	203,949	5.6
Remainder of the same countries	133,002,248	42,401	3.2	143,713,093	351,876	2.4
Total	163,586,823	87,598	5.4	180,229,558	555,825	3.1

^a Argentina, Bolivia, Brazil, Chile, Costa Rica, El Salvador, Guatemala, México, Nicaragua, Panamá, Perú, and Venezuela.

^b Countries in footnote ^a plus Colombia and Honduras.

^c Includes federal districts, capital cities or Departments with capital city plus other cities of at least 500,000 population or Departments with cities of 500,000 population or more.

vestigations (clinical history, examinations, surgical and pathological findings, etc.) for the assignment of the underlying cause of death in accordance with international rules. In 1962 and 1963 some 6,000 questionnaires were reviewed.

Studies of Health Manpower

In developing data for studies of health manpower and medical care in Latin America, the distribution of physicians and of hospital beds within the countries was analyzed. Information on the distribution of physicians was obtained for 12 countries with a population of 164 million and of hospitals for 14 countries with a population of 180 million (Table 22 and Figures 3 and 4). Capitals and large cities had 4.6 times as many physicians per 10,000 population and 2.3 times as many hospital beds per 1,000 population as the remaining sections of the same countries.

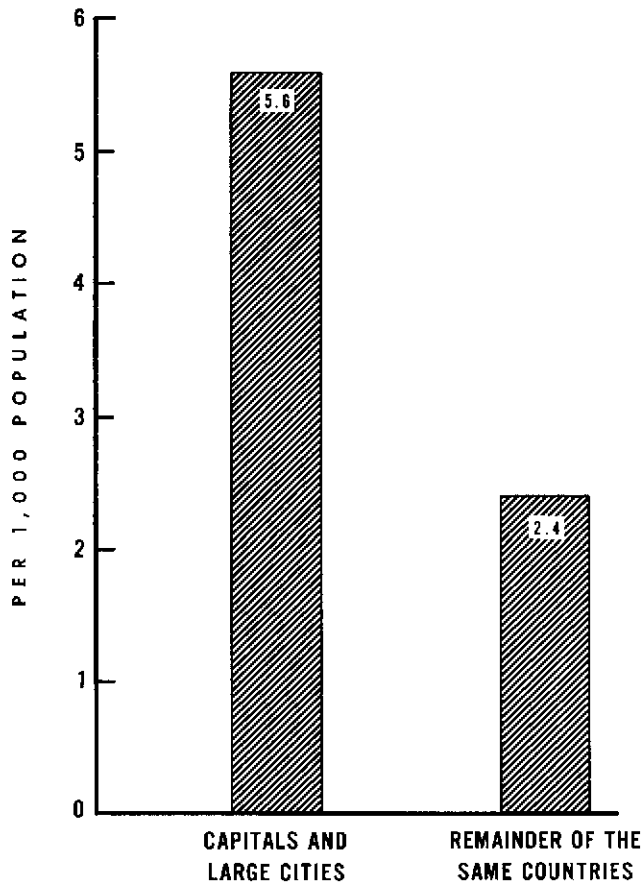


FIG. 4. HOSPITAL BEDS IN CAPITALS AND LARGE CITIES OF 14 LATIN AMERICAN COUNTRIES AND IN THE REMAINDER OF THE SAME COUNTRIES AROUND 1960.

Other Activities

During 1963, questionnaires were distributed to national health authorities throughout the Hemisphere to obtain for PAHO and WHO publications statistical data on causes of mortality by age, causes of infant mortality and of fetal death, vaccinations, and health resources in terms of hospital beds and health personnel. The joint request for the same information for the two Organizations was planned in an effort to eliminate duplication of requests.

A questionnaire on health was prepared and included in the Guidelines used by the countries when reporting to the IA-ECOSOC on their socioeconomic development toward meeting the objectives of the Alliance for Progress. The replies received were analyzed and presented at the IA-ECOSOC Committee on Health meeting in San José, Costa Rica, and at the meetings at the Expert and Ministerial levels in São Paulo, Brazil, in 1963.

Field Activities

Censuses

Between 1960 and 1963, population censuses were carried out in 19 of the 24 countries of the Americas. Still without a recent enumeration were Bolivia, Colombia, Cuba, Haiti, and Guatemala. Most of the territories in the Americas had also had recent population censuses. Only two censuses were taken in 1963: in Nicaragua in April, and in Uruguay in October—the first in this country since 1908. Plans were well advanced in Colombia for a census of population and housing, scheduled for June 1964.

Availability of census data by various population characteristics is shown in Table 23.

Provisional population data by geographical area are available for most countries, but other information was still being tabulated at the end of 1963 or was available only on the basis of a sample of the population.

Vital Statistics

In Argentina the Federal Capital and the Provinces of Córdoba, La Pampa, Mendoza, and Misiones were added to the three (Buenos Aires, El Chaco, and San Juan) Provinces already in the Area of Registration, which now included 68 percent of the nation's population. The procedures and forms were based on those previously developed in the Province of Buenos Aires.

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TABLE 23. DATA AVAILABLE ON CENSUSES TAKEN IN COUNTRIES OF THE AMERICAS AROUND 1960

Country	Censuses taken around 1960		Tabulations				
	Date	Population	Geographical	Age and sex	Education	Urban and rural	Housing
Argentina.....	30/IX/60	20,005,691	x	—	—	—	x
Bolivia.....	—	—	—	—	—	—	—
Brazil.....	1/IX/60	70,967,185	x	—	—	x	x
Canada.....	1/VI/61	18,238,247	x	x	—	x	x
Chile ^a	29/XI/60	7,375,200 ^b	x	x	x	x	—
Colombia.....	—	—	—	—	—	—	—
Costa Rica.....	1/IV/63	1,325,755 ^b	x	—	—	x	—
Cuba.....	—	—	—	—	—	—	—
Dominican Republic.....	7/VIII/60	3,013,525 ^b	x	—	—	—	x
Ecuador.....	25/XI/62	4,581,476 ^b	x	—	—	x	x
El Salvador ^a	2/V/61	2,510,984 ^b	x	x	x	x	x
Guatemala.....	—	—	—	—	—	—	—
Haiti.....	—	—	—	—	—	—	—
Honduras ^a	17/IV/61	1,883,362 ^b	x	x	x	x	x
Jamaica.....	7/IV/60	1,613,880 ^b	x	x	—	x	x
México.....	8/VI/60	34,923,129	x	x	x	x	x
Nicaragua.....	25/IV/63	1,524,027	x	—	—	x	—
Panamá.....	11/XII/60	1,075,541	x	x	—	x	x
Paraguay.....	18/IX/62	1,816,890 ^b	x	—	—	x	—
Perú.....	2/VII/61	10,364,620 ^b	x	—	—	x	—
Trinidad and Tobago.....	7/IV/60	827,957	x	x	x	—	x
United States of America.....	1/IV/60	179,323,175	x	x	x	x	x
Uruguay.....	16/X/63	2,556,020	x	—	—	—	—
Venezuela ^a	22/II/61	7,523,999	x	x	—	x	x

— None.

x Available.

^a Tabulation based on samples.

^b Provisional tabulation.

^c Scheduled for June 1964.

Sources: U. N. *Demographic Yearbook, 1962*.

Pan American Union, Inter-American Statistical Institute, *Noticiero*.
National Census Reports.

Several events in Brazil point to this country's progress in the field of health statistics. The Federal Service of Biostatistics directed concentrated effort on the establishment of birth and death registration areas in places in which at least 90 percent of vital events are registered. Surveys were completed and registration areas established in the States of Alagoas, Paraíba, Pernambuco, Piauí, and Rio Grande do Norte, and surveys were in progress in Maranhão. Eleven Brazilian statisticians attended the course on International Classification of Diseases at the Latin American Center in Caracas. This group included staff from the health services hospitals, and schools of medicine and public health. The Seventh Revision of the *International Classification of Diseases* was translated into Portuguese, in Brazil, and was being reviewed by the Latin American Center for the Classification of Diseases in preparation for publication.

In Colombia a draft law on registration of vital events was approved by the National Committee on Health Statistics, for presentation to Congress.

Paraguay published, with technical assistance from ECLA, a document to improve vital and health statistics (*Plan de mejoramiento de las estadísticas vitales y sanitarias del Paraguay*).

The Biostatistics Division of the Ministry of Public Health and Social Welfare and the National Statistical Service of Perú are cooperating in the redesigning of registration certificates and in planning for tabulations of statistical information.

The Ministry of Health and Social Welfare of Venezuela passed a resolution establishing Registration Areas and stressed the value of complete registration of deaths by requiring each Federal Unit to have at least one inspector to work toward the improvement of vital

registration. The Birth Registration Area includes the States of Bolívar, Carabobo, Mérida, Nueva Esparta, and Zulia.

Morbidity Statistics

The value of hospital morbidity statistics is becoming increasingly apparent, as is the realization of the magnitude of the tasks of training personnel and improving the organization of the present systems.

A new system of weekly notification of diseases was initiated in the Province of Mendoza, Argentina. The system of reporting hospital statistics in operation in one hospital in San Juan was extended throughout the Province, and similar programs were started in El Chaco and Mendoza Provinces.

In the city of Buenos Aires the hospital statistical system was being strengthened. A census of hospital beds and other basic services was made. Inpatient record forms were designed and gradually introduced. Statistical departments were created in all municipal hospitals. One hospital was selected as a demonstration center, and procedures for admission and record room practices were improved. Training was given to resident physicians and to statistical department personnel, and the center was used for the field practice of two groups of students who attended the statistics course at the intermediate level given at the School of Public Health of the national University of Buenos Aires.

In Colombia the Ministry of Public Health reassumed greater responsibility for the reporting of notifiable diseases, previously carried out by the National Administrative Department of Statistics (DANE). Hospital terms were defined and new forms and procedures were introduced. Coordination was developed between the hospital statistics programs of the Departments of Antioquia and Caldas and DANE. A national survey of resources of hospitals was initiated.

A short-term statistical consultant sent to Costa Rica to study the hospital system made recommendations for the improvement of statistical procedures in the collection and tabulation of information.

A seminar on epidemiology and notifiable diseases, with emphasis on reporting, was held in the Health Area of Junín, Perú, and special morbidity surveys for tuberculosis were made in Tacna.

Health Services

Studies of available resources and of manpower for health work were underway in several countries of the

Hemisphere, and in other countries special groups were established to plan for such activities.

In Argentina a public health team from the Federal Council for Investments undertook, in coordination with the National Development Council, a study of resources and services. Statistical data were being obtained for health planning, and methods utilized in the collection of statistics of resources and services were being investigated.

Colombia developed national health-services guides for regional and local biostatistics offices.

In Cuba the Ministry of Public Health designated a working group to study problems related with statistics and to reorganize the Department of Statistics. The group worked at the national, regional, and local levels and recommended that a regional organization responsible for statistics in the health and epidemiological centers should be maintained.

A Department of Health Resources was established in the Ministry of Health and Social Welfare of Perú, as part of the Biostatistics Division which itself is a unit of the Planning Office. This new department will study the need and availability of medical and paramedical personnel.

A survey made in December revealed that the activities of National Committees on Vital and Health Statistics were very limited throughout 1963, but it was encouraging to note that several provincial committees had been created in Argentina. Another important step in this country was the establishment of a system of vital statistics in the Federal Capital. The system began operating on 1 January 1963. In Canada several health statistics committees were operating on a national basis, thus carrying out the coordination recommended by WHO. In the United States the National Committee held two meetings and considered reports of subcommittees' activities on fertility measurement, statistics available from medicolegal deaths, classification of physical impairments, health economics, classification of mental disorders, and International List Revision.

Research

The Inter-American Investigation of Mortality was continued, and working-group meetings were held on cancer epidemiology, congenital malformations, and rheumatic fever.

Inter-American Investigation of Mortality

During 1963 the collection of data in this large-scale project was underway in all 12 collaborating cities (Figure 5). By 31 December, 26,760 completed questionnaires had been received at Headquarters (Table 24). The rate of progress varied considerably from city to city, depending on the starting date of the field work in the city concerned, the availability of suitable personnel, and other local circumstances.

The questionnaires received at Headquarters included the complete material for the first 12 months of the study in Bogotá and Cali, Colombia; Caracas, Venezuela;

Guatemala, Guatemala; La Plata, Argentina; Lima, Perú; and Ribeirão Preto, Brazil; as well as for the first 9 months in São Paulo, Brazil. By the end of 1963, the complete material for the first year had not been received from Bristol, England; México City, México; San Francisco, California, U.S.A.; and Santiago, Chile.

At Headquarters, priority was given to processing the material received rather than to its analysis, for analysis yields meaningful results only when the material available is properly representative. At the end of 1963, only the data from 4 cities had been processed to the stage that tabulations could be undertaken.

One analysis of a specific topic—mortality from ma-

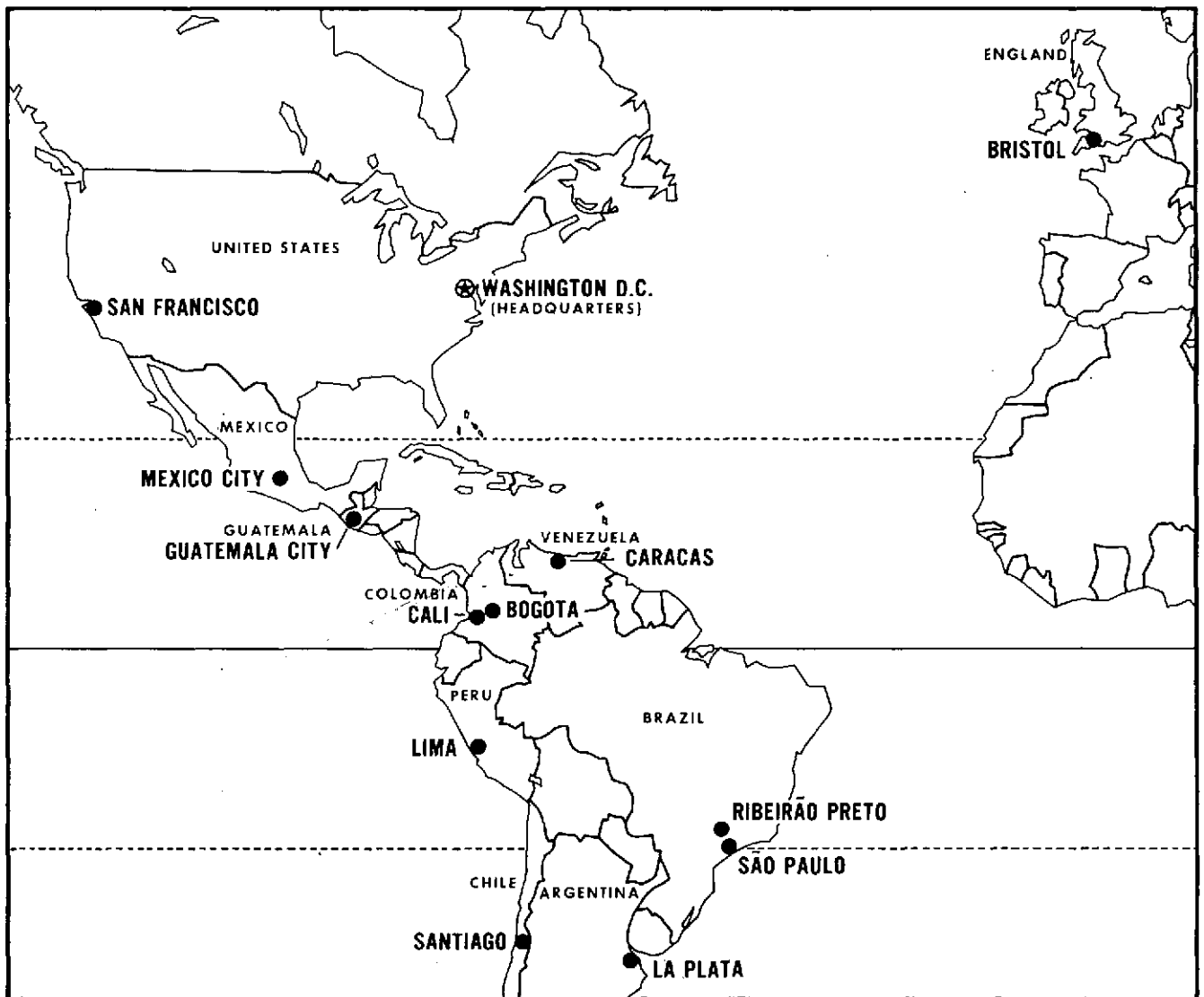


FIG. 5. CITIES COLLABORATING IN THE INTER-AMERICAN INVESTIGATION OF MORTALITY.

TABLE 24. INTER-AMERICAN INVESTIGATION OF MORTALITY:
DATE OF STARTING AND NUMBER OF COMPLETED
QUESTIONNAIRES FROM 12 CITIES
31 December 1963

City	Starting date	Completed questionnaires
Bogotá (Colombia).....	January 1962	2,583
Bristol (England).....	October 1962	2,000
Cali (Colombia).....	May 1962	2,910
Caracas (Venezuela).....	January 1962	2,605
Guatemala (Guatemala).....	May 1962	1,768
La Plata (Argentina).....	January 1962	2,424
Lima (Perú).....	January 1962	2,471
México (México).....	March 1962	2,450
Ribeirão Prêto (Brazil).....	January 1962	895
San Francisco (California, U.S.A.).....	October 1962	1,115
Santiago (Chile).....	July 1962	2,230
São Paulo (Brazil).....	January 1962	3,309

lignant neoplasms in Cali, Caracas, La Plata, Lima, and São Paulo—was made for presentation at a planning conference on cancer epidemiology (see below). The analysis revealed that:

1. The proportion of deaths caused by cancer in the age-group of 15-74 years varied from 18.1 percent in São Paulo to 28.9 percent in La Plata. The corresponding figure for the United States of America is 21.1 percent.

2. In relation to all causes of death, cancer was the most prominent in men in the age-group of 45-54 years in La Plata (35.7 percent) and in women in the same age-group in Lima (45.0 percent).

3. In 89 percent of all deaths caused by cancer in the 5 cities, some evidence to establish the primary site of a malignancy could be adduced in support of the clinical findings. The proportion varied according to the organ involved; but, for example, in deaths due to cancer of the uterine cervix (responsible for 20 percent of cancer-caused deaths in women), there was confirmation by histology or gross autopsy or surgical findings in 96 percent of the deaths.

4. Compared with the United States of America, mortality from cancer of the stomach was proportionately high in all 5 cities and cervical cancer was high in Cali, Caracas, and Lima. Mortality from cancer of the urinary bladder, of the esophagus, and of the lungs was unusually high in La Plata; mortality caused by esophageal cancer was unusually high in São Paulo.

TABLE 25. DEATHS FROM CARDIOVASCULAR DISEASES AND
CHAGAS' CARDIOPATHY,* BY AGE AND SEX, IN
RIBEIRÃO PRÊTO IN 1962 AND IN THE UNITED STATES
OF AMERICA IN 1959

Rate: 100,000 population

Age-group in years	Ribeirão Prêto 1962		United States of America 1959	
	Male	Female	Male	Female
15-34.....	90	48	16	12
35-54.....	419	217	295	115
55-74.....	1,735	1,519	1,933	1,058

* International Classification Categories: Vascular lesions affecting central nervous system (330-334), and Diseases of the circulatory system (400-468) and Chagas' cardiopathy (in 121).

A start was made on the study of deaths due to heart diseases in Ribeirão Prêto where, according to the material collected, the mortality caused by these diseases is unusually high for the age-groups of 15-34 and 35-54 years if compared with the United States of America (Table 25).

The most common form of heart disease in Ribeirão Prêto is a chronic myocardial condition associated with long-standing infection with *Trypanosoma cruzi*. From the completed questionnaires, the data on deaths caused by heart disease complicated with Chagas' disease were abstracted for special study by a number of cardiologists, with a view to arriving at agreed criteria for the uniform assignment of deaths due to cardiopathy produced by chronic Chagas' disease.

Epidemiological Studies on Cancer

As a first step in the development of epidemiological research on cancer a Planning Conference was held from 25 February to 1 March 1963 in Lima, Perú. This conference was made possible by a research grant from the National Cancer Institute of the U.S. Public Health Service. The discussion centered on three broad fields in the epidemiology of cancer and its control. The first field discussed was methodology and criteria for obtaining reliable information on cancer incidence and mortality in Latin America. The second was related to the specific epidemiological studies which should be carried out in Latin America because of the unusual occurrence of the disease or the existence of special population characteristics to be investigated in relation to the disease. The third subject considered was the education and training

of personnel of various types required for epidemiological studies.

Some of the recommendations made by the participants of the Conference were that: (1) The Pan American Health Organization should provide advisory services in the fields of cancer epidemiology and control; (2) The Organization should obtain, on a periodic basis, a minimum amount of comparable information on morbidity and mortality from cancer and should circulate reports of special interest; and (3) The Organization should design and initiate collaborative epidemiological investigations into the incidence and causes of cancer of the stomach, cervix of the uterus, skin, and lung, for which statistics show high mortality or morbidity. Similar investigations were also recommended on cancer of the esophagus, liver, gall bladder and biliary tract, urinary bladder, and oral cavity, because of their special interest or unusual geographical distribution.

Rheumatic Fever

A meeting of a Study Group on Rheumatic Fever in the Americas was held from 9 to 12 October in Santiago, Chile, under the auspices of the Pan American League Against Rheumatism, the Chilean Rheumatism Society, and the Pan American Health Organization. The objectives were to establish a basis for conducting epidemiological research on the prevalence of rheumatic fever and rheumatic heart disease in the Americas and to develop programs of prevention of rheumatic fever suitable for application in countries of the Americas.

Data were presented on mortality, by age, from rheumatic fever and rheumatic heart disease in the countries of the Hemisphere and on morbidity in countries in which surveys or case-finding programs had been carried out.

The Study Group passed a resolution recommending that countries establish, as a minimum, a pilot center for the prevention of recurrences of rheumatic fever. Within its geographical area of responsibility the pilot center should provide all services essential to the prophylaxis of rheumatic fever, including diagnosis, supervision, and followup of diagnosed cases, and an adequate supply of drugs. The center would also serve to provide special training for professional and other personnel as well as the basic factors for conducting epidemiological and clinical research on rheumatic fever. The Group requested the Pan American Health Organization to give technical guidance to national programs and to provide international coordination.

Etiology of Congenital Malformations

The XVI Pan American Sanitary Conference (Minneapolis, Minnesota, U.S.A., 21 August to 3 September 1962) recommended (Resolution XIV) that specific action be taken by the Member Governments and by the Organization in regard to the reporting, current tabulation, and analysis of data on congenital defects to bring together the experience of countries. Because of the problems involved in establishing a satisfactory system of collecting data on congenital malformations in the Americas, it was proposed to implement the Resolution by means of a research program to test methods of study, develop definitions and procedures, and collect data on an experimental basis.

With the assistance of a grant from the United States National Institutes of Health, Division of General Medical Sciences, a Planning Conference for Research on Congenital Malformations was held at PAHO Headquarters from 3 to 7 January 1963. The purpose of the meeting was to obtain advice on the development and implementation of a collaborative research program that would make possible the timely recognition of detrimental effects of newly introduced potentially teratogenic agents by revealing unusual groupings of congenital defects.

As a result of this conference a research proposal was prepared and presented to the National Institutes of Health. However, financial support for the project was not obtained.

On 22 November 1963 a small group of representatives of United States agencies concerned with the problem met with staff of the Organization to explore possible methods of implementing the Resolution passed by the Pan American Sanitary Conference in 1962. As a result of the discussion, three concrete proposals were made for new projects for which financial support should be sought. The first proposal was that the original project be redesigned with emphasis on demography in Latin America and on community-centered research on congenital malformations in the United States. The second was the development of a research project on deaths in infancy and childhood (similar to the Inter-American Investigation of Mortality) that would provide comparable data on the fatal congenital malformations. The third was suggested as a communications center where information collected in various programs would become available to all concerned with research on congenital malformations.

Education and Training

The program of education and training in health statistics continued to expand in 1963. At the end of the year, 10 professionals were attending the second 15-month statistics course with specialization in biostatistics, offered by the School of Public Health of the University of Chile. Intermediate-level courses in biostatistics were offered at the School of Public Health in Buenos Aires, Argentina, the School of Public Health in Mexico City, and the School of Administration in Bogotá, Colombia. All together, Latin American countries reported 12 courses on statistics in 1963 (Table 26).

Statistical consultants of the Organization participated, both in planning and teaching, in many of the above-mentioned courses. They also taught statistical methodology—in Perú, to personnel of the national health services studying planning and orientation in hospital administration; in Colombia, to nutritionists, sanitary inspectors, and medical students; in Cuba, to physicians; and in Paraguay, to the dental faculty.

Of the 27 students who attended the intermediate-level statistics courses at the School of Public Health in Buenos Aires, 2 from Paraguay and 1 from Bolivia were PAHO/WHO fellows (15 received field training in hospital statistics). Four fellowships were awarded to 2 students from Cuba, and 1 each from the Dominican Republic and Venezuela for the statistics course at the School of Public Health in México City, and six (2 from Argentina and 1 each from the Dominican Republic, Ecuador, Uruguay, and Venezuela) for the course at the School of Public Health in Santiago, Chile. A fellow from Ecuador and another from Costa Rica attended the course for medical-records librarians, given in Caracas. At the end of the year, three students (1 from Argentina and 2 from Brazil) were studying in the United States. Of the 15 fellowships awarded for the 15-day course on the International Classification, held at the Center in Caracas, 11 students were from Brazil, 2 from México, and 1 each from Ecuador and Panamá (Table 27). In addition, other statistical training was given in Argentina and Colombia.

TABLE 26. REPORTED STATISTICS COURSES^a HELD IN LATIN AMERICAN COUNTRIES, 1963

Country	Type of course	Dates	Number of students	Agency and location
Argentina	Vital and health statistics	March–Nov. 1963	27	School of Public Health, University of Buenos Aires
	Statistics for physicians (2 courses)	...	58	Ditto
	Introduction to statistical analysis	10–26 July	21	Ditto
	Experimental design and analysis	29 July–10 Aug.	20	Ditto
Bolivia	Vital and health statistics	June–Nov. 1963	35	School for Technicians, Ministry of Public Health, La Paz
Chile	Degree course with specialization in biostatistics	March 1963–July 1964	10	School of Public Health, University of Chile, Santiago
Colombia	Vital and health statistics	July 1963–Jan. 1964	35 ^b	School of Administration, University of Bogotá
Dominican Republic	Course for statistical auxiliaries	March–April 1963	18	Ministry of Health and Social Welfare, Santo Domingo
El Salvador	Public health statistics	April 1963	43	Ministry of Public Health, and Social Welfare, San Salvador
México	Vital and health statistics (Intermediate level)	Feb.–Aug. 1963	...	School of Public Health and Social Welfare of México, México City
Venezuela	Medical records	Feb.–Dec. 1963	20	Ministry of Health and Social Welfare, Caracas

... Data not available.

^a Excluding courses on classification of diseases, reported in Table 20.

^b Fellowships awarded by UNICEF.

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TABLE 27. PAHO/WHO FELLOWS TRAINED IN STATISTICS, MEDICAL RECORDS, AND CLASSIFICATION OF DISEASES, BY COUNTRY OF ORIGIN, SUBJECT, AND COUNTRY OF STUDY, 1963

Country of origin	Subject and country of study						Total
	Statistics				Medical records	International Classification of Diseases	
	Argentina	Chile	México	United States of America	Caracas	Caracas	
Argentina.....	—	2	—	1	—	—	3
Bolivia.....	1	—	—	—	—	—	1
Brazil.....	—	—	—	2	—	11	13
Costa Rica.....	—	—	—	—	1	—	1
Cuba.....	—	—	2	—	—	—	2
Dominican Republic.....	—	1	1	—	—	—	2
Ecuador.....	—	1	—	—	1	1	3
México.....	—	—	—	—	—	2	2
Panamá.....	—	—	—	—	—	1	1
Paraguay.....	2	—	—	—	—	—	2
Uruguay.....	—	1	—	—	—	—	1
Venezuela.....	—	1	1	—	—	—	2
Total.....	3	6	4	3	2	15	33

— None.

ADMINISTRATIVE METHODS AND PRACTICES

In the process of extending the program of consultant services in public administration special assistance was given during 1963 to several countries. Consultants were appointed to Zones I, III, IV, and VI to collaborate with the Ministries of Health that wish to improve their administrative structure and practices.

Consultant services to Chile began with a review in depth of the several administrative units of the National Health Service and assistance was given in its general transportation problem. In Panamá the Ministry's administrative structure and the procedures in use were reviewed; a supply service was developed and a workshop on public health management was held. When in late 1963 an administrative methods consultant was appointed to provide advisory services to the Governments in Zone III, his first activity concerned both a review of progress since the 1960 meeting on this subject in San José, Costa Rica, and the planning of a seminar for 1964. In Paraguay, initial work was undertaken on the implementation of changes in the accounts-control system of the Ministry, to relate the system more definitely and effectively to a program-type budget. Perú reformed

the administrative structure of the Ministry and introduced procedural changes, following recommendations made by a group of administrators. Moreover, a PAHO officer was selected to assist the Dominican Republic in the administration and management of the malaria eradication campaign.

With the appointment of a consultant on the administration and financing of water supply systems, several requests in this field were met during 1963. A management study of the water supply system in Caracas, Venezuela, was undertaken with the Organization's assistance, and similar studies were carried out in various parts of México. Several countries in Zone I also received periodic assistance on administrative methods in the latter part of the year.

The third Seminar on Organization and Administration of Public Health Services was held in Kingston, Jamaica, from 18 to 22 November. Present at this meeting were representatives of 16 of the English- and Dutch-speaking Governments of the Caribbean and officials of a number of international agencies and academic institutions.

Highlights of the Seminar were the reiteration of the primacy of health and human resources in socioeconomic development and recommendations that every effort should be extended (a) to place a health officer in governmental central coordinating committees on de-

velopment, (b) to establish planning units in the Ministries of Health still lacking one, (c) to develop health plans and to assure the incorporation of these into overall government plans, (d) to train planners, and (e) to establish close contact among planning units. Furthermore, the Seminar affirmed that a review of the pattern of organization and procedures for health services in the Caribbean Area was necessary and called upon international organizations to assist in implementing such a review. Important conclusions of the Seminar were requests that PAHO undertake a study of health costs and that both PAHO and the University of the West Indies establish a course in planning. The report of the Seminar was published and distributed early in December.

HEALTH LEGISLATION

To the extent its human and material resources permit, the Organization continued to provide advisory services to enable Governments to bring their health legislation to present-day needs; but because of the shortage of available experts it has not always been easy to provide such advice. In 1963 the death of a highly qualified expert while in service dramatically illustrates this problem. In view of the increasing demand, steps were taken to prepare a roster of possible candidates to choose from, but the search for names to add to this list, carried out through the Zone Offices, has not produced the results expected. At the present time the only solution to the problem appears to be that the countries entrust the function to those of their officials who are best able to perform it. The Organization will only be able to provide assistance in limited cases and it will consist of the services of a consultant to advise on the most general and doctrinal aspects of health legislation.

As it is inadvisable for health laws and codes to include the organization of ministries and services that are liable to change, the Organization has suggested that they contain only those provisions that constitute unchanging and permanent doctrine, and that what can and must be more frequently modified should be embodied in regulations.

Assistance was given to the Government of Guatemala in framing a Health Code to support health activities and health administration, especially the promotion, protection, and restoration of health and rehabilitation, based on the social and cultural characteristics of the country and knowledge available. For that purpose the Health

Code in force and the laws, decrees, and regulations that supplement it were revised. At the conclusion of the study a preliminary draft was submitted to the Government and is now under consideration.

Preliminary studies to assist the Government of Honduras in the drafting of a Health Code were begun, but the work was interrupted by the death of the consultant.

Another short-term consultant gave advice to the Government of Jamaica on the modernization of its health legislation. Draft legislation on public health, mental health, food and drugs, nursing, obstetrics, and dentistry was drawn up.

EVALUATION

One important principle in administration is that of ascertaining and systematically analyzing the progress made in each project or program. This is a continuing and dynamic process, which consists in obtaining and studying information relating to the situation as it existed at the beginning of the project and comparing it with the data obtained from the reports submitted during the course of the project, bearing in mind the objectives previously established.

In 1963 the Bureau instituted a system of routine evaluation of projects (concurrent with the development of the projects) in which the Organization is cooperating with the Governments. To carry out this evaluation, which is based on reports prepared by the personnel of each project, the intention is to collect the basic data that will make it possible to compare in the future any changes that may have taken place. For this purpose, specific indices are being established, in strict relation to the objectives of the project itself, which will make it possible to quantify the accomplishments during a specific period.

Evaluation concurrent with the development of each project awakened an increasing interest among field workers. To facilitate initiation of the process, the Bureau prepared an analysis of the basic principles of evaluation as applied to the development of the various programs.

The system of practical evaluation, as an intrinsic process of the project itself, was begun in 1963 in some countries. The project staff themselves take a direct part in the system, which must be used as a tool for estimating if it is necessary to reorient the projects or programs

and also for studying the causes for the nonfulfillment of pre-established plans. Furthermore, the system can help the responsible authorities to analyze the successes and failures of a project and to use the experience acquired in it in other activities or other areas of work.

Routine evaluation based on reports was begun in 1963 in Honduras and in Panamá. In Colombia and

Perú preliminary work for the introduction of the system began at the end of the year. A start was also made during the year on the evaluation of the effects which the Seminar on Leprosy (Cuernavaca, Morelos, México, 12-19 August 1963) may have on the development of leprosy control projects in each of the countries which took part in the meeting.

B. SPECIFIC PROGRAMS

MEDICAL CARE AND REHABILITATION

Medical Care

Most of the general statements already made about general health services also hold true for medical care. That it is necessary to identify and deal with all the health problems in each country and to establish priorities in keeping with available resources is especially true when seeking to solve the vast and unsolved problems relating to health. As a result of the specialized assistance of the Organization to the Governments in various health fields, there is an increasing trend to take health programs into account and coordinate them within the framework of broader plans. This presupposes that medical care is an integral part of local and national health programs. But, as with other basic services, before medical care can become part of their regular routine activities, the general health services must be equipped to do so.

The Organization has concentrated on the formulation of a policy which the Governments, when they have approved it, could adapt to the conditions of their respective countries. The steps taken in this direction during the year are summarized below.

The continued demand for the document entitled *Medical Care: Basis for the Formulation of a Continental Policy*⁷ proves that the views set out in it are making headway among specialists in the Hemisphere.

As a result of discussions with the Pan American Union, a professor of the University of California accompanied by an official of the Department of Social Affairs of the OAS visited Brazil, Costa Rica, Chile, México, and Perú to make as complete an inventory as possible of

the National Health Services and especially of those providing any type of patient care. The report was published in English and widely distributed. The Organization contributed with the preparation of the Spanish version, which will be published soon.

Gaps in the information on the general organization of medical care in the countries of the Americas will be filled by the Zone Offices of the Organization. To that end, a questionnaire was prepared, the main purpose of which was to obtain information about every private or public agency that provides medical care, as well as the existing differences in each country in the matter of administration and organization. A study has already been made of medical care in Central America.

The *Scientific Publication PAHO 70* and a special working document were submitted to the Task Force on Health at the Ministerial Level, which met in Washington, D.C., in April 1963. Medical care was discussed under the agenda item entitled "Improvement of Health Services." The special working document, which advocated the integration of health services, was the basis for the Task Force's recommending the incorporation of medical care activities into local and national health programs.

A working document was also submitted to the Advisory Committee on Medical Research. That Committee reaffirmed the importance and urgency of applied research in medical care and approved the idea of setting up an international medical care research and demonstration center. Correspondence with distinguished specialists in the United States of America led to interesting contributions on this subject and a further discussion will be held to conciliate the views expressed.

At the VI National Congress of Hospitals of Costa Rica, held in San José during August, a representative of the Organization presented a paper on "The Integra-

⁷ *Scientific Publication PAHO 70* (Spanish), 1962.

tion of Health Services," which dealt with the main controversial aspects of the question.

Applied research is showing more and more clearly that there should be close ties between the services providing medical care on behalf of the State and the social security agencies serving certain groups of the population. The health authorities have unanimously recommended better and greater understanding between these two types of services; but what usually makes this difficult is the fact that the social security services are not under the technical, administrative, and legal authority of the Health Ministries but under the tutelage of other Ministries. This is a problem which exists in most Latin American countries, and one which will be solved only when the Health Ministries have the specific power to plan and coordinate the health sector within the national or local plans for social and economic development.

In this regard the Pan American Health Organization and the Organization of American States, which has a Department of Social Affairs, have been more closely associated. For example, a bipartite consultative committee made a study in El Salvador of possible ways of fostering better understanding and closer ties between the Ministry of Public Health and Social Welfare and the Salvadorean Institute of Social Security. The joint report proposes practicable solutions for that country and, in general, draws attention to the disadvantages of a lack of coordination between the medical care services provided by the State through the Health Ministry and that provided by the social security institutions. The report also offers a modern doctrine of social security as a component of welfare and of development. The distribution of this document, duly authorized by the Government of El Salvador, would stimulate the investigation of similar problems in other countries.

A study made in another country also revealed a lack of coordination between the medical care services of the Health Ministry and those of the various social security institutions. It has become clear, however, that although similar problems exist in different countries, the solution to the problem must be tailored to the situation in each. A complete study of the situation is therefore a prerequisite to health planning and programing.

The Organization furnished advisory services to the Governments on other matters indirectly related to medical care, which accounts for a large share of health budgets. Each of these activities reinforces the conviction that, faced with financial limitations of any increase in health budgets, it is essential to make the best possible use of the existing resources.

At the country level the Organization has attempted to

increase technical advisory services on medical care, which it has been providing since 1960, and to interest the Governments in a policy of integrating health services, as a result of certain tangible achievements. It is therefore not surprising that there have been more requests for advice even though it was not always possible, with the available financial and human resources, to satisfy those requests.

Because of the lack of qualified personnel in this field the Organization must assist in the setting up of personnel training programs which, by combining preventive and curative activities, overcome and traditional obstacles. This must be done not only at undergraduate schools but also through postgraduate courses.

In the West Indies a special survey was made of the organization of the Barbados hospital, which will be under the authority of the University of the West Indies. The recommendations made on hospital activities, personnel duties, and administrative procedures, resulted in the establishment of a national unit to assist in the general organization of this first stage.

With respect to Venezuela, 4 fellowships were awarded for the training of experts in hospital administration and organization. Unfortunately, in spite of an active search, it has not been possible to find a consultant who will be responsible for furnishing technical advice to hospital administration programs at the School of Public Health of the Central University of Venezuela and for coordinating these programs with pilot projects in the regionalization of integrated health services.

Progress was achieved in the collection of basic information regarding Central America and Panamá and the data were published in a report entitled "Considerations on Medical Care in the Countries of PAHO/WHO Zone III." Advisory services were also given in connection with both the organization of outpatient departments and their role in providing integrated health services and with the functional programing of various kinds of establishments as a basis of architectural design in new health care establishments and in the modernization of existing ones. Other matters studied dealt with hospital regulations, the organization of policy-making agencies, hospital nursing services, and national congresses on hospitals.

In Perú a short-term consultant helped the Personnel Training Center of the Ministry of Public Health and Social Welfare to conduct a course for medical directors of hospitals.

Only at the end of 1963 was it possible to obtain the services of a permanent consultant in medical care to advise the countries of Zone IV.

III. HEALTH PROMOTION: SPECIFIC PROGRAMS

Medical care advisory services to Argentina covered organization, administration, and personnel training. In the second half of the year, the theoretical part of a course for medical hospital directors was given to a specially selected group of key personnel; the practical part of the course was planned to be given in early 1964.

Rehabilitation

In the matter of advisory services on rehabilitation, which are still rather limited, the approach of the Organization has been the same as that used for general health services and medical care. It should be remembered that in many countries rehabilitation activities are separately carried out by various ministries and institutions or else by private and philanthropic agencies. The Organization has been recommending that, to make the best possible use of resources, rehabilitation activities be coordinated at the level of the Health Ministry, by means of special interministry and institutional committees.

The Regional Adviser on rehabilitation spent 8 months assisting Chile in establishing a coordinated national plan which will be further elaborated in 1964. Four of the Provinces visited to study existing resources are now following the adviser's recommendations. The rehabilitation program was also assisted by a consultant on prosthetic appliances, for 9 months; by an occupational therapist, for 6 months; and by a physiotherapist, for 3 months. Considerable progress was made in the installation of the prosthetic workshop and the occupational therapy and physical medicine departments.

As to personnel training, 6 Chilean students received fellowships from Argentina to study occupational therapy in that country. Travel expenses of those students were paid by the Organization, which also awarded a fellowship to another Chilean official to study at the Rehabilitation Institute in México the placement of the handicapped in gainful employment. A physician went to study rehabilitation in Copenhagen under a fellowship from the Government of Denmark. Three Chilean students and 2 Argentine students began a 2-year course in prostheses and orthoses, and another 3 Chilean students began their training in occupational therapy at the University of Chile.

The Rehabilitation Center of Santiago, Chile, in 10 months of activity, handled 1,265 cases in its departments of physical medicine, social rehabilitation, psychological rehabilitation, and vocational rehabilitation. The prostheses and orthoses workshop produced a total of 901 orthopedic appliances.

The Regional Adviser on rehabilitation continued to give advisory services on occupational therapy to the University of São Paulo, Brazil, and an agreement was concluded to reorganize and strengthen the teaching activities in this field at the University. A 4-month course was also planned, in collaboration with UNICEF, to teach technicians from Brazil and other countries how to make orthopedic appliances.

In Venezuela, based on what was originally a leprosy rehabilitation project, a national institute of rehabilitation with branch services in hospitals and health centers was organized. Benefits will gradually be extended to patients in need of rehabilitation because of cardiovascular, pulmonary, mental, and other diseases, including sensory disturbances and speech defects. Special attention was given to the training of auxiliary personnel. In addition, a disability survey was carried out. These activities were carried out with the collaboration of a short-term consultant in rehabilitation, who drew up a report including the pertinent recommendations.

MATERNAL AND CHILD HEALTH

A comprehensive document which forms the basis for reorienting maternal and child health services was distributed for study and later discussed with Zone and project staff. The philosophy embodied in the document, and the approach-to-problems outlined in it, utilize to the maximum efficiency the existing national resources. A plan to implement the reorientation of maternal and child health services was prepared in 1963. One portion of this plan, the test of new ways of giving service, was initiated on a trial basis in the Health Demonstration Area of Penonomé, Panamá.

Major efforts in maternal and child health activities were concentrated within the framework of basic health service projects in countries, under the philosophy that comprehensive medical service given to a segment of the population cannot be separated from the total health services supplied to the population as a whole. Assessment of project operations and detailed reports and recommendations in line with the philosophy of the document referred to previously were carried out in Costa Rica, the Dominican Republic, Panamá, Perú, and in 6 Caribbean islands. The Organization also provided advisory services in nursing midwifery to Argentina, Chile, Colombia, Ecuador, Paraguay, and Perú.

Assistance was provided to the Department of Pedi-

atrics of the Medical School of the University of Recife, Pernambuco, Brazil, through visits of Headquarters staff and a 5-week visit of a short-term consultant in pediatric education. Courses organized by the Department are reaching physicians practicing throughout Northeast Brazil and contributing to the education of nurses, nutritionists, and social workers in that remote area.

With assistance from the Organization, 2 courses in clinical and social pediatrics were organized, financed, and carried out. One was a 12-week course held at the Medical School of the University of Chile, in Santiago. The other was a 4-week course held in Lima, Perú, jointly sponsored with the International Children's Center and the Inter-American Children's Institute. Headquarters staff participated in the planning of both courses and in the selection of candidates, and lectured in the course held in Lima.

The Regional Adviser in nursing-midwifery provided advisory services on midwifery education and practice to Argentina, Bolivia, Chile, Colombia, Ecuador, Paraguay, Perú, and Uruguay; and Costa Rica, Haiti, and Panamá received similar services from PASB nurse-midwives stationed in other countries.

A number of other educational activities were developed within the framework of the basic health services projects of various countries. These included mainly the preparation of nursing personnel in maternity and child care as well as courses on nutritional needs and on counselling of mothers and children. Other aspects of maternal and child health care service administration were incorporated into the courses developed for physicians through basic health services projects.

A survey of diarrheal disease treatment programs, including early oral rehydration and intravenous therapy, was made in Brazil, Chile, México, and Venezuela by a short-term consultant. On the basis of the information gathered, a number of suggestions for improving present treatment programs were incorporated into two documents presented at the Technical Discussions held during the PAHO Directing Council Meeting. The material has been scheduled for publication in Spanish and in English.

A questionnaire for a survey of midwifery personnel in the countries of the Hemisphere was pretested in 2 countries. In connection with this study, but carried out separately, data was also collected on the educational facilities available in several schools of midwifery in South America. The latter will also be included in the final summation of the study.

The first results of the studies of diarrheal disease in malnutrition, carried out under INCAP auspices in Guatemala, were published in 1963. Three papers summarizing

some aspects of the studies were presented during the Technical Discussions previously referred to. First results of the diarrheal disease studies in Perú were also published; they include useful data on metabolic changes in severe malnutrition and diarrhea and on the treatment of these conditions.

NUTRITION

The nutrition program was intensified and expanded, particularly with respect to both training of personnel and research into the predominant public health nutrition problems of the Americas. A greater awareness of the importance of nutrition in public health brought about a considerable increase in requests for services in this field.

Advisory Services

Continuing advisory services were provided to all the countries through specialized advisers stationed at Headquarters or Zone Offices and through staff members assigned to projects. The Bureau continued to coordinate efforts in applied nutrition with the international and bilateral agencies within the Region and also with programs of other Regions. Permanent advisory services were supplemented by services rendered by short-term consultants in the fields of research in nutritional anemias, endemic goiter, and vitamin-A deficiency, and in relation to nutrition conditions in the Caribbean Area. Other short-term consultants were assigned to advise on, and participate in, the 3 new international training centers established in the Americas.

Training

In accordance with the priorities established in 1962 by the PAHO Advisory Group on Nutrition, the training of personnel at distinct levels and various fields continued to receive emphasis. In 1963 the Organization awarded 22 fellowships for nutrition training. In addition, the Bureau participated in the selection and training of a further 10 long-term fellowships awarded by other agencies. The majority of this personnel was trained at INCAP, Guatemala, and at selected centers in the United States of America. In relation to the 3 new training

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centers established in the Americas, 60 other fellowships were awarded with the participation of the Organization through funds made available by UNICEF. Furthermore, 1,115 nutrition workers, including school teachers and social workers, were trained during 1963.

Regional Nutrition Training Center for Social Service

During the second quarter of 1963 a course in nutrition for directors and teachers of nutrition of schools of social service was carried out in cooperation with the Inter-American Children's Institute, UNICEF, FAO, and the Bureau of Social Affairs of the United Nations. Twenty-two participants from 15 countries of Latin America successfully completed the course which placed special emphasis on the form and content of nutrition teaching in schools of social service.

Regional Nutrition Training Center for Agricultural Extension Workers

The Organization assisted, with limited teaching activities, an international training center for agricultural extension workers established by FAO and UNICEF in the La Molina Agrarian University, in Lima, Perú. The first 9-month course was carried out in 1963 and 20 participants from 14 countries successfully completed the training program. The principal objective of the Center is to train extension workers in human nutrition so that they may function more effectively in applied nutrition programs at national and local levels.

Regional Training Center for Planning in Nutrition Education

Established in the School of Domestic Science of the University of Puerto Rico, in cooperation with FAO and UNICEF, the Center planned a 3-month course designed for project-level directors of applied nutrition programs in the fields of health, agriculture, education, and community development. Twenty candidates were selected from 5 Latin American countries. A team approach to the planning of nutrition education programs will be the principal objective of this course.

Nutrition in Nursing Education

The nurse is one of the vital elements in any applied nutrition program, especially in its educational aspects. To improve the standards of nutrition teaching in nursing

education in Latin America, PASB organized, in cooperation with INCAP and with support from UNICEF, a meeting to review the present situation of nutrition teaching in nursing schools, to plan a comprehensive program, and to establish the bases for a textbook on nutrition in nursing education. The meeting took place at INCAP, Guatemala, and participants from 11 countries of Latin America attended.

At the country level, to achieve more effective integration of nutrition into local services, Zone nutrition advisers participated actively in the planning, implementation, and evaluation of orientation and training courses for medical and paramedical personnel of health agencies. Courses were carried out in Brazil, Colombia, Central America, and the Caribbean Area.

Research

The same research priorities were maintained as in previous years. To assist and coordinate existing research programs in the Americas, the Bureau convened in Caracas, Venezuela, a Scientific Group on Endemic Goiter in which research workers from 8 countries participated. The meeting was devoted to a review of current research in endemic goiter, identification of areas in need of further study, discussion of study methods and procedures, and coordination of present and future research activities. Following a tour of 9 countries of Latin America by a special consultant, a Scientific Group on Nutritional Anemias was organized and met later in the year also in Caracas. Research workers from 8 countries discussed research needs in this field; special attention was given to anemias resulting from iron, vitamin B₁₂, and folic acid deficiencies. These meetings also promoted and oriented new research projects that may contribute materially to the solution of the public health problems involved.

Early in 1963 a consultant of the Organization visited 11 countries of Latin America to establish in a preliminary manner the significance of xerophthalmia and keratomalacia. In his report, the consultant noted that these ocular manifestations of vitamin A deficiency were probably more widespread than had been supposed and that there was urgent need for more detailed prevalence studies.

Expanded Nutrition Programs

Expanded programs in applied nutrition were in progress in 16 countries of Latin America and the Caribbean. Resulting from joint collaborative efforts of Governments,



Through work in their school vegetable gardens children in rural México learn practical techniques which they will later apply at home and pass on to benefit the whole community.

the Organization, FAO, UNICEF, and sometimes the United Nations Educational, Scientific, and Cultural Organization, these programs are designed to provide a multilateral and coordinated approach to nutrition problems at the local level. Specifically, the aim is to provide intensive nutrition education and to improve and increase food production. Because some of these programs (19 all together) have now been operating since 1958, in 1963 the Organization scheduled for 1964 an evaluation of their progress and results.

In view of the unique physical and cultural environment of the Caribbean, nutrition problems in the Area require special attention. Moreover, several nutrition centers are carrying out independent research and training activities. In view of this situation, the Organization, together with FAO, appointed a special short-term consultant to visit the English-, French-, and Dutch-speaking islands to ascertain existing resources and needs and to design a system of coordination and cooperation between

the centers. At year's end, the consultant's report was being prepared.

Institute of Nutrition of Central America and Panamá

Taking advantage of the favorable movement toward long-range planning, INCAP intensified activities aimed to achieve more effective integration of nutrition into the national health programs of the member countries. In cooperation with the teaching institutions, significant advances were made in developing and evaluating suitable techniques to introduce the subject of nutrition into the various levels of the regular programs. This has already been done in several member countries where nutrition is now taught in both elementary and secondary schools. The favorable results of expanded nutrition programs in

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pilot areas made it possible to plan for the expansion of this type of program in several countries and for its initiation in Honduras, the only INCAP member country lacking such a program.

In order to achieve the highest degree of efficiency in programs of technical assistance, INCAP assigned high priority to the training of the professional and supervisory personnel assigned to planning, conducting, and supervising applied nutrition activities in the various countries.

The fourth Course on Applied Nutrition for Public Health Physicians was simultaneously conducted in English and in Spanish from June to August and all together was attended by 26 physicians from Greece, Indonesia, United States of America, and from Argentina, Bolivia, Colombia, the Dominican Republic, Ecuador, El Salvador, Guatemala and Perú. The Course on Applied Nutrition for Latin American Dietitians was attended by 12 dietitians from Argentina, Bolivia, Brazil, Colombia, Panamá, Perú, and Venezuela. Other persons from Latin America or from universities in the United States also came to INCAP to work in special training programs on different aspects of nutrition research and related subjects. Special programs were also organized to meet requests for the training, among other personnel, of supervisors of teaching programs and of nutritionists at the intermediate level. All together, 69 fellows received training of various kinds at the Institute during the year.

INCAP research activities continued to be directed towards gaining a better knowledge of the consequences of chronic, moderate, or slight forms of malnutrition which are of paramount importance in view of their effect on the general state of health of the individual and on the socioeconomic development of the area. Under this heading, studies on the effect of nutrition deficiencies on child growth and development were continued. A start was made on other studies to ascertain the possible influence of these chronic forms of malnutrition on the work capacity of adults. One of these studies concerns the clinical, biochemical, and physiological characteristics of severe protein-calorie malnutrition in adults, which is more frequent than was formerly supposed.

Great advances were made in the evaluation and standardization of simple biochemical methods to evaluate the status of protein nutrition in population groups. Studies to determine the interrelationship between nutrition and infectious diseases were continued, as were those on the dietetic factors associated with atherosclerosis.

Much progress was also made in the work on better utilization of available food resources to correct prevalent nutritional deficiencies. Particularly studied was the in-

dustrial processing influencing the quality of cotton-seed cakes to be used as a source of protein in animal feed or in the preparation of vegetable flours for human consumption. Biochemical and nutritional evaluations were also made of several products for use in other regions of the Hemisphere as low-cost sources of protein of acceptable biological value.

Studies of the economic and cultural factors having a bearing on food habits and intake were continued, as were those on the methodology to be applied in planning educational programs aimed at solving nutritional problems.

The most significant events regarding the commercial sale of vegetable-protein mixtures were a 16 percent increase over the 1962 sales of INCAPARINA, by the authorized firm in Guatemala, and the favorable results of the acceptability tests carried out in México and Colombia. INCAP continued to receive inquiries from commercial firms and private persons interested in the production and distribution of INCAPARINA in other parts of the world.

The number of articles published during the year was 29; this figure does not include papers presented at scientific meetings or now in press, which are about 75. The *Boletín de Educación Nutricional* continued to be published regularly and was distributed in the member countries, together with pamphlets and other material to serve as models in education programs. *INCAP Informa* . . . , the quarterly publication on Institute activities, continued to enjoy a very favorable reception.

Several INCAP staff members participated in national and international seminars and congresses, at which they presented original papers dealing with various aspects of the Institute's program, as well as in courses on nutrition and related subjects.

DENTAL HEALTH

The dental health program included activities in education and training, promotion of research, and collaboration with Governments and professional associations.

Education and Training

Activities undertaken by the Organization have brought about great changes in the curricula of schools of dentistry in Latin America. The establishment of the Pilot Department of Preventive and Social Medicine at the University of Antioquia (Medellín, Colombia, 1961) and

the holding of the first Latin American Seminar on the Teaching of Dentistry (Bogotá, 1962) made it possible for the general health policy of the Organization to be incorporated into many curricula.

Following the views expressed at the Seminar, in 1963 the Organization provided technical advisory services to the University of El Salvador to enable it to establish within the School of Dentistry a department of preventive and social dentistry which might serve as a model for other dental schools in Central America. Advisory services were also provided to the Government of Panamá, to enable it to study the feasibility of establishing a dental school, and to those of Venezuela and México, which are interested in establishing departments of preventive and social dentistry.

Much time was devoted to preparing the second Latin American Seminar on the Teaching of Dentistry, which is intended for the countries of Middle America and has been scheduled for October 1964 in México City. In addition, studies aimed at stimulating the training of auxiliary dental personnel in several Latin American countries were undertaken, and the possibility of establishing a pilot area for the purpose of demonstration and training was explored.

Research

The Organization examined the possibility of using kitchen salt as a vehicle for fluorine to prevent dental caries. The pertinent research project, which is backed by a grant of \$251,000 from the National Institutes of Health of the United States of America, will last for 5 years and has the following aims: to study the effectiveness of common salt as a vehicle for fluorine in programs for the prevention of dental caries; to compare the effectiveness of sodium and calcium fluorides in the prevention of dental caries when added to common salt; and to determine the best level of fluorides in salt for effective application.

The results of this research would indicate whether fluorine could be used in rural areas of the Americas or of other regions of the world where there are no water treatment plants. In 1963 the sum of \$83,000 was spent on nutritional surveys in the 4 communities covered by the study and where the distribution of fluorized salt is scheduled to begin in March 1964.

A paper on methods of fluoridizing public water supplies was prepared for presentation at the next Congress of the Inter-American Sanitary Engineering Association; this document is supported in principle by the U.S. Public

Health Service and the American Dental Association. The document proposes a feasible method for the rapid application of fluoridation in the Americas by means of training and motivating sanitary engineers. This document, together with the results of an already started survey on water fluoridation in Latin America, will also be presented to the next meeting of the Directing Council of the Organization.

In collaboration with the W. K. Kellogg Foundation and the Public Health Service of the United States of America, the Organization worked on the planning of an International Dental Epidemiological Center. The Center will be devoted to training public health dentists to plan and carry out research on dental public health and especially on the epidemiology of dental diseases; it will also compile and disseminate pertinent information in all countries of the Hemisphere.

MENTAL HEALTH

The Organization continued to develop the mental health program it had adopted in 1960, i.e., to promote better utilization of national resources and facilities and to integrate mental health goals and techniques into general health programs. The mental health program broadened the traditional concept of public health and brought about a change in the manner of applying this concept to national health plans in the countries. The change, noted at the first Latin American Seminar on Mental Health (Cuernavaca, México, 1962), was evident at the second of these meetings, held in Buenos Aires, Argentina, from 8 to 14 September 1963.

Thanks to a survey on mental health problems and resources available in Latin America,^{8, 9} the participants in the second Seminar had reliable and objective information for coordinated action regarding existing problems. With regard to the concern of specific countries, the Organization provided technical advisory services through short-term consultants to Argentina, Guatemala, and Venezuela, and through its Regional Adviser on mental health, to the other Latin American countries.

At the same time, the Mental Health Information Center on Latin America, established in January 1963, laid the basis for the systematic collection, analysis, and distribution of information on mental health in 20 Latin American countries. At present the Center is setting up a

⁸ *Boletín de la Oficina Sanitaria Panamericana* LIV:6, 492-512.

⁹ *Ibid.* LVI:1, 81-92.

permanent system of information and coordination to facilitate communication among professional workers in the field of mental health and to promote research.

By the end of 1963 the Center had compiled a bibliography on psychiatry and mental health on Latin America, a list of international meetings that had been held in Latin America and another of Latin American periodicals dealing with mental health and related subjects, as well as directories of mental health institutions and of personnel engaged in mental health work in Latin America. This material will be expanded as more data become available.

RADIATION AND ISOTOPES

The growing use of nuclear energy in clinical medicine and medical research, and the prospect that nuclear energy may soon become a source of power in industry, requires proportionate development in radiation protection.

The Organization is carrying out a program designed to: (a) stimulate national health services to adopt international standards and procedures for radiation protection in the use of X rays and radioactive isotopes as well as to develop regulations for the disposal of radioactive wastes; (b) promote the teaching of basic health physics, radiobiology, and radiation protection in professional schools; (c) foster the use of radioisotopes for medical diagnosis, therapy, and research; (d) encourage research in the application of radiation which may have medical, public health, and veterinary significance; (e) organize training courses for paraprofessional personnel who will be working in newly organized radiation protection health services; and (f) promote courses for professional personnel in the medical use of isotopes. The Organization also provides fellowships for health officers who serve in health departments to be trained in radiation protection.

In connection with the above-mentioned program, in 1963 the Organization awarded 5 fellowships to physicians from Bolivia, Brazil (2), Costa Rica, and Panamá to attend, at the Salvador Hospital in Santiago, Chile, the second 6-month course in the medical uses of radioisotopes. The award to the fellow from Bolivia was extended by 6 months and the one to the fellow from Costa Rica by 3 months, both for further specialized training.

Of 3 additional fellowships awarded for studies in several other aspects of radiation, 2 went to Brazilians and the third to a Bolivian. One of the Brazilian fellows

studied radiochemistry, to participate in the high background radiation study in Brazil, and the other studied pediatric radiology; both studied in medical centers in the United States of America. The Bolivian studied, at the Puerto Rico Nuclear Center, the medical and research applications of radioisotopes for use in research on high altitude in his country.

The Organization continued the preparation and distribution of Spanish-language teaching materials as well as the provision of original English-language materials to English-speaking countries and territories. Spanish versions of the following English-language films were prepared and distributed: "Radiation—Physician and Patient," "Radiation Protection in Nuclear Medicine," and "Radiation." The Spanish-language version of projection slides originally made in English by the American College of Radiology was completed. For some of the slides, the illustrations had to be redrawn to make them more meaningful in Latin America. The translation of a basic radiological health manual, completed by an engineer of the Ministry of Health of Perú, was being edited by the Organization and will be printed by the United States Public Health Service.

A paper on the need to add radiation as one of the subjects taught in medical schools was delivered before the sixth annual meeting of the Association of Schools of Medicine, in Guadalajara, México, in May.

Research

At its second annual meeting, in Washington, D.C., U.S.A., in June, the PAHO Advisory Committee on Medical Research approved the research program on radiation and isotopes. The 3 studies considered by the Committee have since received funds for their development.

One of the projects deals with ecology and biological studies on *Rhodnius prolixus* in connection with Chagas' disease in Venezuela. This project was resubmitted by the Organization, with slight variations from the original, on behalf of the Venezuelan Institute of Scientific Investigations. The study will use isotopes as tracers to determine vector mobility and possibly irradiation of the whole body of the vector to induce sterility. NIH approved the project and made funds available.

A study of manganese toxicity and its pathological effects in man and the physiological effects of manganese used in trace-amounts will be undertaken cooperatively between scientists of Chile and the Brookhaven National Laboratory, Long Island, New York. They will utilize the

method of activation analysis, a scientific technique made possible only with nuclear reactors. This project was approved by NIH in late 1963 and is scheduled to begin in early 1964.

The High Background Radiation Study in Brazil has been in existence for several years, yet its public health significance to the population has not been studied. In 1963 the Bureau acted to initiate that phase by recruiting a scientist from New York University for consultation in Brazil. A conference followed and one of its results was that the United States Atomic Energy Commission (USAEC) is supporting 2 laboratories in Brazil. Soils, vegetation, water, human tissues, excretions, and secretions are being studied for their radiochemical content, and values for external and internal radiation hazards are being evaluated.

In addition, the latent effects of irradiation on large animals, such as burros and llamas, particularly the development of aplastic anemia, will be studied in Perú under a possible USAEC contract. In this cooperative research project the hematological phase will be pursued by scientists of the School of Veterinary Medicine of San Marcos University and 2 United States scientists.

Radiation Protection

In connection with a radiation accident in one country, the Organization obtained permission from the authorities concerned and provided a radiopathologist to review the records and write a scientific study of the case. Results of the accident and the clinical findings will be valuable accessions to the WHO registry of human radiation experiences. An informal agreement was made with the Armed Forces Institute of Pathology, Washington, D.C., U.S.A., to make available to the Organization, for

study, pathological material of interest to international medical scientists and physicians concerning cases of radiation accidents.

Assistance was given to another country by the loan of proper instrumentation to determine the probable alpha contamination problem in an aircraft maintenance plant. At this plant, radium paint for instrument dials had been used without proper protective procedures.

An adviser in radiation physics spent the month of June in Perú to determine the radiation hazards from the medical use of X rays, radium, and radioactive isotopes in various hospitals and medical centers. While these surveys were being made, an opportunity to lecture and instruct the staffs of the institutions was made available to the consultant.

Air and Food Surveillance

Radionuclides are present in air, earth, and water from natural phenomena and man-made sources. To determine the radionuclide content in air, sampling stations were established in Chile, Jamaica, Perú, Trinidad, and Venezuela. The monitoring of gross beta activity in air is being carried out under auspices of a collaborative radiological program between the Organization and the U.S. Public Health Service. These sampling stations are manned by local personnel; the sampling equipment was provided by the U.S. Public Health Service, which also does the laboratory analyses; and the Organization provides administrative and reporting services to the stations.

Food sampling is the second step in the determination of radioisotope contamination of the biosphere. Milk collection and analysis have already been initiated at one of the air collection stations. The same collaborative arrangement is used as in the air sampling.

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IV. EDUCATION AND TRAINING

FELLOWSHIPS

Fellowship awards continued to be made pursuant to the Organization's policy of promoting and assisting in the strengthening of national health services and teaching institutions. Due importance was assigned to the high priority that national health plans give to the training of professional and auxiliary personnel.

In 1963 the number of fellowships awarded was 570, or 7.5 percent more than the 530 awarded in 1962. It should be pointed out, however, that the applications received totaled 791, or 12.83 percent more than in 1962, and that this number did not include 222 applications that were outstanding from the previous year. At the end of 1963, 234 applications were transferred to 1964. The increase in the number of applications, which occurs year after year, shows the growing interest of Governments in the training of personnel. Unfortunately, financial limitations make it impossible to give a favorable response to the applications of all qualified candidates.

The 570 fellowships awarded in 1963, plus 40 extensions also awarded, represented a total of 2,799 fellowship-months, or an average of 4.9 months per fellowship. This average was higher than that for 1962 (4.3 months per fellowship), despite the many short-term fellowships awarded for attendance at special courses, the number of which increased considerably.

Table 28 shows that 238 fellowships (42 percent) were awarded for attendance at special short courses in 1963, whereas only 198 (37 percent) were awarded in 1962. The increase was due to the greater number of short courses organized by PAHO or WHO in connection with specific programs, such as courses on malaria eradication, health planning, administration and design of waterworks, and medical education and related sciences.

The number of fellowships for observation visits, generally awarded to senior technical staff and professors, showed little variation; as in previous years, these fellowships constituted about one-fifth (23 percent) of the total

awarded. Although long-term fellowships for academic studies were given the highest priority, because they provide professional staff of national health services with an opportunity to pursue studies in their special fields and obtain a certificate or diploma, they were less in 1963 (35 percent) than in 1962 (43 percent).

The distribution of fellowships by field of study or specialty (Table 29) followed a similar pattern in 1963 as in 1962. The main fields of study were sanitation, 20 percent; public health administration, 14 percent; nursing, 14 percent; medical education and related sciences, 14 percent; communicable diseases, 17 percent.

If the fellowships awarded in the last 2 years are compared by fields of study, a few changes are noticeable in particular fields. There was an increase in the number of fellowships for studies in public health administration (56 in 1962 and 78 in 1963); maternal and child health (10 and 29), mainly due to the courses on clinical and social pediatrics held in Santiago, Chile, and in Lima, Perú; nutrition (13 and 22); health statistics (17 and 24); medical education and related sciences (37 and 67), due in part to the 2 courses in pedagogy in medical education held in Santiago, Chile, and in Buffalo, United States of America. There was also a marked increase in fellowships for leprosy studies (2 and 14) which was due to the special course held in the Leprology Institute in Buenos Aires, Argentina. There was a reduction in the number of fellowship awards in sanitation (139 in 1962 and 114 in 1963); nursing (103 and 79); and malaria (47 and 20). These reductions were due, in the case of sanitation, to the smaller amount of funds allotted to training by the Community Water Supply Fund; in nursing, to the postponement until 1964 of the course on nursing administration and supervision which was originally scheduled for 1963 and for which 60 fellowships were awarded in 1962; and in malaria, to the fact that large numbers of personnel have already been trained, and now fellowships are awarded only for training personnel to fill vacancies in malaria services.

The classification of fellowships by field of study

IV. EDUCATION AND TRAINING

TABLE 28. FELLOWSHIPS AWARDED IN THE AMERICAS IN 1963: COUNTRY OF ORIGIN OF FELLOWS AND TYPE OF TRAINING
1 January-31 December

Country of origin of fellows	Type of training				Total
	Courses organized or assisted by PAHO or WHO		Regular academic courses	Travel grants and other awards	
	Special	Academic			
Argentina.....	14	6	16	7	43
Bolivia.....	7	4	3	7	21
Brazil.....	29	-	3	11	43
Canada.....	-	-	2	1	3
Chile.....	5	3	8	17	33
Colombia.....	8	14	10	2	34
Costa Rica.....	6	1	5	3	15
Cuba.....	3	1	2	1	7
Dominican Republic.....	-	4	10	2	16
Ecuador.....	5	7	9	3	24
El Salvador.....	10	6	4	9	29
Guatemala.....	7	1	6	1	15
Haiti.....	-	-	-	1	1
Honduras.....	8	1	1	3	13
Jamaica.....	5	-	4	1	10
México.....	11	1	7	15	34
Nicaragua.....	5	2	2	2	11
Panamá.....	9	3	1	2	15
Paraguay.....	12	-	8	2	22
Perú.....	5	1	4	8	18
Trinidad and Tobago.....	6	-	3	2	11
United States of America.....	-	-	2	15	17
Uruguay.....	16	1	1	2	20
Venezuela.....	10	4	11	14	39
British Territories.....	53	-	14	2	69
Departments of France in the Americas.....	1	-	-	1	2
Surinam and the Netherlands Antilles.....	3	-	1	1	5
Total.....	238	60	137	135	570

- None.

always presents some difficulty, because fields of study and specialties often overlap. For example, many fellowships for studies in public health administration are classified under the specialty of the fellow, i.e., epidemiology, sanitation, or maternal and child health; however, 12 fellowships that appear under medical education and related sciences might just as well have been classified under other specialties, but were included with the educational fellowships because the fellows were professors. Similarly, 7 fellowships appear under health education when in fact 9 were awarded; 22 under nutrition, instead of 25; 24 under statistics, instead of 26; and 10 under dental health, instead of 15.

The distribution of awards by field of study and by country of origin is shown in Table 30, which supplements the information in Table 29.

Places of study (Table 31) were selected in accordance with the policy of sending fellows to study in countries whose language, governmental organization, living conditions, and health problems are similar to those of their countries of origin. This was influenced by the excellent results obtained with this policy over a period of many years. In trying to reconcile the specific needs of each fellow with conditions in the place of study, both Governments and teaching institutions were, as in the past, extremely helpful.

TABLE 29. FIELD OF STUDY AND COUNTRY OF ORIGIN OF FELLOWS WHO RECEIVED AWARDS IN THE AMERICAS IN 1963
1 January-31 December

Field of study	Country of origin of fellows																			Total								
	Argentina	Bolivia	Brazil	Canada	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	El Salvador	Guatemala	Haiti	Honduras	Jamaica	Mexico	Nicaragua	Panama	Paraguay		Peru	Trinidad and Tobago	United States of America	Uruguay	Venezuela	British Territories	Departments of France in the Americas	Surinam and the Netherlands Antilles
Health organization	6	3	3	-	2	7	2	2	1	4	2	2	-	1	3	5	1	1	4	3	3	-	1	3	3	1	-	-
Public health administration	1	1	1	1	-	2	-	1	-	1	1	1	-	1	-	-	-	-	-	4	3	-	1	3	3	-	-	
Hospital and medical administration	1	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
Other	1	-	-	1	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
Sanitation	-	2	-	-	-	1	1	-	-	-	4	1	-	2	3	3	-	-	-	-	1	5	-	-	-	-	-	
Sanitary inspection	5	1	-	-	3	9	1	-	1	4	6	1	-	3	1	3	-	-	1	1	2	-	-	-	2	-	-	
Sanitary engineering	-	-	-	-	2	-	2	-	-	-	2	2	-	3	1	-	-	-	-	-	-	-	-	-	2	-	-	
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nursing	1	-	1	-	-	-	-	-	2	1	-	2	-	-	-	1	1	-	-	-	1	3	-	1	-	-	-	
Nursing education	2	1	-	-	-	3	1	-	2	2	1	-	-	2	-	-	-	-	-	-	1	1	-	1	-	-	-	
Public health nursing	4	-	-	-	-	-	-	-	1	1	3	-	-	-	-	-	-	-	-	-	-	-	4	3	-	-	-	
Nursing services	5	1	1	-	-	1	1	-	4	1	-	-	-	-	-	-	-	-	-	-	-	1	4	3	-	-	-	
Maternal and child health	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other health services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mental health	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	
Health education	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	
Occupational health	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	
Nutrition	3	1	1	-	-	3	-	-	-	4	3	-	-	2	-	2	-	-	-	1	2	-	1	-	-	-	-	
Health statistics	2	1	11	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	1	2	-	1	-	-	-	-	
Dental care	-	2	-	-	2	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	
Rehabilitation	-	-	1	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	
Control of pharmaceutical preparations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Communicable diseases	1	-	-	-	-	-	-	2	1	1	1	1	1	-	-	4	1	2	1	2	1	-	-	-	-	1	-	
Malaria	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tuberculosis	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zoonoses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Foot-and-mouth disease	-	-	5	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	
Leprosy	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	
Other communicable diseases	1	1	1	-	3	-	1	-	1	1	-	1	-	-	-	2	-	-	-	1	1	-	-	1	-	1	-	
Laboratory services	-	1	4	-	-	-	1	-	1	1	3	2	-	1	1	2	1	2	-	1	1	-	-	-	6	-	-	
Veterinary public health	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Medical education and related sciences ^a	3	1	9	1	8	5	1	1	1	-	1	1	-	-	11	-	-	-	-	3	1	8	1	9	1	-	-	
Clinical medicine	4	2	4	-	1	1	2	-	-	-	-	1	-	1	2	-	-	2	-	-	-	-	-	1	-	-	-	
Total	43	21	43	3	33	34	15	7	16	24	29	15	1	13	10	34	11	15	22	18	11	17	20	39	69	2	5	

^a 18 fellowships were awarded to professors of schools of public health, 5 to professors of schools of dentistry, and 44 to professors of schools of medicine.

TABLE 30. FIELD OF STUDY, TYPE OF TRAINING, AND COUNTRY OF ORIGIN OF FELLOWS WHO RECEIVED AWARDS IN THE AMERICAS IN 1963
1 January-31 December

Field of study and type of award	Country of origin of fellows																			Total								
	Argentina	Bolivia	Brazil	Canada	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	El Salvador	Guatemala	Haiti	Honduras	Jamaica	Mexico	Nicaragua	Panama	Paraguay		Peru	Trinidad and Tobago	United States of America	Uruguay	Venezuela	British Territories	Departments of France in the Americas	Surinam and the Netherlands Antilles
Public health administration																												
Sponsored courses ^a	3	3	2	-	-	3	1	-	-	2	1	-	1	1	1	3	1	1	1	1	-	-	2	2	3	1	-	1
Academic courses	4	1	1	1	-	6	1	2	1	4	1	-	1	2	2	2	-	-	3	1	1	-	1	1	-	-	-	1
Travel grants	1	-	1	1	2	-	1	-	-	1	-	-	-	-	-	2	-	-	-	1	-	2	-	1	1	-	-	-
Sanitation																												
Sponsored courses ^a	3	2	-	-	1	9	3	-	1	3	4	4	3	3	3	-	3	3	2	2	5	-	-	2	2	2	3	3
Academic courses	1	-	-	-	1	-	-	-	-	1	-	-	-	1	1	1	1	-	-	-	1	-	-	-	8	3	-	-
Travel grants	1	1	-	-	3	1	1	-	-	-	8	-	2	-	-	2	1	-	1	1	-	-	-	-	-	-	-	-
Nursing																												
Sponsored courses ^a	1	-	-	-	-	3	1	1	2	1	2	-	1	1	-	-	1	2	-	-	1	-	2	-	1	30	-	-
Academic courses	4	1	-	-	-	-	-	-	3	2	2	2	-	-	5	1	1	1	-	-	1	2	-	1	5	-	-	-
Travel grants	2	-	1	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Maternal and child health																												
Sponsored courses ^a	4	1	1	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	4	-	-	-	4	2	-	-	-	-
Academic courses	1	-	-	-	-	-	1	-	3	-	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-	-	-	-
Travel grants	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-
Other health services																												
Sponsored courses ^a	5	3	12	-	3	5	-	-	1	6	4	-	2	-	-	2	1	1	1	1	-	-	2	1	1	-	-	-
Academic courses	4	1	1	-	7	-	-	-	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Travel grants	-	-	1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-	3	-	-	-
Communicable diseases																												
Sponsored courses ^a	1	1	7	-	1	-	-	2	-	1	4	2	1	1	1	1	1	3	6	1	-	-	8	2	-	1	-	-
Academic courses	1	-	-	-	-	-	3	-	2	1	-	1	-	-	-	2	-	-	1	1	2	1	-	1	6	-	-	-
Travel grants	-	4	3	-	2	-	-	1	1	2	1	1	1	-	-	5	1	1	1	1	2	1	-	1	3	-	1	1
Medical education and related sciences																												
Sponsored courses ^a	1	-	4	-	3	-	-	1	-	-	-	-	-	-	-	5	-	-	-	1	-	-	-	2	-	-	-	-
Academic courses	1	1	1	1	-	4	-	-	1	1	-	1	-	-	1	1	-	-	-	-	-	-	-	1	-	-	-	-
Travel grants	1	1	4	-	5	1	1	-	-	-	-	-	-	-	-	5	-	-	-	-	2	1	8	1	6	1	-	-
Clinical medicine																												
Sponsored courses ^a	2	1	3	-	-	1	2	-	-	-	-	1	-	1	1	1	-	2	-	-	-	-	1	1	-	-	-	-
Travel grants	2	1	1	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Total	43	21	43	3	33	34	15	7	16	24	20	15	1	13	10	34	11	15	22	18	11	17	20	30	69	2	5	570

- None

^a Organized or assisted by PAHO or WHO.

TABLE 31. COUNTRY OF ORIGIN AND COUNTRIES OR REGIONS OF STUDY OF FELLOWS WHO RECEIVED AWARDS IN THE AMERICAS IN 1963
1 January-31 December

Country of origin	Countries of study in the Region of the Americas																			Other Regions of study										
	Argentina	Bolivia	Brazil	Canada	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	El Salvador	Guatemala	Haiti	Honduras	Jamaica	Mexico	Nicaragua	Panama	Peru	Trinidad and Tobago	United States of America*	Venezuela	British Territories	Surinam and the Netherlands Antilles	Africa	Eastern Mediterranean	Europe	South-East Asia	Western Pacific	
Argentina.....	2	1	5	7	4	3	1	1	1	1	1	3	1	1	1	2	1	1	1	1	8	13	1	1	1	1	2	1	1	1
Bolivia.....	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	2	1	1	1	2	2	1	1	1
Brazil.....	7	2	5	7	4	3	1	1	1	1	1	3	1	1	1	1	1	1	1	2	13	13	1	1	1	3	2	1	1	1
Canada.....	1	1	5	7	4	3	1	1	1	1	1	3	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1
Chile.....	7	2	5	7	4	3	1	1	1	1	1	3	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1
Colombia.....	1	1	5	10	10	3	1	1	1	1	1	3	1	1	1	6	1	1	1	1	4	1	1	1	1	1	1	1	1	1
Costa Rica.....	1	1	2	1	5	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1
Cuba.....	1	1	2	1	5	1	1	1	1	1	1	3	1	1	1	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dominican Republic.....	1	1	2	5	5	1	1	1	1	1	1	3	1	1	1	6	1	1	1	1	2	1	1	1	1	1	1	1	1	1
Ecuador.....	1	1	6	3	3	1	1	1	1	1	1	3	1	1	1	4	1	1	1	1	4	4	1	1	1	1	1	1	1	1
El Salvador.....	1	1	2	2	3	4	4	1	1	1	6	6	1	1	1	4	1	1	1	1	10	1	1	1	1	1	1	1	1	1
Guatemala.....	1	1	3	2	2	1	2	1	1	1	1	2	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haiti.....	1	1	3	1	1	1	1	1	1	1	1	5	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Honduras.....	1	1	3	1	3	1	1	1	1	1	1	5	1	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1
Jamaica.....	1	1	2	2	7	4	1	1	1	1	2	1	1	1	1	1	1	2	1	1	4	3	3	1	1	1	1	1	1	1
México.....	1	1	6	1	7	4	1	1	1	1	2	1	1	1	1	1	1	2	1	1	16	3	3	1	1	1	3	2	1	1
Nicaragua.....	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
Panama.....	1	1	1	3	3	3	1	1	1	1	1	4	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
Paraguay.....	7	2	2	6	6	1	1	1	1	1	1	1	1	1	2	2	1	1	1	2	2	2	1	1	1	1	1	1	1	1
Perú.....	1	1	2	5	5	1	1	1	1	1	1	1	1	2	5	1	1	1	1	1	5	3	3	1	1	3	1	1	1	1
Trinidad and Tobago.....	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	6	1	1	1	1	1	1	1
United States of America.....	8	2	2	6	6	7	1	1	1	1	2	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1
Uruguay.....	1	1	2	2	9	7	1	1	1	1	2	1	1	1	2	2	1	1	1	2	20	1	1	1	1	1	1	1	1	1
Venezuela.....	1	1	2	9	7	7	1	1	1	1	2	1	1	1	2	2	1	1	1	2	20	1	1	1	1	1	1	1	1	1
British Territories.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	57	1	1	1	1	1	1	1	1
Departments of France in the Americas.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Surinam and the Nether- lands Antilles.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total.....	28	1	60	4	103	28	12	1	1	2	10	41	1	6	7	51	1	8	19	2	126	32	69	1	1	3	46	3	1	1

* None.
* 39 studied in Puerto Rico.

IV. EDUCATION AND TRAINING

Of all studies, 60 percent were made in Latin American countries; 20 percent in the United States of America and Canada; 12 percent in Jamaica, Trinidad and Tobago, British Territories, and Netherlands Territories in the Hemisphere; and 8 percent in other WHO Regions. The last-mentioned group includes inter-Regional fellowships for courses or visits organized by WHO headquarters in Geneva.

As to the distribution of fellowships by profession (Table 32), physicians (42 percent), nurses (15 percent), and engineers (11 percent) were at the top of the list. Eighty-three percent of the fellows were professionals and 17 percent nonprofessionals; approximately half of the nonprofessionals were sanitary inspectors.

The apparent discrepancy between Table 29 and Table 32 with respect to nursing is due to the fact that, in the first of these tables, 7 nurses appear under leprosy because they had specifically studied that subject and 1 appears under medical education and related sciences because she was an instructor in the School of Hygiene and Public Health of the University of São Paulo, Brazil; in Table 32, however, all fellowships awarded to nurses are grouped together, irrespective of field of study.

Table 33 shows all the courses or observation visits organized by the Bureau, in Washington, D.C., or by WHO, in Geneva, or assisted by PAHO or WHO. In 1963 a total of 32 courses were held; in 1962 there were only 21. The 52 percent increase in the number of courses explains the previously mentioned increase in the number of short-term fellowships.

The funds invested in the 570 fellowships awarded in 1963 amounted to \$992,840, or approximately 10 percent more than in 1962 (Table 34), which fits in with the higher number of fellowships. The training allocation in

the Community Water Supply Fund was reduced by 57 percent, which explains the reduced quantity of respective fellowships.

The number of fellows who studied in the Americas with awards from other WHO Regional Offices (Table 35) fell by 6 percent (153 in 1962 and 144 in 1963). Of these fellows, 44 percent pursued academic studies in different specialties, 43 percent made observation visits, and 13 percent attended malaria courses sponsored by PAHO/WHO in Jamaica. Sixty-two percent of these studies and visits were made in the United States of America and in Canada and the rest in other countries of the Hemisphere (Table 36).

Tables 28 to 36 contain information on the distribution and classification of the 570 fellowships awarded in the Americas between 1 January and 31 December 1963 and of the 144 fellows from other WHO Regions who studied in the Americas during the same period. These figures do not include fellowships begun in 1962 and completed in 1963.

Tables 37 and 38 together show the total number of PAHO and WHO fellows who studied in the Americas in the same period (including 52 from the Region of the Americas who studied in other Regions). These totaled 1,075, a 12 percent increase over the 962 of the previous year. Table 37 shows that 635 fellows (601 from the Americas and 34 from other Regions) studied in the Americas, which is a 14 percent increase over the 1962 figure (555). Table 38 shows that 440 fellows studied in the United States of America, Canada, or other Regions (256 from the Americas and 184 from other Regions), which represents an 8 percent increase over the 407 in 1962. Another fact brought out by this table is that, in comparison with 1962, the number of fellows from the Americas who studied in the United States of America, in Canada, or other Regions increased by 29 percent (198 in 1962 and 256 in 1963).

The selection of fellows and places of study, preparation of programs, and orientation and supervision of fellows progressed normally. Efforts were made to provide each fellow with the necessary facilities for deriving the best possible benefit from his studies. Experience has shown that personal relations, established by means of interviews between the fellow and the PASB adviser, are exceedingly useful in adverting and solving problems that frequently arise when a person leaves his home country. Relations were maintained and improved between the Organization and universities, governmental agencies, and other establishments that provide opportunities for the training of fellows.

Assistance and technical advice were again given to

TABLE 32. PROFESSION OR OCCUPATION OF FELLOWS WHO RECEIVED AWARDS IN THE AMERICAS IN 1963
1 January-31 December

Profession or occupation	Number
Physician	243
Dentist	17
Engineer	60
Veterinarian	20
Nurse	87
Other professions	48
Sanitary inspector	42
Other nonprofessional occupations	53
Total	570

TABLE 33. FELLOWSHIPS AWARDED IN THE AMERICAS IN 1963 FOR COURSES OR TRAVELING SEMINARS ORGANIZED OR ASSISTED BY PAHO OR WHO
BY FIELD OF STUDY AND COUNTRY OF ORIGIN OF FELLOWS

1 January-31 December

Field of study	Country of origin of fellows																			Total					
	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	El Salvador	Guatemala	Honduras	Jamaica	Mexico	Nicaragua	Panama	Paraguay	Peru	Trinidad and Tobago		Uruguay	Venezuela	British Territories	Departments of France in the Americas	Surinam and the Netherlands Antilles
Public health administration																									
Health planning (Chile, United States)	2	1	2	-	2	1	-	-	-	2	1	1	1	2	1	1	1	1	1	-	2	2	1	-	-
Auxiliary health personnel ^a ; Public health administration ^a (Soviet Union)	1	2	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-
Sanitation																									
Sanitary engineering (3 courses: Brazil, Chile, México)	2	2	-	-	9	-	-	1	3	2	1	-	-	-	-	-	-	1	-	-	1	-	-	-	-
Waterworks (Guatemala)	-	-	-	-	-	2	-	-	2	2	2	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Environmental sanitation (2 courses: Barbados, El Salvador)	-	-	-	-	-	1	-	-	-	-	1	1	3	-	1	1	-	-	5	-	-	-	21	-	3
Administration of water supplies (Colombia)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Housing ^a (Soviet Union)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	3
Nursing																									
Advanced nursing education (Chile)	1	-	-	-	3	-	-	2	1	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	9
Home nursing services (Denmark)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Nursing supervision and administration (Guatemala)	-	-	-	-	-	1	-	-	-	1	-	1	-	-	1	2	-	-	-	-	-	-	30	-	6
Public health nursing (Barbados)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nursing services (México)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30
Maternal and child health																									1
Clinical and social pediatrics (2 courses: Chile, Peru)	4	1	1	1	-	-	-	-	1	-	-	-	-	-	-	-	4	-	-	-	4	2	-	-	18
Other health services																									
Vital statistics (Chile)	2	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	6
Nutrition (Guatemala)	3	1	3	-	3	-	-	3	3	-	-	2	-	-	-	-	1	1	-	-	1	-	-	-	21
Public health dentistry (Brazil)	-	2	-	2	-	-	-	-	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	9
Classification of causes of diseases (Venezuela)	-	-	11	-	-	-	-	-	1	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	15
Medical rehabilitation (Denmark)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

TABLE 33. FELLOWSHIPS AWARDED IN THE AMERICAS IN 1963 FOR COURSES OR TRAVELING SEMINARS ORGANIZED OR ASSISTED BY PAHO OR WHO BY FIELD OF STUDY AND COUNTRY OF ORIGIN OF FELLOWS—CONTINUATION

1 January-31 December

Field of Study	Country of origin of fellows																			Total					
	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	El Salvador	Guatemala	Honduras	Jamaica	México	Nicaragua	Panamá	Paraguay	Perú	Trinidad and Tobago		Uruguay	Venezuela	British Territories	Departments of France in the Americas	Surinam and the Netherlands Antilles
Communicable diseases																									
Malaria (3 courses: Brazil, Jamaica, México); Medical entomology (Brazil)...	1						2		1					1		1							1		
Epidemiology and tuberculosis (Italy)...							1																		
Zoonoses (Argentina)...		1																							
Foot-and-mouth disease (Brazil)...			5																						
Leprosy (Argentina)...																	5								
Epidemiological services ^a ; Respiratory virus diseases ^a (Soviet Union)...			2	1								1							1						
Diagnostic techniques on fluorescent antibodies (Costa Rica)...										3	2	1													
Medical education and related sciences																									
Pedagogy in medical education (2 courses: Chile, United States)...	1		2	3										5											
Clinical medicine																									
Radioisotopes (Chile)...		1	2																						
Radiology (Chile)...	1		1		1						1														
Anesthesiology (Denmark)...	1																								
Total	20	11	29	8	22	7	4	4	12	16	8	9	5	12	7	12	12	6	6	17	14	53	1	3	298

- None.

^a Traveling seminar.

TABLE 34. EXPENDITURES ON FELLOWSHIPS IN THE AMERICAS, BY SOURCE OF FUNDS, 1962 AND 1963 ^a

U.S. dollars

Year	PAHO				WHO			Total
	Regular funds	Special Malaria Fund	Community Water Supply Fund	Other funds	Regular funds	Technical Assistance funds	Other funds	
1962	258,087	34,510	103,295	43,577	296,085	170,130	—	905,684
1963	240,342	13,908	44,240	26,415	439,500	188,600	39,835	992,840

— None.

^a Figures represent amounts obligated each year.

TABLE 35. FELLOWS FROM OTHER REGIONS WHO BEGAN STUDIES IN THE AMERICAS IN 1963, BY FIELD OF STUDY AND TYPE OF AWARD

1 January-31 December

Field of study and type of award	Region of origin and number of fellows					Total
	Africa	Eastern Mediterranean	Europe	South-East Asia	Western Pacific	
Public health administration						
Academic courses	2	2	1	1	1	7
Travel grants	—	—	1	—	—	1
Sanitation						
Academic courses	1	6	—	5	1	13
Travel grants	6	—	1	1	—	8
Nursing						
Academic courses	—	4	6	4	4	18
Travel grants	—	—	2	—	2	4
Maternal and child health						
Academic courses	—	—	—	1	—	1
Other health services						
Academic courses	1	3	1	7	1	13
Travel grants	1	—	5	1	11	18
Communicable diseases						
Sponsored courses ^a	2	7	—	5	3	17
Academic courses	—	4	—	2	1	7
Travel grants	—	4	1	6	4	15
Medical education and related sciences						
Academic courses	—	—	1	2	2	5
Travel grants	—	—	7	1	1	9
Clinical medicine						
Travel grants	1	—	7	—	—	8
Total	14	30	33	36	31	144

— None.

^a Organized or assisted by PAHO or WHO.

TABLE 36. REGION OF ORIGIN AND COUNTRY OF STUDY IN THE AMERICAS OF FELLOWS FROM OTHER REGIONS, 1963
1 January-31 December

Region of origin	Country of study											
	Brazil	Canada	Colombia	El Salvador	Guatemala	Honduras	Jamaica	México	Panamá	United States of America (except Puerto Rico)	United States of America (Puerto Rico)	Venezuela
Africa.....	-	3	-	-	-	1	3	3	1	3	6	2
Eastern Mediterranean.....	-	8	-	1	1	5	7	9	3	13	-	2
Europe.....	1	6	-	-	-	-	-	-	-	27	-	-
South-East Asia.....	-	2	3	1	1	-	5	9	5	24	3	4
Western Pacific.....	-	7	-	-	-	3	4	4	-	25	1	1
Total number of study visits.....	1	26	3	2	2	9	19	25	9	92	10	9

- None.

the OAS fellowship program; 237 applications for fellowships for studies in medicine and in related sciences were analyzed and evaluated, and interviews were held with various fellows of that Organization in their places of study. In addition, the cooperation and technical advisory services which have been provided for many years to the fellowship program of the Government of Venezuela were continued. Information was received on 44 fellows, 37 of whom studied in the United States of America and 7 in Latin American countries. Most of these fellows were interviewed in their place of study or in Washington, D.C., U.S.A., and for some of them programs of study were prepared. Programs for studies and observation visits were also organized for 25 PASB and WHO officials (3 more than in 1962).

Several attempts to evaluate the yield of fellowships have always met with difficulties. There is no doubt that the use to which the former fellow puts the knowledge acquired during his fellowship is a fundamental aspect of evaluation. From 1958 up to December 1963, 688 questionnaires on the "Utilization of Services of Former Fellows" were sent out to fellows who studied sometime between 1956 and 1961. Of the 346 questionnaires returned up to 31 December 1963, a total of 319 ex-fellows reported that they were holding posts in national health services or related services.

In 1963 a start was made on the preparation of a directory, arranged by countries, of all fellows for the

period 1954 to 1963. This directory contains the name of the former fellow, his profession, country of origin, and post he was occupying; the field of study, type of training, duration of the fellowship, source of funds, and the place and date of his studies. By the end of the year the sections covering Argentina, British Honduras, Bolivia, Brazil, Colombia, Costa Rica, the Dominican Republic, Guatemala, Honduras, México, Nicaragua, Panamá, Paraguay, and Perú had been completed.

MEDICAL EDUCATION

Most countries of the Hemisphere lack adequately trained physicians and research workers in sufficient numbers to meet their needs. Since the signatory Governments committed themselves to achieve the goals laid down in the Charter of Punta del Este, it has become increasingly clear that progress in the health field will be strongly influenced by present and continued effective efforts by the countries themselves to develop and improve, as part of their ten-year national health plans, their educational resources for undergraduate and graduate training of physicians and for medical research.

Many Governments have been trying to relieve the health manpower needs in their countries by defining

TABLE 37. TOTAL PAHO AND WHO FELLOWS WHO STUDIED IN COUNTRIES OF THE AMERICAS OTHER THAN CANADA AND UNITED STATES OF AMERICA IN 1963, BY FIELD OF STUDY

1 January-31 December

Field of study	Number of fellows ^a		Total
	From Region of the Americas	From all other Regions	
Public health administration	94	1	95
Sanitation	133	3	136
Nursing	78	-	78
Maternal and child health	29	-	29
Other health services			
Health education	6	-	6
Occupational health	3	-	3
Nutrition	34	-	34
Health statistics	39	-	39
Dental care	15	-	15
Rehabilitation	12	-	12
Communicable diseases			
Malaria	23	27	50
Tuberculosis	2	-	2
Zoonoses	4	-	4
Foot-and-mouth disease	11	-	11
Leprosy	15	1	16
Other communicable diseases	9	-	9
Laboratory services	25	-	25
Veterinary public health	10	-	10
Medical education and related sciences	40	1	41
Clinical medicine	19	1	20
Total	601	34	635

- None.

^a Includes fellowships awarded prior to 1 January 1963.

TABLE 38. TOTAL PAHO AND WHO FELLOWS WHO STUDIED IN CANADA AND UNITED STATES OF AMERICA IN 1963, BY FIELD OF STUDY

1 January-31 December

Field of study	Number of fellows ^a		Total
	From Region of the Americas	From all other Regions	
Public health administration	31	17	48
Sanitation	49	30	79
Nursing	34	43	77
Maternal and child health	6	2	8
Other health services			
Mental health	1	5	6
Health education	8	10	18
Occupational health	5	1	6
Nutrition	7	4	11
Health statistics	-	12	12
Dental care	1	3	4
Rehabilitation	2	6	8
Control of pharmaceutical preparations	2	2	4
Communicable diseases			
Malaria	3	2	5
Tuberculosis	6	2	8
Zoonoses	1	-	1
Other communicable diseases	13	14	27
Laboratory services	15	-	15
Veterinary public health	3	-	3
Medical education and related sciences	57	21	78
Clinical medicine	12	10	22
Total	256 ^b	184	440

- None.

^a Includes fellowships awarded prior to 1 January 1963.

^b 52 of these studied in other Regions.

the criteria to determine the numbers of physicians and of research workers required; establishing the principles that should guide the practice of medicine and research activities, and hence reorienting medical teaching according to the relative emphasis that should be given to the subjects of the curriculum; and by planning, or reorganizing if necessary, their medical education programs.

To assist the Governments in their efforts, the Pan American Health Organization began a review of its policy and procedure in relation to its medical education and research training programs. For this purpose a Medical Education and Research Training Unit was established in 1963 at the Bureau. The Unit was charged with responsibilities in providing assistance in the planning

of medical education and in the development of educational resources, giving advisory services to schools of medicine, and continuing PASB secretariat services to the Medical Education Information Center.

Planning of Medical Education

The objectives of this part of the PAHO program are to cooperate with the Member Governments in formulating a national health policy in relation to forming the health personnel needed to meet the countries' skilled

health manpower requirements and, consequently, to assist the medical schools in planning their education and training programs. In this connection, PAHO and the Milbank Memorial Fund convened in 1963 a Round-Table Conference on Health Manpower and Medical Education in Latin America. The participants met in New York City from 30 September to 4 October and developed a research program for the analysis and projection of health manpower requirements. Field work, in the form of a pilot study, was scheduled to begin in one country in 1964. The study will test the methods and organization proposed. PAHO will contribute financial resources and technical personnel who will assist country research teams in measuring and analyzing health personnel needs and demands (physicians and allied professions), relating the findings to education, quantity, and quality. Other agencies interested in medical education will also collaborate.

Development of Permanent Institutional Resources

Institutional resources for graduate and undergraduate medical training and research in many countries of the Hemisphere need to be improved, expanded, and re-oriented toward the solution of country and regional health problems. It is of prime importance that each school have a cadre of able faculty members who will exercise the necessary leadership and become the core around which the entire institution develops. This aspect of the program involves two main considerations. One is the maximum utilization of existing resources and institutions for the training of faculty members. The other is the introduction of two basic elements in the faculty-training programs: namely, the teaching of principles and concepts of pedagogy that emphasize the teaching-learning process and the exposure of the faculty trainee to broad concepts of medical administration.

In 1963 PAHO provided consultant services to organize and carry out two workshops to discuss pedagogical aspects of medical teaching and medical school administration, one in Santiago, Chile, and the other in Buffalo, New York. The first of these was the Second Workshop on Human Relations and the Teaching of Medicine, held from 27 May to 8 June 1963 in Santiago (the first, in 1962, was also held in that city). The discussions emphasized faculty-student relationship as a factor in the learning process of medical students. Although the 1963 workshop was organized mainly for faculty members of the School of Medicine of the University of Chile, it was

also attended, with PAHO assistance, by 6 medical educators from México, Brazil, and Venezuela. The visiting medical educators later began the organization of similar workshops in their own countries.

The workshop on Medical School Administration and Instruction was held from 21 October to 20 November. It was jointly organized by PAHO and the School of Medicine of the State University of New York at Buffalo, with the collaboration of the University's School of Education. This one-month workshop was attended by 15 leaders in medical education from 8 schools of medicine of 8 Latin American countries. The Kellogg and Rockefeller Foundations and the Agency for International Development of the United States of America sponsored the attendance of some of the participants.

A second travelling seminar (the first was held in 1962) was sponsored by the Organization. Twelve medical educators from 11 schools of 8 Latin American countries, observed reorganization and administration in the process of planned development at the schools of medicine at Medellín, Colombia; San Salvador, El Salvador; and Monterrey, México. The discussions of deans and faculty members again proved to be a profitable two-way educational experience. The visitors analyzed "on the spot" the positive as well as the negative aspects of the school under study and the hosts benefited from the constructive criticisms.

Advisory Services to Schools of Medicine

Direct advisory services were provided by Headquarters technical staff or short-term consultants to 26 schools of medicine in 13 countries. The assistance given included curriculum reorganization, medical school administration and management, student selection, and research activities.

Medical Education Information Center

The Pan American Sanitary Bureau continued providing secretariat services for the Medical Education Information Center (MEIC), for which PASB also serves as headquarters. Created in 1952 by joint action of public and private agencies, the participants at the end of 1963 totaled 15 and included U.S. governmental and international agencies and foundations.

Outstanding among the documents prepared by Bureau staff for the XV MEIC Meeting, held from 8 to 9 April at

the Rockefeller Foundation headquarters in New York City, was the first Ten-Year Report of the Medical Education Information Center. The report includes a directory of fellowships and travel grants awarded by the MEIC participating agencies during the 1953-1962 decade. It shows that 974 faculty members of 67 medical schools in 18 countries in Latin America received postgraduate or postdoctorate training abroad.

New editions of the directories of Schools of Medicine, of Public Health, of Dentistry, and of Veterinary Medicine were prepared by the Center and published in mimeographed form. Innovations and additional material were included in the directories as more experience and data were acquired by the Center.

The consensus of the participating agencies is that the Center represents a successful system of voluntary cooperation that assures maximum productivity for the efforts of each agency. MEIC, then, is a well-tested instrument which serves needs of agencies and countries for progress in medical education.

VETERINARY MEDICAL EDUCATION

The Second Seminar on the Teaching of Public Health and Preventive Medicine in Schools of Veterinary Medicine in the Americas, convoked by the Organization, met in México City from 25 to 31 August 1963.

The objectives of the meeting were to evaluate the possible benefits of the first seminar of this type (Kansas City, Missouri, U.S.A., 1959) and also to continue to stimulate the development of the teaching of public health and the application of preventive medicine.

Every attempt was made to have professors of public health in schools of veterinary medicine in the Americas attend the seminar, and 36 professors attended. For similar reasons the program centered on a single point: the incorporation of the teaching of public health into the curricula.

A total of 30 schools of veterinary medicine were represented: 1 from Canada, 8 from the United States of America, and 21 from the following countries of Latin America: Argentina, Brazil, Colombia, Chile, Ecuador, Guatemala, México, the Dominican Republic, Paraguay, Uruguay, and Venezuela. Also participating in the seminar were 4 representatives of the Public Health Services of México, 2 from the Public Health Services of the United States of America, and 3 from the Undersecretariat



Students of the School of Veterinary Medicine and Zootechnics of the University of San Carlos, Guatemala, studying under the microscope the blood circulation of a frog. The School, founded in 1957, is one of the teaching centers of veterinary medicine to which PAHO/WHO provides advisory services and other forms of assistance. These students and future graduates will be trained to participate in programs of veterinary public health, particularly zoonoses control and food hygiene.

of Livestock Services of México. The Food and Agriculture Organization designated an observer.

Together, the individual reports of the 3 working groups considered the following items: the general concept of public health; the epidemiological method and the control of diseases; food hygiene and disease prevention; statistical methods and their application, and the course of studies for teaching preventive medicine and public health in schools of veterinary medicine.

The final report produced after 6 plenary sessions recommended the establishment of a coordinating committee to continue the work initiated by the seminars, to cooperate with schools in putting the recommendations made by the two seminars into practice, and to act as a planning agency for future meetings of this type. The report also noted that some schools of veterinary medicine have not established a chair or independent department of public health nor do they teach public health as a subject; and it urged the schools to take positive action in this matter.

IV. EDUCATION AND TRAINING

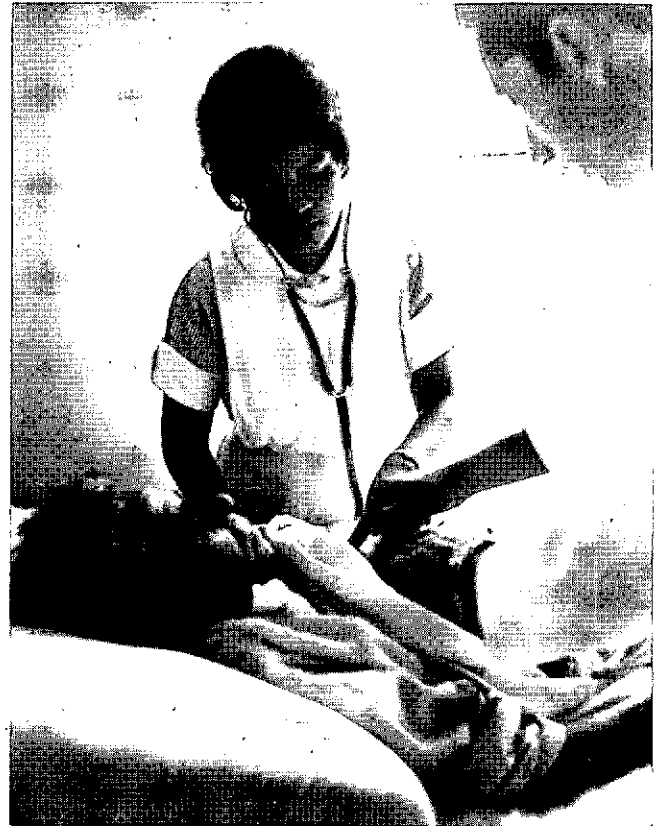
That would make it possible to give the basic sciences and medical training a public health approach, and imbue future graduates with a proper sense of social responsibility. The group was also of the opinion that seminars could stimulate in veterinarians an awareness of their potential contribution to the national economy and of the assistance they could give in promoting and developing the livestock industry.

NURSING EDUCATION

The Organization collaborated in educational programs and studies of various types whose final objectives are the improvement of nursing services.

Studies of nursing resources and needs were either begun or completed in Bolivia, Ecuador, México, and Uruguay. Chile published the second part of the findings of its 1960-1961 survey on this subject. To assist Chile to meet its nursing needs, the Organization continued collaborating with the Ministry of Public Health, in 1963 in the setting up of an experimental center to determine the minimum nursing care that should be provided in all its health services.

As a basis for curriculum reorganization, Perú completed a study of its 12 schools of nursing; and Chile, with the assistance of a specialized short-term consultant, made



The integration of efforts of professional and auxiliary personnel to improve health is one of the principles practiced by PAHO/WHO in nursing education programs. This picture shows a doctor teaching a first-year student of the National School of Nursing of Guatemala how to listen to the heartbeat of a patient at Roosevelt Hospital, in Guatemala City.



FIG. 6. PROGRAMS IN NURSING EDUCATION, 1963.

a study of the curriculum of its 7 schools of nursing. Plans were consolidated to begin a similar study in 1964 in English-speaking areas of the Caribbean.

Collaboration in nursing education programs in the countries of the Americas continued at 3 levels; training of nursing auxiliaries, basic preparation of nursing personnel, and advanced preparation of graduate nurses (Figure 6).

The Ninth Seminar on the Training of Nursing Auxiliaries in Latin America met in Cuernavaca, México, from 1 to 10 December 1963; and the 41 participants, including nurses from 11 countries of North and Middle America, prepared guidelines on this much-needed subject. This seminar was the last of a series held to formulate recommendations for education at the 3 levels. All of the 9 seminars were attended by some of the most experienced nurses of all the countries of the Hemisphere, and their

recommendations reflect the teaching and nursing conditions, practices, and possibilities in the Americas.

At the ninth Seminar, for example, it was realized that the health services of Latin America were employing at least 100,000 auxiliaries who have had little or no formal training. If hospitalized patients and populations at large are to have the benefits of good nursing care, mass programs in each country must be a first priority. Such a program in any country depends upon the availability of large numbers of nurses with sufficient educational background and experience in nursing to serve as instructors.

Throughout 1963 general advisory services continued to be given in the programs for the training of auxiliary nursing personnel in Argentina, Brazil, Guatemala, and México. In Argentina a project (now in its third year) specifically oriented to increase the number of instructors and auxiliaries prepared 21 instructors and trained 165 auxiliaries in various cities. A similar project was initiated in Brazil in June, beginning with a seminar for directors of schools of nursing auxiliaries, to set standards and draw up a plan to improve the training of this type of personnel in 10 States. In Guatemala, 5 centers, and in México 9, respectively trained 150 and over 200 auxiliaries.

The Organization's collaboration with national health authorities during 1963, however, was concentrated principally along two lines. One was the strengthening of the basic curriculum in schools of nursing in Argentina, Bolivia, Chile, Cuba, the Dominican Republic, Ecuador, Guatemala, México, Nicaragua, Perú, and Uruguay, so that even the young graduates might in the future be ready to participate in educational programs, to act as leaders of a team of auxiliary personnel, and to manage small service units. The other was the organization of supplementary courses in teaching and administration for graduates of former basic programs, such as those carried out in Argentina, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Guatemala, Jamaica, México, Perú, and Venezuela.

PROFESSIONAL EDUCATION IN PUBLIC HEALTH

The third Conference of Deans of Schools of Public Health in Latin America met in Serra Negra, São Paulo, Brazil, from 22 to 28 September 1963 to discuss "The teaching of public health administration in schools of public health."

The Conference was attended by 25 participants—9

were directors or deans of schools of public health; the remainder were either professors in the same schools or health officers—from Argentina, Brazil, Chile, Colombia, México, Venezuela, and the Commonwealth of Puerto Rico. In addition to staff members of the Organization and specially designated consultants, there were observers from Cuba and Perú and representatives of the Association of Schools of Public Health of the United States and Canada and of the United States Agency for International Development.

The specific objectives of the teaching of public health administration were discussed; and curriculum content, type of students, time to be devoted to the teaching of public health administration and its integration with other studies, as well as pertinent teaching methods, were also considered. Other items discussed were the possibility of setting up demonstration areas, relations between schools of public health and health services, research, use of textbooks, and means by which schools of public health could keep in touch with their graduates and collaborate with them. The teaching of social sciences and their relation to public health administration, as well as the pedagogic aspects of planning within the scope of schools of public health, were also examined.

An outcome of this conference was the establishment of the Association of Schools of Public Health of Latin America, which will hold its first meeting in 1964.

The Traveling Seminar on Organization and Administration of Schools of Public Health was held from 20



Participants in the Traveling Seminar on Administration and Organization of Schools of Public Health, held from 20 April to 15 May 1963, visit the Andrija Štampar School of Public Health at Zagreb, Yugoslavia. The group also visited public health schools in Edinburgh, Scotland; in London, England; and in Leiden, Kingdom of the Netherlands.

IV. EDUCATION AND TRAINING

April to 15 May 1963. It took the form of visits by directors of schools of public health of the United States of America and Canada to 4 European schools. The participants included 11 representatives of as many schools, a PASB official and one each from the WHO Regional Office for Europe and WHO Headquarters.

The schools visited were the Usher Institute of the University of Edinburgh, Scotland; the London School of Hygiene and Tropical Medicine; the Netherlands Institute for Preventive Medicine in Leiden, Netherlands; and the Andrija Štampar School of Public Health in Zagreb, Yugoslavia. At each of these schools discussions were held with the faculty on school administration, curriculum organization, and teaching characteristics.

In addition, advisory services were again given to schools of public health in Latin America. Staff members of the Bureau visited the schools of public health of São Paulo, Brazil; México, D. F.; Bogotá, Colombia; and of the Universities of North Carolina and of California at Los Angeles, U.S.A., and examined the curricula together with the faculty.

The provision of advisory services for a study to evaluate the possibilities of establishing a school of public health in Central America was discussed with the Secretariat of the Central American University Council. The Bureau was also represented at the meeting of the Association of Schools of Public Health of the United States and Canada held in Kansas City, Missouri, U.S.A.

V. INFORMATION AND PUBLICATIONS

PUBLICATIONS

Through its program of Publications, the Organization continued to make available to public health services and health workers throughout the Americas a broad selection of current technical literature. In addition to the *Boletín de la Oficina Sanitaria Panamericana* and the *Weekly Epidemiological Report*, which appear periodically, in 1963 a total of 47 publications were issued, with 5,940 pages and 172,190 copies printed (Tables 39 and 40).

The 31 publications in the Scientific and Miscellaneous series covered a wide range of subjects. The 555-page *Normas para el examen de los productos lácteos*, which is the Spanish version of *Standard Methods for the Examination of Dairy Products* (11th edition, American Public Health Association), was issued in a 3,000-copy edition for distribution in Latin America. The methods described in this latest edition incorporate advances in analytical procedures based on the best current knowledge and practices in the application of microbiological and chemical analyses to milk and milk products. New material contained in this volume includes a discussion of radioactivity in relation to milk, recent applications of split-sample tests, and the need for new quality tests to meet changing practices in milk production and processing.

The 224-page volume *La malnutrición y los hábitos*

alimentarios contains the report on the Conference on Malnutrition and Food Habits sponsored by the Josiah Macy Jr. Foundation and supported by FAO, PAHO/WHO, and UNICEF. Special authorization for publishing the Spanish text was granted by the World Federation for Mental Health, which in 1960 organized the Conference in Cuernavaca, México. The report, presented as a narrative account of the interprofessional discussions and including a summary of each working document, reflects the broad purpose of this international meeting: to review the social and cultural factors that have a bearing on changes in food habits, so as to arrive at uniform criteria and promote cooperative planning in this field.

The second (revised) edition of the *Manual for the Microscopic Diagnosis of Malaria*, issued in English, was designed to establish uniformity in the laboratory techniques used in programs for the eradication of this disease. Spanish and Portuguese versions of the new edition were in preparation.

In the field of leprosy, two new publications appeared in Spanish: the *Manual para adiestrar al personal en la rehabilitación de enfermos de lepra*, which is a translation of the training manual for leprosy rehabilitation workers published by the International Society for Rehabilitation of the Disabled; and the *Seminario sobre lepra*, containing the report and selected documents of the seminar on leprosy held in Cuernavaca, México, from 12 to 19 August 1963.

A 6,000-copy second printing was made of *La sífilis, Diagnóstico y tratamiento modernos* to meet the continuing demand for the Spanish version of the USPHS text *Syphilis, Modern Diagnosis and Management*.

Two new publications on nursing were issued in Spanish: the first, *Enfermería, Recopilación de trabajos*, compiled 22 articles selected for their special application to nursing services in Latin America; the second was the report of the Seminar on Nursing Services (Paracas, Perú, 22 April-3 May 1963). To meet the continuing demand, a second printing was made of the *Guía para escuelas de enfermería en la América Latina*.

TABLE 39. SUMMARY BREAKDOWN OF PUBLICATIONS, 1963

Publications	Number	Pages	Pressrun
Scientific Publications	21	2,822	52,840
Miscellaneous Publications	10	273	83,500
Official Documents	13	2,674	14,350
Other	3	171	21,500
Total	47	5,940	172,190



sharing ideas, exchanging techniques,
and widening the movement of
knowledge of public health through

PUBLICATI

- To report to Member Countries the progress made toward the health activities established by the Governing Bodies of the Organization
- To inform Governments of resolutions and economic decisions of health matters passed at meetings of the Governing Bodies
- To make known to Governments the public health measures recommended by experts attending technical conferences and seminars
- To provide Governments with current information on outbreaks of disease outbreaks
- To inform the public on matters of importance to improve health conditions and the progress of public health projects
- To provide material for use in the technical and professional training of health workers
- To contribute to the health education of the public
- To make available, in the working languages, technical information of importance to the major public health program

PAN AMERICAN HEALTH ORGANIZATION Pan American Sanitary Bureau, Regional Office of the WORLD HEALTH ORGANIZATION

REPORTS



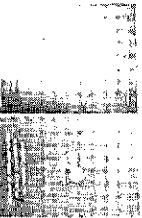
OFFICIAL DOCUMENTS



REPORTS



BIOSTATISTICS



PUBLIC INFORMATION



TECHNICAL PUBLICATIONS



TRAINING MATERIALS



THE BOLETTIN



WHO PUBLICATIONS



TABLE 40. PUBLICATIONS, 1963

Serial No.	Title	Pages	Pressrun
<i>Scientific Publications</i>			
52	Clasificación internacional de enfermedades, Adaptada para índice de diagnósticos de hospitales y clasificación de operaciones (2nd printing)	310	2,000
55	Guía para escuelas de enfermería en la América Latina (2nd printing)	83	2,060
56	La sífilis, Diagnóstico y tratamiento modernos (2nd printing)	65	6,000
75	La eliminación de basuras y el control de insectos y roedores (2nd printing)	44	5,000
76	Seminario sobre enseñanza de ingeniería sanitaria en América Latina (Lima, Perú, 18-27 July 1961)	133	2,000
77	Primer seminario latinoamericano sobre la enseñanza de la odontología (Bogotá, Colombia, 14-19 October 1962)	374	2,000
78	Enfermería, Recopilación de trabajos	200	3,000
79	Primer seminario viajero sobre organización de escuelas de medicina en América Latina (Brazil-Argentina-Chile, 24 October-23 November 1962)	70	3,000
80	Comité de expertos en educación higiénica del público, OMS, Primer informe	40	5,000
81	Primer seminario latinoamericano de salud mental (Cuernavaca, México, 23 November-3 December 1962)	122	1,500
82	Manual para adiestrar al personal en la rehabilitación de enfermos de lepra	104	2,000
83	Regional Advisory Committee on International Classification of Diseases, Third Report	42	200
83	Comité regional asesor sobre clasificación internacional de enfermedades, Tercer informe	44	500
84	Normas para el examen de los productos lácteos (APHA, 11th edition)	555	3,050
85	Seminario sobre lepra (Cuernavaca, México, 12-19 August 1963)	44	3,000
86	Reported Cases of Notifiable Diseases in the Americas, 1961	56	2,000
86	Casos notificados de enfermedades de declaración obligatoria en las Américas, 1961	68	1,000
87	Manual for the Microscopic Diagnosis of Malaria (2nd (revised) edition, English)	125	1,500
88	Estudios sobre educación sanitaria: La percepción y la salud pública; Investigaciones relacionadas con la educación sanitaria; Motivación en la organización de la colectividad	40	2,000
91	La malnutrición y los hábitos alimentarios, Informe de una conferencia internacional e interprofesional (Cuernavaca, México, 1960)	224	3,030
92	Tercera conferencia de directores de escuelas de salud pública de América Latina (São Paulo, Brazil, 22-28 September 1963)	79	3,000
<i>Miscellaneous Publications</i>			
70	A OPAS, O que é, O que faz, Como funciona	28	2,500
72	Malaria in the Americas (2nd printing)	32	3,000
72	La malaria en las Américas	32	5,000
72	A malária na América (1st and 2nd printing)	32	8,000
73	Safe Water to Save Lives	28	3,000
73	Agua pura, vida sana	28	5,000
74	Zoonoses	6	25,000
74	Zoonosis	6	25,000
75	Planning for Health, Present and Future Prospects in the Americas	39	5,000
75	Planificación en salud, Panorama presente y futuro en las Américas	42	2,000
<i>Official Documents</i>			
45	Proposed Program and Budget Estimates, 1964-1965	376	350
45	Proyectos de programa y presupuesto, 1964-1965	376	350
46	Financial Report of the Director and Report of the External Auditor, 1962	78	350
46	Informe financiero del Director e Informe del Auditor Externo, 1962	78	300
47	Basic Documents of PAHO (5th edition, 1963)	117	1,500
47	Documentos básicos de la OPS (5th edition, 1963)	124	1,500
48	Proceedings, XVI Pan American Sanitary Conference (Minneapolis, Minnesota, U.S.A., 21 August-3 September 1962), Vol. I	154	1,000
48	Actas, XVI Conferencia Sanitaria Panamericana (Minneapolis, Minnesota, E.U.A., 21 de agosto-3 de septiembre de 1962) Vol. I	168	1,000
49	Proceedings, XVI Pan American Sanitary Conference, Vol. II	320	1,000
49	Actas, XVI Conferencia Sanitaria Panamericana, Vol. II	376	1,000

TABLE 40. PUBLICATIONS, 1963—Continued

Serial No.	Title	Pages	Pressrun
50	Annual Report of the Director, 1962	168	2,000
50	Informe anual del Director, 1962	179	2,000
51	Reunión de Ministros de Salud, Grupo de Estudio; Informe final y declaraciones de los participantes (Washington, D.C., U.S.A., 15-20 April 1963)	160	2,000
<i>Other Publications</i>			
Informes sobre enfermería, No. 3	Informe del seminario sobre servicios de enfermería (Paracas, Perú, 22 April 3 May 1963)	90	3,000
51	Reunión de Ministros de Salud, Grupo de Estudio; Informe final (Washington, D.C., U.S.A., 15-20 April 1963)	49	3,500
—	Catálogo de publicaciones, enero de 1964	32	15,000

— None.

The report and working papers of the Seminar on the Teaching of Sanitary Engineering in Latin America were published in Spanish (*Scientific Publication 76*).

Other publications in professional education included the reports and selected documents, in Spanish, of the First Traveling Seminar on the Organization and Administration of Schools of Medicine in Latin America (*Scientific Publication 79*) and of the Third Conference of Deans of Schools of Public Health in Latin America (*Scientific Publication 92*).

Special arrangements were made for a reprint edition of *Educación higiénica del público*, which is the Spanish version of the First Report of the WHO Expert Committee on Health Education of the Public, a basic reference text in this field. A new volume in the *Estudios sobre educación sanitaria* (studies on health education) series included studies on perception and public health, research related to health education, and motivation for community organization.

The report and selected papers of the First Latin American Seminar on Mental Health (23 November-3 December 1962) were also published in Spanish.

Statistical publications issued in 1963 included Spanish and English editions of the *Third Report of the Regional Advisory Committee on International Classification of Diseases*, and of the periodic volume *Reported Cases of Notifiable Diseases in the Americas, 1961*. A second printing of the Spanish edition of the *International Classification of Diseases, Adapted for Indexing of Hospital Records and Operation Classification* (USPHS) was issued to meet the continuing demand for this text.

Information pamphlets published during the year in-

cluded English, Portuguese, and Spanish editions of the illustrated booklet *Malaria in the Americas*, as well as the pamphlets *Zoonoses and Planning for Health*, issued in Spanish and in English. Because of the rising emphasis on water supply in the over-all program of the Organization, 3,000 copies of the booklet *Safe Water to Save Lives* were issued; 5,000 copies were issued of the Spanish version, *Agua pura, vida sana*.

The Final Report of the Task Force on Health at the Ministerial Level (Washington, D.C., 15-20 April 1963), together with the addresses delivered at the meeting, were published in Spanish in *Official Document 51*. The English edition of this volume is in preparation. The 12 other basic reference texts in the Official Documents series included the English and Spanish editions of: *Basic Documents of PAHO* (5th edition); *Proposed Program and Budget Estimates, 1964-1965*; *Financial Report of the Director and Report of the External Auditor, 1962*; *Proceedings of the XVI Pan American Sanitary Conference, Vols. I and II* (Minneapolis, Minnesota, U.S.A., 21 August-3 September 1962); and *Annual Report of the Director, 1962*.

BOLETÍN DE LA OFICINA SANITARIA PANAMERICANA

The *Boletín de la Oficina Sanitaria Panamericana* published 12 issues with a total of 1,375 pages, which included 93 original articles, items of medical and health

news, and general information. The average monthly pressrun in 1963 was 10,000 copies.

The section "Artículos originales" accounted for 861 pages of the total. Among the many subjects treated, those which appeared most frequently were: environmental sanitation, 18 articles (130 pages); dentistry, 9 articles (77 pages); mental health, 8 articles (118 pages); nursing, 6 articles (51 pages); nutrition, 5 articles (39 pages). Some of these articles were papers originally presented at international meetings convened by the Organization or held with its assistance and which were being published for the first time; such was the case with: the Seminar on the Design of Water Supply Systems (Buenos Aires, Argentina, 20-29 September 1962); the Symposium on the Administration of Water and Sewerage Services (Medellín, Colombia, 11-23 February 1963); the First Latin American Seminar on Dental Education (Bogotá, Colombia, 14-19 October 1962); the 103rd Annual Meeting of the American Dental Association (Miami, Florida, U.S.A., 29 October-1 November 1962); and the First Latin American Seminar on Mental Health (Cuernavaca, Morelos, México, 23 November-3 December 1962).

The articles considered for publication totalled 211 (84 more than in 1962), submitted by their authors in Spanish (104), English (99), and Portuguese (8). Of the total, 118 were approved and 65 were rejected; at the end of the year, 28 were still under review or under discussion with their authors. The proportion of approved articles, counting only those on which a final decision was taken, was 64.48 percent.

In the July issue, 50 pages were devoted to the final report of the Meeting of the Task Force on Health at the Ministerial Level so that the decisions taken at that meeting were given rapid and wide distribution. The editorial in the February issue (LIV:2, 152-4) was entitled "Análisis en perspectiva de la erradicación del hambre y de las enfermedades" and that in the July issue (LV:1, 107-9) was entitled "Por la dignidad de los hombres de América."

Summaries of 122 articles published in other journals appeared in the "Actualidades médicas y de salud" section (175 pages). The subjects dealt with were nutrition, dentistry, education and training, maternal and child health, venereal diseases and the treponematoses, cancer, tuberculosis, respiratory affections, zoonoses, mental health, rheumatism, and cardiopathies. Reviews of 39 recently published books on public health (25 pages) also appeared in the same section.

In the section entitled "Información general," 146 notes were published (185 pages). The message of the late

President John Fitzgerald Kennedy on the occasion of the XV Anniversary of the foundation of the World Health Organization (LIV:5, 411) deserves special mention because of its support of the worldwide struggle against hunger. Other notes worth mentioning were those concerning the 48th Meeting of the Executive Committee and the XIV Meeting of the Directing Council of PAHO and the one on the XXI Annual Meeting of the United States-México Border Public Health Association. The section includes final reports and summaries of seminars and national and international scientific meetings as well as news items on public health activities of the countries and of the Bureau itself.

PUBLIC INFORMATION

Public Information activities were expanded during 1963 and consequently resulted in increased press, radio, and television coverage of PAHO/WHO work. The expansion of activities included the establishment of a twice-a-month news release for radio programs, the reporting of more news to the press and wire services, the publication of a *P. I. Newsletter* for individuals interested in public health, and the sending out of a monthly information packet for field staff.

Mass-Media Coverage

Press

In 1963 a total of 241 news releases were issued in English, Spanish, and Portuguese—64 more than the combined total for 1962. For the first time, the Bureau reported more news to the Spanish Latin American press than to the English-language press, issuing 100 releases in Spanish and 91 in English. In addition, 50 releases were sent in Portuguese to the Brazilian press.

Stories on health-project agreements between the Organization and Governments, as well as on meetings, made up over half of the 1963 news releases. Outstanding among the releases on meetings were the ones on the Task Force on Health, the Directing Council, and the Planning Conference for Research on Congenital Malformations.

Three feature stories were sent to editors throughout the Hemisphere: "Begins Third Term" (on re-election of the Director-General of WHO), "World Health Planners" (on the 1963 World Health Assembly), and "April 7 Is

World Health Day." The stories were sent as mats (text and photo mounted on a perforated cardboard) to 2,000 editors in the United States and 900 in Canada, in English; to 500 editors in Spanish-speaking Latin America, and to 150 French-speaking editors in Canada and Haiti. In the form of photo features (text and photo), the stories were sent also to 500 Brazilian editors.

Stories on health were published in *World Medical News*: "Nations United for Health," "Americans Confer on Latin Health," "Malnutrition: Public Enemy No. 1"; *Reader's Digest*: "New Food for Hidden Hunger" (on INCAPARINA); *Veritas* (Buenos Aires): "Nutrición y malnutrición en las Américas"; *Bohemia Libre* (Caracas): "El futuro del médico general"; *Visión*: "Agua para todos"; and *Americas* (Pan American Union): "Mental Health."

An arrangement was made with the editors of *Americas* to give PASB regular space for a section called "Health." The three editions of *Americas*—English, Portuguese, and Spanish—have a combined monthly circulation of 85,000.

In advance of World Health Day, a special kit was made up of three captioned photographs, a fact sheet, a news release, and a covering letter that could be used as an editorial. The kit was sent to 2,400 English-language, 600 Spanish-language, and 200 Portuguese-language editors.

Radio

As one of the Bureau's newly established services, two timed releases for radio were sent out each month to a mailing list of more than 800 stations in Spanish-speaking Latin America. These programs were also taped and placed with both the OAS and UN radio stations.

Radio interviews were held, as in previous years, with officials attending the Directing Council meeting. In 1963 the meeting of the Task Force on Health provided another opportunity to broadcast interviews with public health officials of Latin America.

Television

During 1963 the Bureau produced its first newsreel—a 90-second sound film on the Task Force on Health. The film was airmailed to one station each in Argentina, Brazil, Guatemala, México, Perú, Uruguay, and Venezuela, where television audiences saw their health officials discussing their countries' problems, while the meeting was actually going on.

Also worthy of mention was television coverage of the ground-breaking ceremony for the new Headquarters building. The American Broadcasting Company televised

the story at prime, or best, time for the largest number of viewers in the Eastern Seaboard and later loaned the film for the Bureau to have it copied and kept for posterity.

On World Health Day, *Panorama Panamericano*, the U.S. Information Agency's (USIA) weekly news television show, carried in Spanish the message of the Director of the Pan American Sanitary Bureau who is also the Regional Director for the Americas of the World Health Organization. Included in the show were interviews, in Spanish and in Portuguese, with two Bureau officers who discussed the Hemisphere's malnutrition problems. *Panorama* reaches a Latin American audience estimated at 12 million.

The Organization shared with the WHO liaison office at the UN in production costs of two 60-second television spots highlighting the 1963 World Health Day hunger theme. Narrators for the spots, distributed to stations throughout the United States, were the two well-known U.S. film stars Douglas Fairbanks Jr. and Celeste Holm.

"INCAPARINA: New Food for Health" was added to the Bureau's film lending library. This is a 15-minute sequence that is part of "Horizons," a half hour USIA feature show. In 1963 the library made 76 loans.

Special Audiences

In answer to inquiries from all the countries of the Hemisphere, 4,400 kits were sent out. Each kit contained an average of four pieces of literature on the Organization's programs. Also in answer to requests for information on PAHO/WHO work, 1,985 letters were sent.

Among the groups addressed by PASB staff were students from Goucher College and exchange students brought to the United States by the Pan American Union. The American Association for the United Nations was one of several civic groups which in 1963 visited the Bureau to learn about health work in the Americas.

The *P. I. Newsletter* service, launched in December 1962 with a trial issue on the Bureau's 60th Anniversary, was designed for persons, lay or professional, who are interested in public health. These persons represent an audience never reached before, though an important one to PAHO/WHO. The *Newsletter* filled the need to keep these persons informed, and in 1963 it became a regular part of the Bureau's public information activities. Of the four issues put out during the year, one gave special prominence to the Task Force on Health and another to World Health Day. Each issue was sent to 6,000 Spanish and 5,000 English readers.

For World Health Day, 5,000 kits in English, 4,000 in



This poster, prepared by PASB, was widely displayed to publicize the 1963 World Health Day and its theme.

Spanish, and 1,250 in Portuguese were mailed to civic groups, schools, universities, public health workers, and persons interested in international health. Each kit contained 10 articles on nutrition and a poster on the day's theme, "Hunger: Disease of Millions." By courtesy of the Washington, D.C., public transportation system, the theme was publicized in 600 area busses. (The poster and the card for the busses had been designed the previous year by the Visual Aids Unit.)

The information program begun in 1960 for Washington staff was extended in 1963 to field staff. A packet, either in English or Spanish, was sent out each month to staff members in the field. The packet contained an Information Memo to Field summarizing the month's newsworthy events, the *P. I. Newsletter*, the *Weekly*

Newsletter of the Alliance for Progress, and literature that had come out during the month.

Information Literature

Four flyers, each running from 1,500 to 2,000 words, were written for the lay public. *Malnutrition in the Americas* and *60 Years of International Health* were written in English; *Nutrición y progreso* and *Trabajando por la salud mental en las Américas*, in Spanish. Another leaflet put out in 1963, also with a 5,000 pressrun, was *New Food for Hidden Hunger*, on INCAPARINA.

Malaria in the Americas appeared in English, Portuguese, and Spanish. The public appeal of this pamphlet can be judged by the fact that, in the same year, second

printings had to be made of the English and Portuguese editions.

Also in 1963, arrangements were made to obtain and distribute to the general public 5,000 reprints of "Nations United for Health," a story on the World Health Assembly, carried in *Medical World News*.

LIBRARY

The Library directed its endeavors toward the procurement and processing of literature required to service the program of the Organization and the activities of the staff. In addition to this prime activity, the collection and reference services were made available to public health workers and students in the Hemisphere.

The collection was increased by 5,799 pieces of literature: 1,643 books, 343 pamphlets, and 3,813 WHO documents and publications. Also, 132 items were placed in the Archives collection and 39 new titles augmented the periodical collection. To describe the contents of the literature, 7,945 cards were added to the several catalogs.

The information requested in the 3,007 inquiries received and answered in 1963 encompassed the whole field of public health, but revealed a new trend—interest in the relation of health to the economic development of Latin America.

Literature circulated amounted to 6,326 items. The marked increase in the number of pages photocopied in answer to requests—5,051 in 1963 as compared with 3,318 in 1962—testified to the usefulness of this service to health workers in Latin America. In addition, also in answer to requests, 545 pieces of literature were sent to the Zone Offices.

The limited space available at the Bureau buildings demands that the collection include only the specific works and periodicals accepted as fundamental to the program and projects of the Organization. This requires periodical critical reviews of the collection and elimination of material no longer essential. The 3,056 items discarded during the year were sent to other libraries and library exchanges.

VISUAL AIDS

In 1963 there was a marked increase in the use of visual aids to promote and complement the PAHO/WHO program and country projects (Table 41). Drafting items, prepared mainly to illustrate publications, increased by

TABLE 41. ARTWORK AND OTHER VISUAL AIDS PREPARED AND SUPPLIED, 1963

Items	Original work	Reproduction work
Maps, charts, and other designs	878	2503
Projection slides	233	1,840
Posters (silkscreen method)	- ^a	750
Photographic negatives (identified, numbered, captioned, and filed)	312	-
Prints supplied	-	1,922
Exhibits designed and built	9	-

- None
^a Artwork done in 1962.

27 percent over the 1962 total; and copies of projection slides supplied for courses and for health education of the public increased fivefold.

To attend a request from Brazil, a set of 40 projection slides was designed for health educators engaged in enlisting public support of the malaria eradication campaign in that country, and 30 duplicate sets were supplied to the health authorities. Forty slides on radiological health were adapted and translated into Spanish from originals loaned by the American College of Radiology, and 6 duplicate sets were used in courses given in schools of public health in Latin America. The Visual Aids Unit also prepared in Spanish 25 slides illustrating fundamentals of radiation and some of its uses in medicine, food handling, geology, agriculture, entomology, and industry.

Two models of the Excito-Repellency Test Box—PAHO model, a device to test the reaction of anopheles mosquitoes to surfaces sprayed with DDT, were built for demonstrations at a seminar on basic entomology in Geneva.

The five Spanish-speaking Zone Offices were furnished exhibits portraying aspects and objectives of the water supply program. Photographs with printed captions and legends in Portuguese, suitable for a wall exhibit, were sent to the II Brazilian Congress of Sanitary Engineering. An exhibit highlighting international aspects of malaria eradication was prepared and shipped in response to a request from the Brazilian health authorities. The shipment included photographs, captions, and silk screens to facilitate the construction of three additional exhibits in Brazil. The National Malaria Eradication Service intends to display these exhibits at prominent public locations in Brazil's largest cities as part of a nationwide plan to enlist public support for the campaign. An exhibit on the Organization's publications program was displayed at the Ninety-First Annual Meeting of the American Public Health Association.

VI. ORGANIZATION AND ADMINISTRATION

The XIV meeting of the PAHO Directing Council (XV Meeting of the WHO Regional Committee for the Americas) took place in Washington, D.C., in September. All Member Governments were represented. Trinidad and Tobago became the twenty-third member of PAHO, and the Governments of México and Brazil were elected to fill the vacancies left by Argentina and Chile after the completion of their terms in the Executive Committee.

The 1963 Executive Committee Meetings were held in Washington, D.C. The 48th Meeting took place from 22 to 27 April with the representation of the Governments of Argentina, Costa Rica, Chile, the United States of America, Nicaragua, Perú, and Uruguay. The 49th Meeting was composed of representatives of the Governments of Brazil, Costa Rica, the United States of America, México, Nicaragua, Perú, and Uruguay.

GOVERNING BODIES

Directing Council

The XIV Meeting of the Directing Council of the Pan American Health Organization (XV Meeting of the Regional Committee of the World Health Organization for the Americas) was held from 16 to 25 September. Represented at the meeting were the Governments of Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, El Salvador, France, Guatemala, Haiti, Honduras, Jamaica, México, Nicaragua, Paraguay, Perú, the Kingdom of the Netherlands, the United Kingdom, the United States of America, Uruguay, Venezuela, and Trinidad and Tobago (whose application for membership in the Organization was approved during the meeting). The Government of Canada appointed official observers. Representatives of the World Health Organization were also present, as were observers of the OAS, IADB, UN, UNICEF, and FAO. The Repre-

sentative of Perú was elected President of the meeting and the Representatives of Colombia and Nicaragua were elected Vice-Presidents.

The Council held 12 plenary sessions and a closing session, 6 sessions of the General Committee, and 3 of the Committee on Credentials. In addition, one entire day was set aside for the Technical Discussions.

Thirty-four resolutions were approved.

Among the more important items examined in the course of the meeting were the *Annual Report of the Director*¹ on the activities carried out in 1962 (which year marked the 60th Anniversary of the Pan American Sanitary Bureau), the *Proposed Program and Budget Estimates* for 1964-1965,² the recommendations adopted at the Meeting of the Task Force on Health at the Ministerial Level, the status of malaria eradication, the eradication of *Aedes aegypti*, the status of the continental water supply and sewage disposal program and the organization of a Continent-wide program of rural environmental health and well-being, the nutrition program in the Americas, the activities of the Organization in relation to economic and social development, the PAHO research policy and program, the program of administrative rationalization in the PASB, and the status of the plan for the construction of the new Headquarters building.

The Council made a detailed examination of the draft program and budget of the PASB for 1964 and established the budgetary ceiling for that year at \$6,560,000, in accordance with the recommendations made by the Executive Committee at its 48th Meeting in April. The Council accepted as a statement of general policy of the Pan American Health Organization all the recommendations adopted at the Meeting of the Task Force on Health at the Ministerial Level, held in Washington, D.C., from 15 to 20 April 1963, and instructed the Director to take the recommendations into account both in implementing

¹ *Official Document PAHO 50*, 1963.

² See *Official Document PAHO 45*, 1963.



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the 1964 program and budget and in preparing the program and budget for subsequent years.

Having examined the report on the status of the malaria eradication program, the Council expressed its satisfaction with the progress achieved and recommended that the Director continue to cooperate with the Governments in studying the causes of the persistence of malaria transmission; it expressed its gratitude to the United States of America and to UNICEF for the assistance they had given to the hemispheric program and voiced its concern lest any decrease in the contribution of the last-mentioned organization might affect health programs in general and fundamentally so the malaria eradication program.

With respect to the status of *Aedes aegypti* eradication, the Council declared México free of the vector and called upon the Governments of countries and territories still infested to give the eradication campaign the necessary priority so that the entire Hemisphere may be freed from the vector as soon as possible.

The Council studied the report on the progress of the continental plan for water supply and sewage disposal and instructed the Director to continue giving the highest priority to the program and to efforts to stimulate a larger investment of funds. In this connection, the Council expressed its thanks to the Governments of Colombia, the United States of America, Uruguay, and Venezuela for their contributions to the Community Water Supply Fund (CWSF) and instructed the Director to renew his invitation to Governments to contribute to that Fund, in particular with a view to matching the \$150,000 promised (besides \$300,000 pledged) by the United States of America for 1964. It also expressed its deep appreciation to the Agency for International Development and the Export-Import Bank of Washington, of the United States of America, and to the Inter-American Development Bank and the International Bank for Reconstruction and Development for their deference to requests of loans and grants for water supply and sewerage services.

The Council also considered another report, on the

organization of a Continent-wide program of rural environmental health and well-being, which was an outcome of a recommendation of the Task Force on Health. It approved the program along the general lines laid down in the document presented, that is, based on the contribution of international credits, the establishments of national revolving funds, and the participation of the communities concerned. For this purpose it urged the Director to seek assistance from all possible sources and to appoint a technical committee to advise him on the financing, organization, and other aspects of the program. It also recommended that each Government establish an agency responsible for carrying out the program in its own country.

In connection with the nutrition program in the Americas, the Council expressed its satisfaction with the progress achieved and recommended that the Director continue his efforts to increase the resources for nutrition activities of the Organization, and that the latter continue to collaborate with FAO and UNICEF with a view to expanding advisory services on the development, production, marketing, and utilization of low-cost protein-rich products so as to ensure their effective use by undernourished population groups.

After examining the report on PAHO activities in economic and social development, the Council recommended that the Director make the necessary arrangements with the Governments, to ensure that the health programs are fully incorporated in the planning and execution of national development programs, and at the same time cooperate with national and international, official and private agencies (particularly with IA-ECOSOC), in such a way as to promote technical cooperation in health matters. It also recommended that the pertinent measures be adopted for the rapid increase of the number of experts with specialized training in health planning, so as to permit the efficient development of national and international health plans.

The Council expressed its satisfaction with the progress achieved in the PAHO research program and concurred with the policy of accelerating studies in environmental health and in biosociology and biostatistics dealing with health conditions, in the economic and social aspects of health and medical care, and on the number of physicians needed in relation to medical education programs.

Other matters dealt with were the procedure for the admission of new members, intercountry exchanges of teaching in the field of health personnel, analysis of the organization of the Pan American Sanitary Conference, and organization of national citizens committees for the promotion of health programs.



Dr. Luther L. Terry, Surgeon General of the United States Public Health Service, at the ground-breaking ceremony for the new Headquarters building of the Pan American Health Organization, in Washington, D.C., U.S.A. Left to right: Dr. Abraham Horwitz, Director of the Pan American Sanitary Bureau, Secretariat of the Pan American Health Organization; Dr. M. C. Candau, Director-General of the World Health Organization; Dr. José A. Mora, Secretary General of the Organization of American States; Dr. Terry; and Dr. Emory W. Morris, President of the W. K. Kellogg Foundation.

The Council made a thorough study of the report on the program of administrative rationalization in the Bureau, aimed at streamlining the structure, procedures, and techniques of the administrative system, and commended the staff for the success of their efforts to achieve substantial savings. It requested that the rationalization program be continued and progress reports be periodically sent to the Governments. It also expressed its satisfaction that the construction of the permanent Headquarters building had begun and expressed its appreciation to the W. K. Kellogg Foundation for the additional \$1,250,000 (which raised the Foundation's grant for the new building to \$5,000,000) as well as to the Permanent Subcommittee on Buildings and Installations for its work during the year.

Among other financial and administrative matters dealt with at the meeting were the *Financial Report of the Director* and *Report of the External Auditor* for 1962,³ which were approved; the status of the Emergency Revolving Fund; the collection of quotas, amendments to the PASB Staff Rules; and the proposed program and budget of the WHO Region of the Americas for 1965,⁴ for transmittal to the Director-General of WHO. It also took note of the provisional draft of the proposed PAHO program and budget for 1965⁵ and recommended that the Director, in preparing his proposed program and budget for the above-mentioned year and in his consultations with the Governments on that matter, take into account the comments made by several representatives during the meeting.

The Council unanimously approved the annual report of the Executive Committee and gratefully acknowledged the work done. The report described the Committee's activities between September 1962 and September 1963 and gave an account of its decisions during that period.

The Governments of México and Brazil were elected to the Executive Committee, to fill the vacancies on the expiration of the terms of office of Argentina and Chile; the Council expressed its thanks to the Governments of those two countries for the services rendered to the Organization by their Representatives on the Executive Committee.

Finally, the Council expressed its thanks to the Government of the United States of México and accepted its invitation to hold the XV Meeting of the Directing Council (XVI Meeting of the Regional Committee of WHO)

³ *Official Document PAHO 46*, 1963.

⁴ *Op. cit.*, 45.

⁵ *Ibid.*

and the 51st Meeting of the Executive Committee, in Mexico City.

Technical Discussions. The Council devoted an entire day (19 September) to the discussion of "Ideas for the formulation of a plan for the control of gastrointestinal diseases, including environmental sanitation measures, epidemiology, health education, and early diagnosis and treatment." The Representative of the United States of America acted as Moderator and the Representative of Venezuela as Rapporteur; technical secretary was the Regional Adviser in maternal and child health.

The Council examined in plenary session the report on the Technical Discussions and adopted a resolution recommending that activities intended to control diarrheal diseases and reduce the mortality due to them be strengthened and expanded and that research in this matter be promoted. It also recommended to the Director-General of WHO to study the feasibility of expanding the sphere of activities of the present international network of Salmonella Centers to include the microbiological study of other enteropathogenic micro-organisms.

For the Technical Discussions to be held in 1964, during the XV Meeting of the Directing Council, the topic chosen was "Tuberculosis eradication: a task for present planning and future action."

Executive Committee

At the 48th Meeting of the Executive Committee, held from 22 to 27 April, the seven Member Governments were represented: Argentina, Chile, Costa Rica, Nicaragua, Perú, the United States of America, and Uruguay. The Kingdom of the Netherlands was represented by an observer, as were the OAS, IDB, and W. K. Kellogg Foundation.

The Committee made a thorough study of the proposed program and budget for 1964 and recommended to the Directing Council that the budgetary level be set at \$6,500,000. It also examined several reports of a technical, financial, and administrative character, which were later submitted to the XIV Meeting of the Council.

Furthermore, the Committee approved a draft functional budget (later included in the PAHO budget document⁶), took note of the report on the procurement services to Governments and requested the Director to continue the study of this matter, and examined another report on the nutrition problems in the Americas from the point of view of food consumption.

⁶ *Op. cit.*, 45.

At the 49th Meeting, held on 25 September, the following countries were represented: Brazil and México (new members), Costa Rica, Nicaragua, Perú, the United States of America, and Uruguay. The OAS was also represented by an observer. The Representatives of Perú and Uruguay were respectively elected Chairman and Vice-Chairman. It was agreed to authorize the Chairman of the Executive Committee to set, in consultation with the Director of the Pan American Sanitary Bureau, the date for the 50th Meeting of the Committee.

TASK FORCE ON HEALTH AT THE MINISTERIAL LEVEL

Early in 1963 the Pan American Sanitary Bureau convened the Ministers of Health of the Governments which in subscribing to the Charter of Punta del Este had resolved to adopt a program of action to establish and carry forward an Alliance for Progress. In the matter of health, Resolution A.4 of the Charter recommends that the pertinent task force, organized through the Pan American Sanitary Bureau, "appraise prevalent problems and suggest general lines of action of immediate effect relating to: the control or eradication of communicable diseases; sanitation, particularly water supply and sewage disposal; reduction of infant mortality, especially among the newborn; and improvement of nutrition; and that it also recommend actions for education and training of personnel and improvement of health services."

In view of the variety of problems mentioned in Resolution A.4, the Pan American Sanitary Bureau first convened a series of advisory groups, composed of experts from the Hemisphere, to examine the status of each problem and suggest practical measures for achieving the goals of the Charter of Punta del Este, in particular the Ten-Year Public Health Program set forth in Resolution A.2. The reports of these groups, as well as those prepared by the technical personnel of the Bureau, were made available to Governments and constituted the background material for the deliberations of the task force on health.

Representatives of the signatory Governments, then, as the Task Force on Health at the Ministerial Level, met in Washington, D.C., from 15 to 20 April 1963. This meeting brought together more than one hundred health experts from 19 countries of the Americas.

The Task Force on Health analyzed the intensive and



The President of the United States of America, John F. Kennedy, and the Director of the Pan American Sanitary Bureau, talking during the Meeting of the Task Force on Health.

comprehensive effort that must be undertaken to accomplish the Alliance objectives in terms of the future of health in the Americas.

In the plenary sessions, Ministers and advisers discussed the basic questions stated in the Charter in regard to health and the possibility of developing the Ten-Year Public Health Program set forth in Resolution A.2. In focusing fundamental problems the group defined the criteria used in each country for establishing priorities and offered general and specific solutions to the many problems confronted. The meaning of health as an investment was explained, showing the trend of economic growth and social progress. The discussions cast light on the present moment, its positive and negative aspects, what remains to be done, and the various ways to reach concrete results.

Two committees met simultaneously. One of the committees analyzed the current problems, such as communicable diseases, environmental sanitation, nutrition, and the fundamental objective of increasing life ex-

pectancy by 5 years, on the average, during the current decade. The other committee discussed the fundamental tools used in the development of the objectives of health care, such as planning, training of professional and auxiliary personnel, organization and administration of health services, and research.

Each of these subjects motivated a considerable amount of analysis, for which the information provided in the working documents was of utmost importance. For each item, the committees proposed conceptual and practical recommendations which, with appropriate modifications, were approved in the plenary sessions.

With a growing awareness of recent developments it became evident that the proposed measures had to be adjusted to the characteristics of each country. The analyses were based on the present and projected into the future, accentuating what remains to be done rather than what had been accomplished.

ADMINISTRATIVE MANAGEMENT AND DEVELOPMENTS

Headquarters Building

The contract for the construction of the new Headquarters building of the Pan American Health Organization was awarded to a Washington, D.C., company on 16 August 1963. Schedule for construction was set at 580 days from the date of the award of the contract.

The ground-breaking ceremony was held on Wednesday, 18 September 1963.

In spite of bad weather conditions early in the 1963-1964 winter, by the end of 1963 the excavation for the basement and sub-basement had been completed, the required caisson-type piling had been sunk, and the structure had begun to rise above the foundation. Barring difficulties unforeseeable at the present time, moving into the new building should take place in the spring of 1965.

Budget and Finance

The budgetary resources of the Organization for 1963 totaled \$15,631,894 (Table 42). This figure includes \$300,000 to increase the Working Capital Fund, but does not include funds available for construction of the new building. The 1963 budget represented an increase of 7.17 percent over 1962.



The President of the American Construction Company and, at right, the Director of PASB signing the contract for construction of the new Headquarters building of the Pan American Health Organization. The man standing is a member of the law firm Wilkes and Artis; Román Fresnedo Siri, the architect who designed the building, is seated on the far left.

The PAHO regular budget was increased by 14.31 percent, an increase higher than in previous years, chiefly to meet the general salary raise approved in 1962 (the first for professional staff in 11 years). Increased costs for personnel, for supplies and equipment, and for services absorbed slightly more than 11 percent of the increase, leaving only some 3 percent for program expansion.

Expenditures in 1963 totaled \$14,498,221, or 7.61 percent over the 1962 expenditures (Table 43), which corresponds rather closely to the budgetary increases mentioned above.

The level of quota receipts reached only 64 percent for 1963 quotas as of 31 December (Table 44). This percentage does not reflect the quota payment of \$1,000,000 from the largest contributor, which due to an unusual legislative delay was not received until 14 January 1964. If this late payment and others amounting to \$4,673 received by the same date are taken into consideration the percentage for 1963 payments is 80.7, compared to an average of 79.4 percent for the 5 previous years.

The status of quota collections remained far from satisfactory. Approaches were made at all possible levels to promote the administrative and other necessary action to achieve a higher level of payments. As instructed by the XIV Directing Council, special efforts were made to arrange with Member Governments in arrears two or

TABLE 42. FUNDS BUDGETED FOR PAHO AND WHO AND ADMINISTERED BY PASB, 1963

Source of funds	1963	Increase or decrease from 1962
	<i>U.S. dollars</i>	<i>Percent</i>
Pan American Health Organization		
Regular budget.....	5,990,000 ^a	14.31
Other funds:		
Special Malaria Fund.....	3,000,000	-2.77
Community Water Supply Fund.....	364,942	-11.36
Grants and other contributions.....	977,651	4.26
OAS: Technical Cooperation Program.....	622,143	-23.11
INCAP: regular budget, grants, and other contributions.....	727,499	.35
Total.....	11,722,235	7.39
World Health Organization		
Regular budget.....	2,495,385	9.66
Technical Assistance Program....	1,189,816	-9.98
UN Special Fund.....	155,400	^b
Malaria Eradication Special Account.....	69,058	-5.09
Total.....	3,909,659	6.53
PAHO/WHO total.....	15,631,894	7.17

^a Includes \$300,000 to increase the Working Capital Fund.

^b No funds budgeted in 1962.

more years, for a plan of payment over a specific period to arrive at current status. Of seven countries in this category, two made sufficient payments to reduce their arrearage to less than two full years. Two others agreed to a plan and made payments which reduced the number of years in arrears.

As of 31 December the excess of expenditures over receipts created a deficit of \$246,997 which had to be advanced from the Working Capital Fund. If the late payment mentioned above is taken into consideration, however, there was a surplus of \$757,656. Upon receipt of this delayed payment, available working capital stood at 33 percent of the 1964 budget. This is higher than any percentage for the Working Capital Fund since January 1958.

During 1963 a major step in the direction of functional budgeting was taken by the introduction in the budget document of a program classification and its use in the

TABLE 43. EXPENDITURE OF FUNDS ADMINISTERED BY THE PAN AMERICAN SANITARY BUREAU, 1963

Source of funds	1963	Increase or decrease from 1962
	<i>U.S. dollars</i>	<i>Percent</i>
Pan American Health Organization		
Regular budget.....	5,090,269	7.14
Other funds:		
Special Malaria Fund.....	2,847,354	.12
Community Water Supply Fund.....	359,806	1.63
Grants and other contributions.....	801,699	27.05
OAS: Technical Cooperation Program.....	633,991	20.62
INCAP: regular budget.....	182,962	22.24
Grants and other contributions.....	581,757	10.95
Total for programs.....	10,497,838	7.34
Building fund.....	354,382 ^a	212.47
Total.....	10,852,220	9.69
World Health Organization		
Regular budget.....	2,375,581	6.45
Technical Assistance Program.....	1,144,696	-11.87
UN Special Fund.....	14,172	^b
Special Account for Smallpox Eradication.....	33,120 ^c	475.00
Malaria Eradication Special Account.....	78,432	80.64
Total.....	3,646,001	1.85
PAHO/WHO total.....	14,498,221	7.61

^a Does not include cost of building site: \$1,092,150.

^b No expenditure in 1962.

^c Contribution in kind (vaccine).

presentation of a program analysis.⁷ The Directing Council approved the system and expressed its appreciation, for the innovation facilitates the study of program priorities and budget distribution.

The plan begun in 1961 for progressive centralization of accounting and budget services was essentially completed by the end of 1963. Despite predictable problems of adjustment and procedural improvement, an equivalent or superior level of efficiency has been achieved with substantial administrative savings. By the end of the year, plans were underway for the gradual introduction of automatic data processing.

⁷ *Ibid.*, p. 7.

TABLE 44. PAHO QUOTA CONTRIBUTIONS, DUE AND RECEIVED, 1962 AND 1963

U.S. dollars

Quotas	1962			1963		
	Due on 1 January	Received by 31 December	Percent	Due on 1 January	Received by 31 December	Percent
Of corresponding year	5,140,000	3,940,234	77	5,949,828	3,806,269	64
In arrears.....	1,351,140	348,551	26	2,217,191	932,118	42
Total.....	6,491,140	4,288,785	66	8,167,019	4,738,387	58

Building Fund

It will be recalled that in 1960 the Government of the United States of America donated to the Pan American Health Organization a building site, for which the purchase cost was \$1,092,150. In 1963 title to the land was transferred to the Organization.

The generous "loan" of \$5,000,000 from the W. K. Kellogg Foundation toward construction of the building was fulfilled in 1963 by transfer of the funds immediately after signature of the construction contract. As agreed with the Foundation, the "payments" of \$187,500 made in 1962⁸ and 1963⁹ to the PAHO Special Fund for Health Promotion were used to increase the activities in water supply, nutrition, and education. In 1963 the Directing Council approved that, beginning in 1964, the budgetary provision for annual payments be raised to \$250,000 and be continued until "reimbursement" is completed.

Management and Personnel

The reorganization of the administrative system of the Pan American Sanitary Bureau was nearly completed by the end of 1963. This broad reform was conceived in 1959; and, because the rational reorganization that was planned would encompass all elements of structure, processes, and manpower of the administrative system, it became known as the program of administrative rationalization.

⁸ *Op. cit.*, 46.

⁹ *Official Documents PAHO 53* (April), 1964.

The program includes the twin objectives of (1) the incorporation of the major part of field administrative operations into the Headquarters administrative system, at Washington, D.C., and (2) the decentralization of a significant body of responsibility in the technical operations, from Zone Office to the country level. Through these two objectives the Bureau sought to effect a reduction on expenditures for administration and to divert the savings thus obtained to increase the direct technical assistance to the Governments.

Before the Bureau could begin to absorb the field administrative activities the Headquarters administrative system had to be thoroughly reviewed. The review brought about a gradual streamlining of the administrative structure and processes—with increased mechanization, simplification of procedures and operations, and elimination of certain units and posts.

The transfer of field administrative operations was started in January 1962 and by the end of 1963 virtually all of the basic administrative activities previously performed in the Zone Offices had been incorporated into the Headquarters system. Since the program of administrative rationalization was first planned in 1959, a net reduction of 57 administrative posts (40 in the field and 17 at Headquarters) representing \$434,000 had been achieved at the close of business on 31 December 1963.

The recentralization of field administrative activities related to personnel increased the workload at Headquarters. For example, the number of personnel actions processed increased by approximately 140 percent and travel authorizations by 100 percent, but the earlier review and consequent simplification of procedures and operations permitted absorption of the extra workload without a comparable increase of the Headquarters staff.

Sections of the *PASB/WHO Manual* were also revised

as opportune, and the *PAHO/WHO Country Representative Manual* was prepared and issued.

Total staff strength at the close of business on 31 December 1963 was 965 (975 in 1962), including 17 temporary employees and 17 short-term consultants. Of the 931 regular staff members, 250 were stationed at Headquarters and 681 in the field. The turnover rate for 1963 was 14.5 percent.

The recruitment activity reflected the appointment of 457 persons during 1963. Forty-four professionals and 33 general services employees were appointed as regular staff members; of the remainder, 246 were consultants and 134 were conference and general services temporary employees hired during peak workload periods and organizational meetings.

Amendments to the PASB Staff Rules included the authorization of a repatriation grant for staff members losing service benefit and clarification of the transition arrangement on the payment of service benefit; establishment of new conditions for full participation in the UN Joint Staff Pension Fund; clarification of entitlements in case of death; extension of insurance coverage to staff members on special leave and of dental benefits to all participants of the revised staff health insurance scheme.

Life insurance coverage for temporary advisers, eliminating restrictions on helicopter flights to disaster areas and establishing a uniform premium rate for all flights, was negotiated under a nonscheduled-flight policy. Coverage by the life insurance plan, previously limited to certain professional and general services staff, was extended to all interested staff members. A major change planned in 1963, to become effective on 1 July 1964, is the extension of coverage to staff who retire after having participated in the plan for at least 10 years, at no cost to the staff member.

Local-wage-scale revisions were approved during 1963 for Azul and Buenos Aires, Argentina; Santiago, Chile; Panamá, Panamá; Montevideo, Uruguay; Bogotá, Colombia; Rio de Janeiro, Brazil; and Washington, D.C. The study carried out in the latter was coordinated by PASB/WHO for the UN agencies in the area and resulted in the adoption of a six-level scale for the Washington offices of all organizations adhering to the UN common system. Based upon the cost-of-living factors for each area, professional staff post classifications were also reviewed for Argentina, Brazil, the British Virgin Islands, Costa Rica, the Dominican Republic, Ecuador, Jamaica, Surinam, and Trinidad and Tobago as well as for El Paso, Texas, and Washington, D.C. This resulted in 24 post-classification adjustments: 21 upward and 3 downward.

Services and Supply

During 1963 the Supply service requested estimates on 4,427 line items and handled 1,623 shipments. It also processed 1,845 orders covering 9,124 line items and totaling \$1,633,676 (purchases made on behalf of Member Governments amounted to \$198,620, or 19.64 percent less than in 1962). In 1962, 1,831 orders involving \$1,773,016 were processed.

Requests from Member Governments against the Emergency Procurement Fund were given top priority and when at all possible shipments were effected within 24 hours. At the request of Governments, vaccine was procured as follows:

Country	Vaccine	Doses
Bolivia	Diphtheria-pertussis	10,000
Chile	Influenza	100,000
Costa Rica	Paratyphoid	5,000
Nicaragua	Poliomyelitis (oral vaccine)	100,000
	Diphtheria-pertussis	10,000
	Smallpox	100,000
Venezuela	Influenza	40,000

Donations of medical supplies worth \$29,200 were obtained on behalf of the Government of Haiti. This emergency procurement for hurricane relief was transported by Pan American Airways without charge.

In other activities, the 1963 outgoing mail increased 39.9 percent over the 1962 volume, due in great part to the meeting of the Task Force on Health. Printing and duplicating contracts totaled 1,225 for \$214,272, as against 1,178 for \$222,000 in 1962. All together, in all areas of procurement services, a slight increase was registered in 1963.

Meetings and Translating Services

The major difficulty in keeping pace with the increased flow of work related to meetings was in the field of translation. Translations delivered during 1963 were as follows: into English, 190 jobs with 1,415 pages; into Portuguese, 64 jobs with 485 pages; and into Spanish, 460 jobs with 6,266 pages. The 714 jobs delivered amounted to 8,166 pages of approximately 250 words a page.

The planning for, and the servicing of, the Task Force on Health at the Ministerial Level meeting was one of the most important assignments of the year. Because this gathering was immediately followed by the 48th Meeting

VI. ORGANIZATION AND ADMINISTRATION

TABLE 45. INTERNATIONAL MEETINGS CONVOKED BY OR AT WHICH PASB WAS REPRESENTED, 1963

- * Planning Conference for Research on Congenital Malformations. Washington, D. C., U.S.A., 3-7 January
- 31st Session of the WHO Executive Board. Geneva, Switzerland, 15-28 January
- Planning Conference on Epidemiological Research on Cancer in Latin America. Lima, Perú, 25 February-1 March
- 1963 World Conference of the Society for International Development. New York, N. Y., U.S.A., 4-6 April
- 2nd Mexican congress of public health. México, D.F., México, 4-10 April
- Task Force on Health at the Ministerial Level. Washington, D. C., U.S.A., 15-20 April
- 4th Caribbean Conference on Mental Health. Curaçao, Netherlands Antilles, 16-24 April
- 48th Meeting of the Executive Committee of PAHO. Washington, D. C., U.S.A., 22-27 April
- Inter-Regional Seminar on Public Health Aspects of Housing. Madrid, Spain, 22 April-1 May
- Seminar on nursing services. Paracas, Perú, 22 April-4 May
- * 21st Annual Meeting of the United States-México Border Public Health Association. Nogales, Arizona, U.S.A., 29 April-2 May
- * 4th International Rabies Conference. Nogales, Arizona, U.S.A., 2 May (one-day meeting)
- 9th Pan American Highway Congress. Washington, D. C., U.S.A., 6-18 May
- 16th World Health Assembly. Geneva, Switzerland, 7-25 May
- Seminar on dental health. San Salvador, El Salvador, 10-11 May
- 6th Congress of the Central America and Panamá Dental Federation. San Salvador, El Salvador, 12-15 May
- Seminar on the Central American Economic Integration and the Alliance for Progress. San José, Costa Rica, 27-29 May
- 32nd Session of the WHO Executive Board. Geneva, Switzerland, 27-29 May
- * 11th Meeting of Directors of National Malaria Eradication Services of Central America, México, and Panamá. San Jerónimo Lídice, Villa Obregón, México, 3-8 June
- World Food Congress. Washington, D. C., U.S.A., 4-18 June
- 3rd Meeting of the Regional Advisory Committee on International Classification of Diseases. Washington, D. C., U.S.A., 10-13 June
- Working Conference on Research, Graduate Education and Post-Doctoral Training in Departments of Preventive Medicine. Saratoga Springs, New York, U.S.A., 10-14 June
- * 3rd Meeting of Directors of National Malaria Eradication Services of South America. Bogotá, Colombia, 10-15 June
- 2nd International Congress on Medical Librarianship. Washington, D. C., U.S.A., 16-22 June
- * 2nd Meeting of the PAHO Advisory Committee on Medical Research, Washington, D. C., U.S.A., 17-21 June
- Meeting of the International Council of Women. Washington, D. C., U.S.A., 19 June-1 July
- 13th Congress of the International Confederation of Midwives. Madrid, Spain, 29 June-6 July
- Meeting of Ministers of Public Health of Central America and Panamá. San José, Costa Rica, 3-6 July
- 3rd Inter-American Meeting of Ministers of Education. Bogotá, Colombia, 4-10 August
- * Seminar on leprosy. Cuernavaca, México, 12-19 August
- 2nd Seminar on the Teaching of Preventive Medicine and Public Health in Schools of Veterinary Medicine of the Americas. México, D.F., México, 25-31 August
- 7th International Congress of Tropical Medicine and Malaria. Rio de Janeiro, Brazil, 1-11 September
- 2nd Latin American seminar on mental health. Buenos Aires, Argentina, 8-14 September
- Latin American meeting on crime prevention. Caracas, Venezuela, 8-18 September
- Seminar on the Status of Women in Family Law. Bogotá, Colombia, 10-23 September
- 8th International Conference on Leprosy. Rio de Janeiro, Brazil, 12-20 September
- 14th Meeting of the Directing Council of PAHO. Washington, D. C., U.S.A., 16-25 September
- 3rd Conference of Directors of Schools of Public Health in Latin America. São Paulo, Brazil, 22-28 September
- 49th Meeting of the Executive Committee of PAHO. Washington, D. C., U.S.A., 25 September (one-day meeting)
- Round-Table Conference on Medical Education in Latin America. New York, N. Y., U.S.A., 30 September-4 October
- Symposium on Plastics for Potable Water Supply Applications. Caracas, Venezuela, 21 October-2 November
- 2nd Annual Meeting of the Inter-American Economic and Social Council at the Expert Level. São Paulo, Brazil, 29 October-9 November
- 91st Annual Meeting of the American Public Health Association. Kansas City, Missouri, U.S.A., 11-15 November
- 2nd Annual Meeting of the Inter-American Economic and Social Council at the Ministerial Level. São Paulo, Brazil, 11-16 November
- American Assembly Regional Conference on the Population Dilemma. Warrenton, Virginia, U.S.A., 14-17 November
- 3rd National congress on children. San Salvador, El Salvador, 18-22 November
- Seminar on the Organization and Administration of Public Health Services. Kingston, Jamaica, 18-22 November
- Seminar on water supply design. São Paulo, Brasil, 18 November-14 December
- * 14th Meeting of the Council of INCAP. Guatemala, Guatemala, 25-29 November
- 12th Pan American Child Congress. Buenos Aires, Argentina, 1-7 December
- Nutrition seminar of the Inter-American Child Institute. Trujillo, Perú, 1-7 December
- Seminar on the training of nursing auxiliaries. Cuernavaca, México, 1-10 December
- 6th Pan American Congress on Pharmacy and Biochemistry. México, D.F., México, 8-13 December

* PASB contributed secretarial and simultaneous interpretation services.

of the Executive Committee, careful timing and coordination was required to meet the tight schedule imposed by the two consecutive events.

The Bureau convoked or was represented in 53 international meetings during 1963 (Table 45). In 1962 the corresponding number was 31.

ZONE AND FIELD OFFICES

The program of administrative rationalization continued progressing toward its final twin goals of centralization of administration and decentralization of technical operations. By the end of 1963 Headquarters had assimilated the administrative operations previously carried out in Zone I, II, III, and IV Offices. The transfer of accounting and financing operations connected with country and intercountry projects under the supervision of Zone V and VI Offices was scheduled for completion by 1 March 1964.

The decentralization of technical operations was continued throughout 1963. At the end of the year, 25 medical officers, either appointed Country Representative or

assigned to function in that capacity, were representing PAHO/WHO wherever the Bureau was operating.

The Country Representative is responsible for the full coordination of the PAHO/WHO program within a country, acting as the Organization's liaison with the Ministry of Health and public, private, national, or international agencies supporting health operations. His specific duties include collaboration in program planning with the Government as well as making recommendations for PAHO/WHO program-budgeting and reporting progress periodically to the Bureau. As further assistance to the Governments many of the PAHO/WHO Country Representatives have been trained in program planning, and most of those lacking such training were scheduled to receive it in 1964 (see Planning, Chapter I).

The former Zone Representatives, now Zone Chiefs, concentrate on the planning, directing, and evaluation of programs and on promoting the intrinsic role of health in national, social, and economic development.

The *PAHO/WHO Country Representative Manual*, issued during the year, defines all the aspects of the Organization's policy regarding decentralization. The *Manual* establishes the areas of responsibility of the PAHO/WHO Country Representative and Zone Chief and gives in detail the operating procedures to be followed in a dozen areas of activity.

VII. PROJECT ACTIVITIES

This chapter contains information on projects continued or begun in the Americas in 1963 with PAHO/WHO assistance. Country projects are arranged alphabetically, followed by AMRO (intercountry or inter-Zone), and by inter-Regional projects.

A *country-project* objective states the purpose for which it was undertaken by the Government concerned and is not related to the form or extent of PAHO/WHO assistance. An *AMRO-project* objective states the goal sought by the Organization.

Projects which include *Fellowships* in the title are those in which fellowships are considered as projects in themselves; other fellowships are shown under the title of the project of which they form a part.

Below each project description, the sources or sources of funds are shown at the left and the cooperating agencies, if any, at the right.

Acronyms and Corresponding Agencies

ACC	American Cyanamid Company	OAS	Organization of American States
AID	United States Agency for International Development (U.S.A.)	OAS/PTC	Program of Technical Cooperation
ALAFO	Latin American Association of Schools of Dentistry	PAHO	Pan American Health Organization
CREFAL	Regional Fundamental Education Center for Latin America	PAHO/CWSF	Community Water Supply Fund
EXIMBANK	Export-Import Bank of Washington	PAHO/SMF	Special Malaria Fund
FAO	Food and Agriculture Organization	SACFAN	Standing Advisory Committee on Food and Nutrition
FOCAP	Dental Federation of Central America and Panamá	SEMICA	Malaria Eradication Service of the Isthmus of Central America
IADB	Inter-American Development Bank	SNEM	National Malaria Eradication Service
ICNND	Interdepartmental Committee on Nutrition for National Defense (U.S.A.)	UN	United Nations
ILO	International Labor Organization	UNESCO	United Nations Educational, Scientific, and Cultural Organization
KF	W. K. Kellogg Foundation	UNICEF	United Nations Children's Fund
LL	Lederle Laboratories	UNSF	United Nations Special Fund
MARU	Middle America Research Unit (NIH, USPHS)	UN/TAO	Technical Assistance Organization
NIH	National Institutes of Health (USPHS)	USPHS	United States Public Health Service
NRC	National Research Council (U.S.A.)	WHO/MESA	World Health Organization, Malaria Eradication Special Account
		WHO/R	Regular Budget
		WHO/TA	Technical Assistance

ARGENTINA-3, Nursing Education

Objective: To strengthen the schools of nursing of the universities of Buenos Aires, Córdoba, Litoral (Rosario), and Tucumán and, since December 1963, the School of Nursing of the Army.

Probable duration: 1957-1966.

Assistance provided: 2 nurse educators and one 10½-month fellowship to study nursing education in Brazil.

Work done: Administration of the School of Nursing in Buenos Aires was transferred to the School of Medical Sciences and the University Council approved a new curriculum, higher admission requirements, and the granting of diplomas by the School of Nursing which, in December 1963, graduated 3 of its 27 students. Because improvement of the faculty has been one of the main objectives sought, the nurse adviser and members of the faculty made several observation visits to the school in Córdoba, which had had the benefit of permanent advisory services for several years, to observe the curriculum established there.

The position of the schools of nursing in the National Universities of Córdoba and of the Litoral (Rosario) was consolidated and now each has representation in the directing body of the respective university.

The curriculum of the School of Nursing of the National University of Tucumán was revised, a nurse-director was selected by competitive examination, and the rules and regulations of the school were drawn up. A program of orientation for the 5 instructors was carried out.

WHO/TA**ARGENTINA-4, National Institute of Microbiology**

Objective: To increase the efficiency and raise the scientific level of the work of this Institute.

Probable duration: 1959-1964.

Assistance provided: Advisory services by Headquarters staff, and laboratory equipment for the purification of smallpox vaccine.

Work done: A start was made on implementing the measures recommended by the short-term consultant. The Institute began active reorganization of all its services.

WHO/R**ARGENTINA-6, Fellowships for Health Services**

Awards	Field of study	Place of study	Months
4	Clinical and social pediatrics	Chile	3
1	Hospital administration	Brazil	11
1	Nursing services	Chile	3
1	Ditto	Brazil	3
1	Ditto	Puerto Rico	12
1	Nutrition	Guatemala, México	2¾
2	Ditto	Guatemala	11
1	Organization of medical education (pediatrics)	Chile	8
1	Public health administration (health education)	Puerto Rico	12
1	Ditto (occupational health)	Brazil	11
1	Ditto (sanitary engineering)	Ditto	11
1	Water supply design	United States of America	11½

WHO/R**ARGENTINA-7, Public Health Services (El Chaco)**

Objective: To organize the Provincial Health Service, to assist with the training of personnel, and to modernize health legislation.

Probable duration: 1957-1966.

Assistance provided: A chief medical officer was attached to the program until July, a sanitary engineer served throughout 1963, and a public health nurse was assigned to the program on 1 October; advisory services were also provided by the technical staff of the Zone VI Office and by the Zone consultant in hospital administration; and the following fellowships:

Awards	Field of study	Place of study	Months
1	Health education	Chile	6½
1	Internal medicine (liver diseases)	United States of America	4
1	Nursing services	Brazil	10½
3	Public health administration	Chile	10
1	Ditto (epidemiology)	Ditto	10
1	Ditto (sanitary engineering)	Brazil	11
1	Radiotherapy	Puerto Rico	6

Work done: A report covering 5 years of activity was prepared. The international personnel of the project will be transferred to other Provinces where they will give similar services to programs being carried out there. With a view to strengthening peripheral health services and for purposes of decentralization, the Ministry was reorganized. In the field of environmental sanitation, the activities of the Ministry of Public Health and other agencies

in the field of planning water supply projects were coordinated with a view to obtaining funds from abroad. Assistance was again given with the training of personnel, including nursing auxiliaries, school teachers, sanitarians, municipal inspectors, and dental assistants. A draft program was prepared for a Psychiatric Department to be built as an addition to the Regional Health Center Hospital.

WHO/TA

UNICEF

ARGENTINA-8, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1951-1970, when the consolidation phase is expected to be completed.

Assistance provided: 1 malariologist; antimalarial drugs; and a 3-month fellowship for an engineer to study malaria eradication techniques in Brazil.

Work done: In September the area in the consolidation phase covered 59,336 km² with a population of 580,000, and the area from which malaria had been eradicated covered 40,100 km² with a population of 1,004,000.

Owing to financial problems it was not possible to extend the attack operations with sufficient intensity throughout the area still infested. Regular half-yearly sprayings were carried out and covered 100 percent of the malarious area of both Salta and Jujuy provinces, but only 50 percent of the malarious area in the northwestern part of the country could be sprayed. A total of 101,369 sprayings were made in two half-yearly cycles; 54,742 houses were sprayed during the first cycle, and 46,627 houses during the second.

During the same period 157,410 blood films were examined, of which 845 were positive. Of these, 4 cases came from areas in the maintenance phase (2 imported from still malarious areas in the country and 2 induced), and 11 came from areas in the consolidation phase (2 autochthonous, 6 imported from still malarious areas in the country, and 3 could not be classified).

PAHO/SMF

UNICEF

ARGENTINA-13, Fellowship for Health Services

One 10-month fellowship to study organization of maternal and child health services in Chile.

PAHO

ARGENTINA-17, School of Public Health

Objective: To strengthen the teaching staff of the School of Public Health of the University of Buenos Aires.

Probable duration: 1958-1967.

Assistance provided: 4 short-term consultants.

Work done: The consultants provided advisory services in the teaching of epidemiology, biostatistics and hospital administration.

WHO/R

ARGENTINA-18, Medical Education

Objective: To modernize the curricula of medical schools in Argentina, with emphasis on preventive medicine.

Probable duration: 1958-1964.

Assistance provided: A short-term consultant.

Work done: A professor of physiology assisted the authorities and faculty members of the School of Medicine of the University del Salvador, in Buenos Aires, in planning and organizing the Department of Physiology of that School.

WHO/R

UNICEF

ARGENTINA-20, Tuberculosis Control

Objective: To organize and develop in the demonstration area of the Province of Santa Fe a National Anti-tuberculosis Center for the application of practical methods of tuberculosis control; for the investigation of various technical and practical aspects of the disease; and for the training of national and international personnel.

Probable duration: 1960-1966.

Assistance provided: Advisory services through short-term consultants, by Zone VI Office staff, and by the Regional Adviser in tuberculosis; one 12-month fellowship for studies in public health administration in Puerto Rico.

Work done: Evaluation of accomplishments in relation to operational targets were continued, as were several studies aimed at obtaining information on the performance of personnel in all categories. Partial BCG vaccination programs were prepared and evaluated, activities were expanded through the so-called "peripheral dispensaries" in rural areas, and studies concerning the administrative aspects of hospital care were encouraged and carried out. At the end of the year, the Center participated in the Argentine Tuberculosis Congress and gave a

VII. PROJECT ACTIVITIES

report on the valuable experience it had gained in the course of its operation.

Photofluorograms were made of 49,369 persons, of which 36,813 were made at the Center and 12,556 by mobile units. The number of new cases discovered was 495, and the total number of patients under supervision at 31 December 1963 was 628. There were 563 cases undergoing domiciliary treatment and 65 were hospitalized. Other work included: direct microscopy examinations, 4,711; cultures, 4,701; tuberculin tests read, 45,346; and BCG vaccinations administered, 25,933.

As to the performance of personnel and bed utilization, the data obtained were as follows: average number of consultations per physician per hour, 6.7; average number of visits per nurse per day, 5.7; bed-occupancy rate, 66.1 percent; and average number of days of stay in hospital per patient, 227.4.

Budgetary difficulties prevented having the course for physicians this year.

WHO/R

UNICEF

ARGENTINA-24, Planning and Organization of Hospital Services

Objective: To continue the studies and investigations on medical care problems, the resources available, and the organization of medical care and health establishments, and to train personnel in hospital organization and administration.

Probable duration: 1958-

Assistance provided: Advisory services by the consultant of project AMRO-304; one 3-month fellowship to study hospital construction in Chile, Perú, Colombia, México, Puerto Rico, and Brazil.

Work done: Advisory services were given in the matter of personnel training, hospital organization, hospital architecture, studies for the completion, transformation, or remodeling of hospitals, statistics, and financing sources.

PAHO

ARGENTINA-25, Training of Nursing Personnel

Objective: To train professional and auxiliary nursing personnel in order to improve public health services in the country.

Probable duration: 1960-1968.

Assistance provided: A nurse educator.

Work done: Training centers were established and 9-

month courses were given in the cities of Buenos Aires, La Plata (Buenos Aires), Rosario (Santa Fe), Córdoba, Tucumán, Resistencia (El Chaco), and San Juan. Seventeen instructors prepared 165 nursing auxiliaries. A seminar to evaluate this program after its 2 years of operation was attended by 45 nurses associated with the program. The cost of the seminar was covered locally. The guide for the training of nursing auxiliaries in Argentina was revised, and modifications approved by the group were put into operation during the year.

PAHO

UNICEF

ARGENTINA-27, Mental Health

Objective: To study the program of psychiatric care for the Province of Mendoza.

Place and duration: Mendoza, Argentina, from 19 to 31 August 1963.

Assistance rendered: One temporary adviser.

Work done: The consultant visited the provincial psychiatric services, studied hospitalization, ambulatory care, and professional training needs. The report, together with recommendations, was transmitted to the provincial authorities.

PAHO

ARGENTINA-28, Leprosy Control

Objective: To organize and initiate a national leprosy control program that includes pertinent evaluation procedures.

Probable duration: 1960-1965.

Assistance provided: Technical advisory services by the leprosy consultant assigned to Zone VI (AMRO-305).

Work done: In 1963 the work included the four pilot demonstration zones provided for in the plan of operations, namely: Entre Ríos, Misiones, Greater Buenos Aires, and Tucumán.

Up to October 1963, 624 cases were dropped from the register of the Entre Ríos pilot zone because of death, change of address, clinical cure, or because they could not be traced. Four hundred and forty-three patients were traced and these with 291 new cases made a total of 734 cases for the Province. The number of contacts was 4,098, of which 3,354 are under surveillance.

Work in Misiones Province started in June and up to October 329 former patients were traced and 139 new cases diagnosed; 492 patients had yet to be traced.

During the year, 3,035 persons living in temporary shel-

ters in one of the northern parts of Greater Buenos Aires were examined, and 11 new leprosy cases were found. Preparations for the campaign were carried out throughout the zone and it is planned to begin control operations early in 1964 by tracing already registered cases, the epidemiological investigation of foci, and mass examination of the population living in all the temporary shelters of the zone or about 60,000 persons.

Preparations were also made for the campaign to be conducted in the pilot zone of Tucumán, and assistance was given to the leprosy campaign in El Chaco Province.

A complete new system of leprosy data recording was tested in Entre Ríos Province with a view to its gradual expansion to the remaining leprogenous area of the country.

Assistance was also given with a training course for medical and auxiliary personnel in cooperation with UNICEF (see project AMRO-305).

PAHO

UNICEF

ARGENTINA-29, Promotion of Community Water Supplies

Objective: To assist in the formulation and execution of plans for the construction and expansion of water supply and sewage disposal systems.

Probable duration: 1961-1967.

Assistance provided: Short-term consultants and services of the engineering staff of Headquarters and Zone VI, and fellowships as follows

Awards	Field of study	Country of study	Months
1	Environmental sanitation	Colombia	1
1	Ditto	Ditto	2½

Work done: Assistance was continued to the authorities of the Provinces of El Chaco and San Juan in formulating a provincial water supply program to be financed possibly by an international credit agency. In response to the request of the National Sanitary Works Administration, a consultant was supplied to study the sewerage system and sewage treatment in the metropolitan area of greater Buenos Aires. Preliminary studies were made to determine the magnitude of the water supply and sewage disposal problem in the Province of Mendoza. Negotiations were continued with the IADB with a view to obtaining a loan to finance the extension of the water supply services to Lanús County (population 300,000), in the Province of Buenos Aires.

PAHO/CWSF

ARGENTINA-30, Sanitary Engineering Education

Objective: To assist the School of Sanitary Engineering of the national University of Buenos Aires to train sanitary engineers and to improve the teaching of sanitary engineering.

Probable duration: 1961-1965.

Assistance provided: Advisory services through the personnel of Headquarters and Zone VI; short-term consultants; laboratory equipment and material.

Work done: A preliminary review was made of the curriculum of the School in order to improve the teaching of the basic sanitary engineering subjects. With the assistance of a short-term consultant, a first draft was made of an application for assistance to be submitted to the United Nations Special Fund. The Organization sent the School laboratory equipment and material to the value of approximately \$5,000.

PAHO/CWSF

ARGENTINA-32, Health Statistics

Objective: To develop an integrated program of vital statistics in the Province of Buenos Aires; to establish a coordinated program among provincial agencies concerned with statistics, to be used for demonstration purposes and for the field practice of personnel undergoing training in statistics.

Probable duration: 1960-1965.

Assistance provided: Advice of statistical consultant of Zone VI and a short-term consultant.

Work done: The Zone consultant continued to give advisory service for the development of this program and a short-term consultant provided advisory services and instruction at the School of Public Health of the national University of Buenos Aires and to other schools and agencies.

PAHO

ARGENTINA-35, Public Health Services (San Juan)

Objective: To carry out a program of integrated health services in the Province of San Juan.

Probable duration: 1961-1966.

Assistance provided: 1 chief medical officer up to July, 1 public health nurse and 1 sanitary engineer throughout the year; advisory services and supervision by the technical personnel of Zone VI Office.

VII. PROJECT ACTIVITIES

Work done: Since the program was begun in 1961, a Provincial Health Service has been set up under a single technical and administrative authority, and the pertinent regulations and health code governing its operations have been issued. Progress was made with the appointment of health officers and personnel training. Five health regions comprising 26 districts have been established. In the provincial capital, attention was given to the central departments and, in the field, primarily to the Rawson and San Roque Hospitals. Key medical personnel were appointed. There are now 57 full-time staff members, including 14 physicians, 10 nurses, and 25 sanitarians. During the year, progress was made in decentralization; the Eastern Health Region, Valle Fértil, was organized; and some success was obtained in integrating the health activities of 57 centers of the provincial health services. The premises available to the school for auxiliary nurses were improved. Training to enable them to serve in public health services was given to 29 nursing auxiliaries, 27 assistants to social workers and 35 to statisticians, and 13 dental assistants. Since the initiation of the program, 379 persons have been trained. The international personnel of this project gave assistance every week to the health authorities of Mendoza Province.

PAHO

UNICEF

ARGENTINA-38, Training in Hospital Statistics

Objective: To organize centralized departments of statistics and of medical records in hospitals of the city of Buenos Aires to develop a training program, using some of the departments as demonstration areas; and to prepare professional hospital personnel in this field.

Probable duration: 1963-1965.

Assistance provided: Consultant services by the medical records librarian assigned to AMRO-156.

Work done: The Ramos Mejía Hospital was selected for the demonstration area. A unit medical record was initiated. The International Classification Adapted for Diagnostic Indexing was put in use. Classes were given to hospital residents and other department personnel. Fifteen of the 27 students who attended the intermediate level statistics course at the School of Public Health of the national University of Buenos Aires received their field training at the Ramos Mejía Hospital. In July a census of beds and of several services was made in municipal hospitals. Inpatient record forms were developed for gradual introduction into municipal hospitals. In August statistical departments were created in all municipal hospitals.

PAHO

ARGENTINA-51, *Aedes aegypti* Eradication

Objective: To eradicate *A. aegypti*.

Probable duration: 1950-1963.

Assistance provided: Advisory services by staff of Zone VI Office.

Work done: Eradication operations were completed. All the area presumably infested has been covered, and the 165 localities initially found positive are now negative. Before the mosquito can be considered eradicated, however, a special verification must be made.

PAHO

BAHAMAS-3, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Cytology	United States of America	6
1	Medical technology	Jamaica	11

WHO/R

BOLIVIA-4, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1957-1966, when the consolidation phase is expected to be completed.

Assistance provided: 1 malariologist, 1 sanitary engineer, and 2 sanitary inspectors; antimalarial drugs, and a limited amount of supplies and equipment.

Work done: The eradication program enjoyed considerable success. The cooperative efforts of the Government, the Organization, AID, and UNICEF made it possible to organize and maintain a well-disciplined and well-administered service.

By late 1963 the area in the consolidation phase covered 619,540 km² with a population of 1,178,302, or 75.1 percent of the area and 90.2 percent of the population residing in the originally malarious area.

There were 67,510 sprayings performed, corresponding to the end of the 9th cycle, the 10th half-yearly cycle, and the first 3 months of the 11th cycle.

Epidemiological surveillance operations and evaluation increased. A total of 176,019 blood films were examined during the year, of which 2,345 (1.33 percent) were positive. According to the information available (January to August) 104 of the positive films came from areas in the consolidation phase, with the following results after investigation: 18 autochthonous cases, 1 relapse, 73 cases imported from still malarious areas in the attack phase in the country, 2 introduced, and 10 not classified.

On the initiative of the Minister of Public Health a border meeting was held at the end of 1963 with the Minister of Health of Brazil, with a view to coordinating malaria activities on the extensive frontier of the two countries. Bolivia's malaria campaign has reached the frontier with Brazil, where the campaign has yet to cover a large part of that area.

Persistence of malaria transmission in Bolivia is practically confined to the northern area, in the region of the Amazon Valley, where poor communication facilities make both work and supervision more difficult.

Furthermore, it must be borne in mind that the country is not covered by a network of suitable medical care services, particularly in the originally malarious area. The notification-post network organized by the National Malaria Eradication Service (SNEM) is therefore in the hands of volunteer collaborators, and this activity is supplemented by active case-finding.

PAHO/SMF, WHO/TA

AID, UNICEF

BOLIVIA-5, Nursing Education

Objective: To strengthen nursing education in order to improve the public health services of the country.

Probable duration: 1953-1964.

Assistance provided: A nurse educator and one 12-month fellowship to study public health nursing in Puerto Rico.

Work done: The program of the National School of Nursing reached a degree of stability and emphasis turned to the improvement of the Schools of Nursing and Midwifery of the Universities of Tarija and Sucre and of the Mining Corporation of Bolivia.

To prepare instructors for all the schools of nursing in the country a 6-month course was carried out under auspices of the Ministry of Public Health. Four courses were held to train nursing auxiliaries: at the Ministry's School for Public Health Technicians; the city of Oruro; the Province of Riberalta; and in Pillapi, where personnel is being prepared for work with the rural Andean population.

A nurse educator was appointed to the Department of Nursing, within the Ministry of Public Health. By December 1963, national nurses were almost fully prepared to carry on the programs.

WHO/R

BOLIVIA-7, Tuberculosis Control

Objective: To organize in the northern part of the Bolivian Plateau a demonstration area consisting of the

Provinces of Omasuyos, Manco Kapac, Camacho and part of the Provinces of Ingavi and of Los Andes to obtain epidemiological information; apply and evaluate practical methods of tuberculosis control; and train medical and auxiliary personnel for the gradual extension of the program to other areas of the country.

Probable duration: 1963-1968.

Assistance provided: Technical advisory services by the tuberculosis consultant assigned to Zone IV; one 6-month fellowship for studies, in México, on the laboratory aspects of tuberculosis pathology.

Work done: Preparation of the Tripartite Plan of Operations up to its final stage. Training was given to the physician who will be in charge of the program and to a nurse. Program activities began in December 1963.

WHO/TA

UNICEF

BOLIVIA-8, Smallpox Eradication

Objective: To complete the vaccination campaign, begun by the Government in 1957, in order to extend protection to 80 percent of the population.

Probable duration: 1962-1965.

Assistance provided: Technical advisory services by the staff of Zone IV Office and of other projects in Bolivia; a full-time sanitary inspector to assist national personnel to organize and conduct field activities; and the following fellowships:

Awards	Field of study	Country of study	Months
1	Smallpox eradication	Ecuador	1
1	Smallpox vaccine production	Perú	1½

Work done: From the reinitiation of the campaign in August 1963 up to 31 December, 419,845 persons were vaccinated.

WHO/TA

BOLIVIA-10, Public Health Services

Objective: To improve the national health services both at the ministerial and at the local level, and to train technical personnel.

Probable duration: 1955-1969.

Assistance provided: 1 chief medical officer, 1 sanitary

VII. PROJECT ACTIVITIES

engineer, and 1 public health nurse; and the following fellowships:

Awards	Field of study	Place of study	Months
1	Clinical and social pediatrics	Perú	1
1	Organization of medical education (human anatomy)	Brazil	5½
1	Radiology (use of radioactive isotopes in clinics and medical investigation)	Puerto Rico	6

Work done: A Planning, Research and Evaluation Office was set up in the Ministry of Health. The Senate approved a bill creating the National Health Service which will integrate all health activities at present distributed among various independent state agencies. The 2-year health plan was approved as part of the Ten Year Plan following a recommendation of the Committee of Nine of the Alliance for Progress. Technical standards for sanitary engineering were prepared. Preliminary work on a rural sanitation plan in Taraco was begun, and the projects for Ñacoca and Tambi Chico were completed. The National Nursing Department was reorganized. A guide for the in-service training of nurses was prepared and is being used. A course was held for 60 nursing auxiliaries.

PAHO

AID, UNICEF

BOLIVIA-11, National Plan for Rural Development

Objective: To accelerate the development of the rural population of the Andean Highlands, including health, in order to facilitate its integration into national life.

Probable duration: 1953-

Assistance provided: 1 medical officer and the sanitary engineer and public health nurse of project Bolivia-10.

Work done: With the arrival of supplies provided by UNICEF, environmental sanitation work in communities on the banks of Lake Titicaca and in Otavi was begun. In the last-mentioned locality, a sanitary workshop is being built. Training was provided for rural school teachers, nursing auxiliaries, and homemakers. At the end of the year, the IADB approved a loan for the extension of the program to other rural areas.

WHO/TA

FAO, ILO, UN, UNESCO, UNICEF

BOLIVIA-15, Promotion of Community Water Supplies

Objective: To assist the Government to reorganize the national program of public water supply and to formulate plans for municipal water systems.

Probable duration: 1960-

Assistance provided: 1 short-term consultant and engineering personnel from Zone IV and a short-term fellowship for studies in environmental sanitation in Perú.

Work done: The consultant assisted in the organization of the Bolivian Sanitary Works Agency. An application for a loan of \$4,700,000 for the financing of water supply systems in La Paz, Cochabamba, and Oruro is still pending with the IADB. The Government signed a contract with a German consortium for the study of various engineering projects, including water supply systems for La Paz, Cochabamba, Oruro, Santa Cruz and other cities.

PAHO/CWSF

BOLIVIA-16, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Environmental sanitation (sanitary inspection)	Chile	5½
1	Public health administration (dental care and hygiene)	Brazil	11
1	Ditto (hospital administration)	Ditto	14

WHO/R, NIH

BRAZIL-3, Public Health Services (Northeast States)

Objective: To promote the development of general health services in certain areas in 9 States in the northeastern part of Brazil.

Probable duration: 1958-1968.

Assistance provided: 1 medical officer, 1 specialist in medical statistics, and 1 sanitary engineer; and the following fellowships:

Awards	Field of study	Country of study	Months
1	Nutrition	Guatemala	11
1	Organization of medical education (pediatrics radiology)	United States of America	6

Work done: AID began a program to assist the States of northeastern Brazil in the field of public health. This aid was channeled through programs already

in existence, and thus AID became associated with the organizations which were engaged in these programs.

The statistician attached to the project assisted in establishing a system for the collection of data for the registration of communicable diseases in the region. Data covering 4 provisional registration areas were completed for publication; similar data for the States of Rio Grande do Norte and Alagoas are being prepared.

WHO/R **AID, UNICEF**

BRAZIL-7, Nutrition

Objective: To develop a program of nutrition education and related activities in Northeast Brazil.

Probable duration: 1960-1966.

Assistance provided: The services of a consultant assigned to project AMRO-165 and advisory services from Zone V Office staff.

Work done: Joint discussions were held with FAO, UNICEF and the national authorities and work was done on agreements on applied nutrition programs for the States of Paraiba and Rio Grande do Norte. Pending signature of these, general discussions on the project were held in João Pessoa with the Governor and the Secretary of Health of the State of Paraiba. The scope and the possibilities of integrating nutrition activities into the state health services were discussed. In the State of Rio Grande do Norte, several training courses in nutrition were held during the year, for the benefit of the personnel from the State Departments of Health, Education, and Agriculture.

PAHO **FAO, UNICEF**

BRAZIL-8, National Virus Laboratory Services

Objective: To assist in the establishment of laboratory facilities for the diagnosis of virus diseases, the development of research programs, and the production of vaccine in the Oswaldo Cruz Institute.

Probable duration: 1959-1967.

Assistance provided: A consultant in virology; laboratory supplies and equipment; periodical publications for the library, and one 12-month fellowship for studies in virology in the United States of America.

Work done: Techniques for the isolation and typing of enteroviruses were worked out. Research programs carried out included the study of strains of continuous culture cell lines; the production of antisera for the diagnosis of 62 types of enteroviruses, in a collaborative

program with the Adolfo Lutz Institute; and the elaboration of simplified techniques for the diagnosis of enteroviruses. Further progress was made in the training of local personnel.

WHO/TA **ACC**

BRAZIL-24, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1958-1971, when the consolidation phase is expected to be completed.

Assistance provided: 2 malariologists, 3 sanitary engineers specialized in malaria, 1 administrative methods consultant, 1 engineering assistant, and 2 sanitary inspectors; antimalarial drugs for preventive and curative treatment.

Work done: The program called for the entire country to be in the attack phase by the end of 1960, but at the end of 1963 the plan was behind schedule owing to lack of sufficient funds. In 1963, however, the Government approved sufficient funds for antimalarial work in 1964 to ensure total coverage for the entire country by early July, so that a large part of the time lost will be made up.

During the first semester, 1,719,067 houses were sprayed with DDT, and 2,006,726 during the second semester or a total of 3,725,793.

Epidemiological operations continued improving, although rather slowly. Between January and November 788,269 blood films were examined, of which 103,043, or 13.1 percent, were found to be positive.

The vastness of the territory and the difficulty in communication with remote areas of the country delay obtaining statistics of the work accomplished. A possible solution to this problem is now under study.

PAHO/SMF **AID**

BRAZIL-28, Fellowship for Health Services

One 3¾-month fellowship to study radiology (radiochemistry) in the United States of America.

PAHO

BRAZIL-31, Rehabilitation

Objective: To reorganize the Department of Occupational Therapy of the Institute of Rehabilitation at the University of São Paulo; and to organize training courses and rehabilitation centers throughout the country.

Probable duration: 1958-1961; 1963-1965.

VII. PROJECT ACTIVITIES

Assistance provided: Consultant services by the Regional Adviser in rehabilitation.

Work done: A 4-month course was organized to teach to Brazilian and other Latin American students the techniques of fitting and assembling orthopedic braces. Studies were made to expand the rehabilitation services of the National Department of Social Security.

WHO/TA

ILO, UN/TAO

BRAZIL-35, School of Public Health (São Paulo)

Objective: To strengthen the School of Hygiene and Public Health of the University of São Paulo, with emphasis on its use as an international teaching center.

Probable duration: 1958-1965.

Assistance provided: A short-term consultant; supplies and equipment; a grant to help defray the cost of salaries of the teaching personnel at the Araraquara field training center, and another to compensate for tuition to PASB fellows; and the following fellowships:

Awards	Field of study	Country of study	Months
1	Organization of public health teaching (dental public health)	United States of America	5¼
1	Ditto (nutrition)	Guatemala	4¼
1	Ditto (public health nursing)	Chile, Colombia, Perú	2
1	Ditto (statistics)	United States of America	12

Work done: The School continued to be used by the Organization as an international training center for fellows from Latin America.

WHO/R

BRAZIL-37, Teaching of Public Health Dentistry

Objective: To train dentists who are following the regular public health courses at the School of Hygiene and Public Health in São Paulo, Brazil, in specific fields of dentistry; to help the School to build up a faculty with training in teaching and research in public health dentistry.

Probable duration: 1958-1966.

Assistance provided: Advisory services provided by Headquarters staff.

Work done: Assistance was given to the School in revising specialized public health dentistry programs. Surveys were made on the prevalence of dental caries,

periodontal disease, oral hygiene, and fluorosis in school children, and some research projects were initiated.

PAHO

KF

BRAZIL-38, Smallpox Eradication

Objective: To set up laboratories to produce sufficient lyophilized vaccine to meet the needs of the national smallpox eradication campaign.

Probable duration: 1956-1967.

Assistance provided: Technical advisory services by Headquarters staff and staff of the Zone V Office; supplies and equipment.

Work done: 6,432,000 doses of glycerinated and 14,485,000 doses of lyophilized vaccine were produced.

PAHO

AID

BRAZIL-39, Public Health Services (Mato Grosso)

Objective: To improve the public health services of Mato Grosso by improving the central organization, regionalization, technical supervision, and personnel training.

Probable duration: 1959-1969.

Assistance provided: 1 medical officer and 1 public health nurse.

Work done: At the end of 1963 the Dourados project which had been in operation since 1960 was brought to a close; the medical officer and the nurse were transferred to Cuiabá, the State capital. Preliminary work was done on a plan to extend these activities to the whole State.

The objectives of the integrated health plan for the Dourados district, as laid down in the tripartite agreement, were in large measure attained. They included the training of officials, within the country, and the provision of fellowships for the public health training of 2 medical officers and a nurse abroad. Training courses were held for health visitors, sanitation aids, laboratory assistants, nursing auxiliaries, and midwives. A health center, 5 health posts, and 5 dispensaries were established and remained in operation. In the period 1960-1963, 92,099 persons were immunized.

PAHO

UNICEF

BRAZIL-41, Malaria Eradication (São Paulo)

Objective: To eradicate malaria.

Probable duration: 1958-1967, when the consolidation phase is expected to be completed.

Assistance provided: 1 sanitary engineer specialized in malariology and 2 sanitary inspectors; antimalarial drugs and a limited amount of supplies and equipment.

Work done: Areas in the consolidation phase were increased, and at year's end totaled 145,829 km² with a population of 1,256,412.

Of the houses sprayed, 366,817 corresponded to the 7th cycle and 316,322 to 5 months of the 8th cycle. Blood films examined totaled 384,993, of which 2,207 were found positive. Regrettably there are no separate data available for areas in the attack phase and those in the consolidation phase. Of the positive cases found, 1,575 of the 1,772 corresponding to January-September were investigated and classified as: 109 autochthonous, 236 relapses, 1,139 imported from other malarious areas in the country, 35 introduced; and 2 induced; 4 could not be classified.

As may be seen, there were only 109 autochthonous cases recorded in the State, but the number of cases imported from other malarious areas in the country is alarming. Only when the national campaign is in operation, especially in the malarious areas of the States bordering on São Paulo, will it be possible to prevent reinfection of the area from which malaria has been eradicated.

PAHO/SMF

AID

BRAZIL-42, Rabies Control

Objective: To develop national and State health services to produce vaccines and carry out rabies control programs.

Probable duration: 1959-1966.

Assistance provided: Consultant services by the Zone V veterinary public health adviser.

Work done: A health and agriculture bimistry rabies committee was formed. This national service endeavors to stimulate continuous and more extensive rabies control programs, to help establish reliable diagnostic services and, above all, to supervise the production of all rabies vaccine in the country. A national rabies laboratory for reference diagnosis and vaccine control work was established at the Oswaldo Cruz Institute and efforts were being made to equip and staff this laboratory. Vaccine production strains of virus and standard rabies vaccine were provided by the Pan American Zoonoses Center.

WHO/R

BRAZIL-43, Teaching of Preventive Dentistry

Objective: To assist the dental schools of Brazil to develop their teaching programs in the field of preventive and social dentistry.

Probable duration: 1963-1966.

Assistance provided: Advisory services of Headquarters staff.

Work done: Advisory services were provided to the dental schools of São Paulo, Piracicaba, and Aracatuba in the organization of their new departments of preventive and social dentistry.

PAHO

BRAZIL-44, Teaching of Public Health in Schools of Veterinary Medicine

Objective: To improve the teaching of public health and related subjects in the 8 schools of veterinary medicine in the country.

Probable duration: 1960-1966.

Assistance provided: Consultant services by Zone V veterinary health adviser.

Work done: Microbiological agents and standards were furnished to different schools during the year, as were technical reference material and publications. Included in the latter were *Standard Methods for Analysis of Dairy Products* in Spanish (*Normas para el examen de los productos lácteos, Scientific Publication PAHO 84*) and *Control of Communicable Diseases in Man* in Portuguese (*Profilaxia das Doenças Transmissíveis, Scientific Publication PAHO 51*). Reference and identification laboratory services were provided to some of the schools by the Pan American Zoonoses Center.

PAHO

BRAZIL-48, Leprosy Control

Objective: To intensify and expand the Government leprosy control program by using modern methods and techniques; to gradually incorporate leprosy control activities into the general health services; to train the professional and auxiliary personnel needed for the program.

Probable duration: 1962-1967.

Assistance provided: Advisory services by Headquarters personnel; laboratory equipment.

Work done: The activities of this project continued without major changes, many of them were affected by restrictions which the administration put into effect.

VII. PROJECT ACTIVITIES

A total of 2,774 new leprosy cases were diagnosed during the year. There are at present 104,398 registered cases in the country, of which 47,167 are under medical supervision. Of the 164,382 known contacts only 73,290 are under surveillance.

PAHO

UNICEF

BRAZIL-49, Promotion of Community Water Supplies

Objective: To aid in drawing up plans for water supply systems.

Probable duration: 1962-1965.

Assistance provided: Personnel from Headquarters and Zone V.

Work done: Assistance was again given to various States and municipalities in the planning and execution of programs for the construction of water supplies. Collaboration was begun with the Northeastern Development Superintendency (SUDENE) in the northeastern part of the country through 2 consultants who began a study of the situation in 6 towns which have received loans from the IADB. Up to the end of 1963, Brazil had obtained loans from the IADB to the value of 54 million dollars and from AID in the amount of 12 million dollars for programs for the expansion of water supplies and sewerage systems.

PAHO/CWSF

BRAZIL-51, Yellow Fever Laboratories

Objective: To support the Continent-wide campaign against yellow fever by providing diagnostic services and supplying yellow fever vaccine.

Probable duration: 1950-1964.

Assistance provided: An annual grant.

Work done: The Oswaldo Cruz Institute produced 4,743,000 doses of yellow fever vaccine and examined 1,505 liver specimens for diagnostic purposes. Of the vaccine produced, 74,000 doses were supplied to Argentina, 150,000 to Bolivia, 42,000 to Uruguay, 280,000 to Venezuela, 50,000 to Portugal, and 1,000 to the Cape Verde Islands.

PAHO, NRC

BRAZIL-55, Tuberculosis Control

Objective: To organize in the State of Rio Grande do Norte a demonstration area to obtain epidemiological

information, apply and evaluate practical methods of tuberculosis control, and train medical and auxiliary personnel for the gradual extension of the program to other areas of the country.

Probable duration: 1961-1965.

Assistance provided: Technical advisory services by Zone V Office staff and by the Regional Adviser on tuberculosis.

Work done: Work was continued on the preparation of the Tripartite Plan of Operations, which was completed at the beginning of November 1963.

WHO/R

UNICEF

BRAZIL-59, Teaching of Preventive Medicine (University of Ceará)

Objective: To reorganize the curricula and modernize teaching at the Institute of Preventive Medicine of the Medical School of the University of Ceará.

Probable duration: July 1963-1966.

Assistance provided: A public health nurse-consultant; printed material.

Work done: The Institute reorganized its teaching program, which now includes work with families in their homes.

PAHO

BRAZIL-60, Nursing Education (Recife)

Objective: To develop in the School of Nursing of the University of Recife a center for postgraduate nursing education which will serve the North and Northeast regions of Brazil.

Probable duration: 1963-1964.

Assistance provided: A nurse-educator for 6 months.

Work done: In preparation for the organization of a 6-month course to be held in 1964, a 5-week workshop on nursing service administrative problems was held in August and September. The participants included 45 nurses from the University Hospital and from the two schools of nursing in Recife which use the hospital for their students' clinical experience. The workshop provided an opportunity for the nurses to plan jointly for the improvement of the hospital nursing service and of its use for training practice.

WHO/R

BRAZIL-61, Nutrition Course for Physicians (Recife)

Objective: To establish facilities for the training of physicians in the field of public health nutrition at the Institute of Nutrition of the University of Recife.

Probable duration: 1963-1966.

Assistance provided: Advisory services through Zone V Office staff and an annual grant to the Institute.

Work done: A one-month course in public health nutrition was conducted at the Institute of Nutrition, University of Recife, during July-August 1963. A total of 19 trainees attended the course, of which 8 were physicians from state health services, 6 members of the staff of medical schools, and 5 final year medical students. They were drawn from 4 states of the Northeast of Brazil: Pernambuco, Paraiba, Rio Grande do Norte and Bahia. The course consisted of theoretical lectures, practical demonstrations, field visits and discussions and seminars on the important nutritional problems of the area. Requests to arrange similar courses in other universities were being processed at the end of 1963.

PAHO

BRAZIL-63, Training of Nursing Auxiliaries

Objective: To increase the number and improve the quality of the training of nursing auxiliaries in the country.

Probable duration: April 1963-1967.

Assistance provided: Consultant services by the Zone V nurse adviser.

Work done: A 2-week seminar was held in June for the directors and faculties of 11 nursing schools in North and Northeast Brazil. The participants of the seminar prepared a proposed minimum curriculum for the training of nursing auxiliaries and a preliminary plan for the organization of intensive courses in teaching and supervision for nursing instructors and supervisors, to be held in Recife.

PAHO

UNICEF

BRAZIL-64, Pediatric Education (Recife)

Objective: To improve the teaching of pediatrics in the School of Medicine of the University of Recife and to extend teaching activities to other areas, outside the regular medical courses.

Probable duration: October 1963-1968.

Assistance provided: A short-term consultant, professor of pediatrics.

Work done: The consultant assisted the University authorities in planning the teaching of pediatric courses in the School.

PAHO

UNICEF

BRAZIL-66, Research on Protein Foods

Objective: To assist the Institute of Physiology and Nutrition of the School of Medicine of the University of Recife in experimental work on local vegetable foods rich in protein, and to study nutritional conditions in children.

Probable duration: 1962-

Assistance provided: Advisory services by Zone V Office staff.

Work done: The work now being carried out includes: laboratory studies with vegetable protein mixtures based on local foods like macaçar bean, cashew nut, etc., as compared with skim milk diet; ocular development anomalies in albino rats at 10 percent level of protein feeding, and study of long-range effects of vegetable protein feeding as reflected in reproduction and growth and development of the offspring.

PAHO, NRC

BRAZIL-68, Control of Air Pollution and Water Pollution

Objective: To help the city of São Paulo, neighboring municipalities, and the State of São Paulo to plan and execute programs for the control of air pollution and water pollution.

Probable duration: 1962-1964.

Assistance provided: Short-term consultants, laboratory equipment, and fellowships.

Work done: A short-term consultant investigated the air pollution problem and the possibilities of establishing a laboratory in the São Paulo area. Another consultant paid a 2-month visit in order to study the problem of water pollution in the São Paulo area.

WHO/TA

BRAZIL-200, Fellowships for Health Services

<i>Awards</i>	<i>Field of study</i>	<i>Place of study</i>	<i>Months</i>
1	Clinical and social pediatrics	Perú	1
1	Health education	Puerto Rico	12

VII. PROJECT ACTIVITIES

1	Laboratory services (tissue culture arboviruses)	United States of America	4
1	Nutrition	Guatemala	11
1	Organization of medical education (pedagogic methods)	United States of America	1
1	Speech rehabilitation	Argentina	4

WHO/R

BRAZIL-201, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Organization of dental education (dental care and hygiene)	Colombia, United States of America	5½
1	Nursing education	United States of America	4
1	Public health admin- istration (accident prevention)	Ditto	3

WHO/TA

BRITISH GUIANA-5, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1961-1968, when the consolidation phase is expected to be completed.

Assistance provided: 2 sanitary inspectors and advisory services by the epidemiologist of project AMRO-117; synthetic antimalarial drugs for the treatment of cases, powdered chloroquine and calcium triphosphate for preparing medicated salt and quinine sulphate tablets.

Work done: Malaria is eradicated in the coastal region. In the interior the attack is made by distributing medicated salt. The method has been fairly effective in the northwestern part of the country, which has about 35,000 inhabitants. The same results have not been achieved, however, in the southern part (1,400 inhabitants). At first the failure was attributed to use of nonmedicated salt imported clandestinely from the Brazilian border, but it was later discovered that, in addition to this, *Plasmodium falciparum* strains resistant to chloroquine exist in the area on both sides of the border.

In view of this it was decided to spray all houses with DDT in 6-month cycles and to treat all patients with quinine sulphate. From January to October 12,638 sprayings were made.

During 1963 a total of 32,255 blood films were examined and 476 were found positive. In the coastal area, which is in the maintenance phase, 3 cases were discovered—2 were relapses and one was imported from Brazil.

PAHO/SMF

UNICEF

BRITISH GUIANA-9, Nutrition

Objective: To establish a national nutrition program and to train professional and paraprofessional personnel in the field of nutrition.

Probable duration: 1962-

Assistance provided: Advisory services by the consultant of the project AMRO-269 and Zone I Office staff.

Work done: A national nutrition committee, with representatives of health, education and agriculture activities, was formally appointed to advise on the development of a national nutrition program. A plan of operations for an applied nutrition program to cover a population of 102,000 and 43 schools with an enrollment of 26,400 children was put into effect; 11 health centers and 4 hospitals will also be included. The environmental sanitation program is to be intensified particularly in water supply, food hygiene, food stores and public eating places.

WHO/R

FAO, UNICEF

BRITISH GUIANA-10, National Health Services

Objective: To organize, expand, and integrate rural health services and environmental sanitation activities in the heavily populated coastal area as well as the isolated communities in the interior of the country.

Probable duration: 1963-1967.

Assistance provided: Advisory services by AMRO-95 and Zone I Office staff.

Work done: There was some progress in the field of sanitation: 50 wells with hand pumps were installed in rural areas and the program of latrine construction continued in operation. The other health activities remained stationary, due to the reduction of funds and the effect of a 3-month national strike.

WHO/R

UNICEF

BRITISH HONDURAS-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1956-1965, when it is expected that the consolidation phase will be completed.

Assistance provided: 1 medical officer; antimalarial drugs; a limited amount of supplies and equipment.

Work done: In September the entire territory completed a full year of the consolidation phase. During the preceding 12-month period 15,681 blood films were examined, among which 22 positive cases were found; of these, 12 were autochthonous, 9 were relapses, and 1 was imported from another country. All cases were

treated. During the last quarter of 1963, 4,065 blood films were examined, among which 13 positive cases of *Plasmodium vivax* were found; these were classified as autochthonous and received the necessary treatment.

PAHO/SMF

UNICEF

BRITISH HONDURAS-5, Health Services

Objective: To reorganize, expand, and improve the general health services, beginning with the development of a plan in environmental sanitation.

Probable duration: 1962-1968.

Assistance provided: A sanitary engineer.

Work done: A rural sanitation pilot project was begun and a plan was prepared to expand it in 1964 and 1965 to include 2 new districts that comprise some 47 communities.

A sanitary engineering office has been established in the Health Department, and studies were carried out on the water supply systems for the 2 largest urban centers in the territory.

WHO/R

UNICEF

BRITISH VIRGIN ISLANDS-1, *Aedes aegypti* Eradication

Objective: To eradicate *A. aegypti*.

Probable duration: 1952.

Assistance provided: 1 sanitary inspector and advisory services for a period of 8 months by the consultant of project AMRO-8.

Work done: Technical and administrative difficulties hampered the campaign during the first half of 1963, and in July the Government decided to suspend eradication activities. In October the sanitary inspector stationed in Tortola was transferred to another project.

WHO/TA

BRITISH VIRGIN ISLANDS-3, Fellowship for Health Services

One 11-month fellowship to study medical technology in Jamaica.

WHO/R

CANADA-2, Consultants in Specialized Fields of Public Health

Objective: To provide short-term consultants on specialized fields of public health.

Probable duration: 1959.

Assistance provided: A short-term consultant on international health.

Work done: The consultant visited the Department of National Health and Welfare, Ottawa, Canada (20-27 October) and the Schools of Public Health in Toronto (27 October-3 November), and Montreal (3-9 November) and advised on the international health aspects of training and collaboration in multilateral and bilateral programs.

WHO/R

CANADA-3, Medical and Public Health Training (Traveling Seminar)

The fellowships awarded to Canadians who participated in the Traveling Seminar on Organization and Administration of Schools of Public Health in Europe were financed with funds from this project (see AMRO-16; see also Professional Education in Public Health, Chapter IV).

WHO/R

CANADA-200, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Hospital administration	Belgium, Denmark, Finland, Netherlands, Sweden, United Kingdom	3
1	Hospital architecture	United States of America	9
1	Organization of public health teaching (health education)	Ditto	12

WHO/R

CHILE-10, Tuberculosis Control

Objective: To organize in the Commune of San Miguel a demonstration area to obtain epidemiological information, apply and evaluate practical methods of tuberculosis control, and train medical and auxiliary personnel for the gradual extension of the program to other areas of the country.

Probable duration: 1964-1969.

VII. PROJECT ACTIVITIES

Assistance provided: Technical advisory services by Zone VI Office staff and by the Regional Adviser on tuberculosis.

Work done: The Tripartite Plan of Operations was prepared and completed in the early part of November 1963.

PAHO

UNICEF

CHILE-21, Rehabilitation Center

Objective: To develop the Rehabilitation Center in Santiago; establish a coordinated national plan to solve the problems of the disabled; provide rehabilitation services in selected cities in the Provinces.

Probable duration: 1960-1966.

Assistance provided: The services of the Regional Adviser for 8 months, a prosthetics consultant for 9 months, an occupational therapist for 6 months, and a physical therapist for 3 months; equipment for the prosthetics workshop, the department of occupational therapy, and the department of physical medicine; and one 12-month fellowship to study vocational rehabilitation in México.

Work done: The departments of physical medicine, social, psychological and vocational (counseling and placement) rehabilitation of the Center began to function. From January through October the Center treated 1,265 cases, as follows:

Type	Cases
Physical medicine	753
Social rehabilitation	205
Rehabilitation of amputees	143
Vocational rehabilitation	137
Psychological rehabilitation	22 (July-October)

By 30 November the Center's workshop had produced 116 prostheses and 13 orthoses, 79 orthopedic shoes and boots, 60 orthopedic corsets, 25 crutches, and 608 arch supports.

WHO/TA

CHILE-22, Institute of Occupational Health

Objective: To help the Government to establish an Institute of Occupational Health which will provide Chile and other countries with service and training facilities.

Probable duration: 1961-1968.

Assistance provided: A consultant in occupational

health; laboratory equipment and material; and fellowships as follows:

Awards	Field of study	Country of study	Months
1	Occupational health	United States of America	6
1	Ditto	France, Italy, Spain, United Kingdom, United States of America	2

Assistance provided: The application for assistance presented to the United Nations Special Fund was approved and the relevant Plan of Operations was signed in the month of June. In the first 6 months of operations the director and deputy director of the Institute were appointed, as well as other personnel; premises were acquired and will be renovated for use of the Institute; and the director made an observation visit to similar institutions in Europe and the United States of America. Preliminary supplies of laboratory equipment and material have been ordered.

UNSF, WHO/TA

CHILE-25, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Health education (venereal diseases control)	México, United States of America	3
1	Organization of medical education	Austria, Germany, Netherlands, Sweden, United Kingdom, United States of America	3½
1	Ditto (maternal and child health)	France, Norway, Sweden, Switzerland, United Kingdom, United States of America, Yugoslavia	3
3	Ditto (pedagogic methods)	United States of America	1

WHO/R

CHILE-26, Fellowships for Health Services

Awards	Field of study	Country of study	Months
6	Occupational therapy	Argentina	8
1	Public health administration	Czechoslovakia, Denmark, England, Norway, Scotland, Sweden, Yugoslavia	2½

PAHO

CHILE-27, Public Health Services (Ovalle-Copiapó)

Objective: To extend and develop a coordinated plan for urban and rural public health in the Provinces of Ovalle and Copiapó.

Probable duration: 1958-

Assistance provided: Advisory services by Zone VI Office personnel.

Work done: Efforts were made to implement a project to obtain accurate data on the health situation in the area concerned. The basic difficulties are the lack of trained personnel, premises, equipment and supplies. An amendment to the plan of operations was signed, whereby 3 new departments were included, and the project was extended for 5 more years.

PAHO

UNICEF

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 to train students from other countries of the Americas.

Probable duration: 1953-1965.

Assistance provided: A short-term consultant; supplies and equipment.

Work done: The consultant collaborated in a course on dental health. General advisory services were given by Zone VI and Headquarters staff.

WHO/R

CHILE-37, Medical Education

Objective: To modernize teaching methods at the School of Medicine of the University of Chile, in Santiago.

Probable duration: 1962-1964.

Assistance provided: A short-term consultant and teaching material.

Work done: The consultant collaborated with the School in the organization of a second Workshop on Human Relations and the Teaching of Medicine, carried out in 1963. The consultant also collaborated with the authorities and faculty members of the School in planning ways to make teaching and learning more effective.

PAHO

CHILE-39, Training in the Medical Use of Radioisotopes

Objective: To maintain a Latin American center for the training of physicians in the medical uses of radioisotopes, located at the Salvador Hospital of the University of Chile.

Probable duration: 1962-1966.

Assistance provided: A limited amount of supplies and equipment.

Work done: The Center held its second course in 1963, the assistance of 5 fellows being financed by the Organization. The course is given once a year and is a combination of basic physics, clinical medicine, and the teaching of precautions to be taken in the handling of radioactive materials. Among the appointed fellows one or more are selected for additional training in specialized phases of medicine where a knowledge of the clinical use of radioisotope techniques will be highly beneficial. Radioactive isotopes for use in the course, paid for by the Organization but selected by the Chilean teaching staff, were provided. Also, services for the procurement of special isotopes for medical use of the holders of extended fellowships were made available.

PAHO

KF

CHILE-40, Promotion of Community Water Supplies

Objective: To assist the Government to formulate and execute national water supply plans and to give assistance in the technical aspects of expanding the water supply system of Santiago.

Probable duration: 1960-

Assistance provided: Short-term consultants; 3 one-month fellowships for studies in water analysis in Colombia.

Work done: The Inter-American Development Bank awarded a loan to the Government of Chile of \$5,125,000 for the extension and improvement of the water supply system of Santiago and a loan of 3.52 million dollars to improve the water supply systems of Concepción and Talcahuano, cities which were devastated by the earthquake in 1960. The National Health Service also submitted a request for a loan to the IADB for the construction, over a period of 2 years, of 276 water supply systems in communities with from 200 to 1,000 inhabitants at a total cost of 5 million dollars.

PAHO/CWSF

VII. PROJECT ACTIVITIES

CHILE-41, National Planning for Nursing

Objective: To improve the quality of the nursing care given in the health services; to reorganize nursing services as desirable; and to prepare adequately trained professional and auxiliary nursing personnel for the needs of the country.

Probable duration: 1960-1969.

Assistance provided: A nurse-educator and a short-term consultant.

Work done: On the basis of data collected during the 1960-1961 survey of nursing needs and resources, the continued planning for improvement of nursing care resulted in the setting up in 1963 of a Testing Center at the 100-bed hospital in Buin, near Santiago. Studies were carried out on external factors which affect the nursing care given to the hospitalized patient, including functionalism of the hospital's layout, an inventory of the hospital's supplies and equipment, and a time-study of nursing activities in the pediatric service. The Testing Center assisted in the planning and carrying out of a time-study of nursing activities in the outpatient department of the National Medical Service for Employees.

A seminar on planning for nursing services was organized with the participation of nurses and midwives.

Two new schools of nursing were established in the south of Chile, and a study of the curricula of existing schools of nursing was carried out in November and December. Training programs for nursing auxiliaries continued to be carried out by the National Health Service in 13 centers, 1,059 auxiliaries having been trained.

WHO/R

UNICEF

CHILE-49, Public Health Services in the South of Chile

Objective: To strengthen health services in the southern part of the country so that they can meet the present needs of the area. This area, which was devastated in 1960 by a violent earthquake, contains 34 percent of the total population of the country. To provide the rural populations of the area, numbering 960,000 and living in 175,000 houses, with water supply and sewage disposal services.

Probable duration: 1961-1967.

Assistance provided: Advisory services by Zone VI Office personnel, and the following fellowships:

Awards	Field of study	Country of study	Months
1	Cancer	México, United States of America	3
1	Organization of medical education (cancer control)	Austria, Denmark, United Kingdom, United States of America, Switzerland	3

1	Ditto (social pediatrics)	Czechoslovakia, France, Guatemala, Israel, México, Scandinavian countries, United Kingdom, United States of America, Yugoslavia	4
1	Sanitary engineering (water supply design)	United States of America	5

Work done: A comprehensive public health plan covering the 5 health areas affected was drawn up. It provides for the continuation of a study and analysis of conditions, problems, and resources in the field of health; the education and training of personnel; the reconstruction, strengthening, or creation of local health services and improvement of their internal organization and coordination, and cooperation with the community. Special attention was given to maternal and child health, medical care, environmental sanitation, statistics, nursing, health education, laboratory organization, and nutrition.

WHO/TA

UNICEF

CHILE-56, Health and Social Services (Santiago)

Objective: To improve maternal and child health services in the periphery of Santiago, including the social welfare aspects of such activities.

Probable duration: 1963-1967.

Assistance provided: Technical advisory services through the technical personnel of the Zone VI Office and other programs.

Work done: The health aspects of the plan of operations were discussed and formulated during the year. Discussions were held between the Government and international agencies on the social aspects of the program. UNICEF agreed to contribute \$55,000 in 1963; lists of equipment and supplies to be submitted to UNICEF for approval were studied.

PAHO

UN, UNICEF

COLOMBIA-4, Public Health Services

Objective: To strengthen the Ministry of Health and the Departmental and local health services; to extend the integrated health services to the whole country; and to train professional and auxiliary personnel.

Probable duration: 1951-1969.

Assistance provided: 1 chief medical officer, 1 medical

officer, 1 sanitary engineer, 2 public health nurses, 1 statistician; and the following fellowships:

Awards	Field of study	Country of study	Months
1	Clinical and social pediatrics	Perú	1
1	Organization of medical education (teaching of preventive medicine)	United States of America	12
1	Ditto (public health administration)	Ditto	12
1	Public health administration (hospital administration)	Chile	16
1	Ditto	Brazil	11
2	Sanitary engineering	Ditto	11

Work done: Approval was given to a plan for the reorganization of the Ministry, which gives greater powers to the Director and creates regional departments which will make it possible to strengthen activities at the local level. Six new integrated health districts were established, which brings the number to 47 in the whole country. The sanitation program of the Ministry of Health was carried out in accordance with the plans laid down; 7 rural water systems were completed, 4 were under construction, and 4 more have been planned. Professional and auxiliary personnel training was continued; an orientation course in public health was given to 18 physicians and 4 dentists. A course was held for 10 health educators, and 18 nurses were given training in public health.

PAHO, WHO/TA

AID, UNICEF

COLOMBIA-5, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1957-1967, when the consolidation phase is expected to be completed.

Assistance provided: 2 malariologists, 1 sanitary engineer, 1 statistician, and 6 sanitary inspectors; anti-malarial drugs and a limited amount of supplies and equipment.

Work done: The fifth year of attack was completed in September and at that time an area of 122,920 km² with a population of 5,305,060 was in the consolidation phase; this area includes the large cities of the country.

Spraying totaled 1,116,476 in 6-month, 3-month, and 4-month cycles.

Epidemiological evaluation was increased, especially passive case-finding. The 8,100 notification posts and the active evaluation activities produced 577,406 blood films, which in turn revealed 17,898 positive cases. In areas in the consolidation phase 303 positive cases were discovered during the first 9 months of the year. The epidemio-

logical investigation produced the following results: 36 were autochthonous cases, 191 were imported from other areas in the country which are in the attack phase, 6 were introduced and 6 induced; 64 could not be classified.

The program is going through a serious administrative crisis, but the Government is taking drastic steps to overcome the situation. The Organization is also attempting to strengthen its technical assistance to help solve the existing problems.

The vectors do not seem to be resistant to DDT, the insecticide used, but spraying is still strongly opposed in certain areas. It should be noted that in certain areas of the Magdalena River Valley *Plasmodium falciparum* strains resistant to chloroquine were found.

PAHO/SMF

AID, UNICEF

COLOMBIA-17, Smallpox Eradication

Objective: To eradicate smallpox in Colombia by vaccinating 80 percent of the population.

Probable duration: 1955-1963.

Assistance provided: Technical advisory services by personnel assigned to Colombia, by Zone IV Office personnel, and by Headquarters staff.

Work done: Efforts were made to maintain the level of the population immunized at that reached during the vaccination campaign, completed in 1962. Between January and July 1963 a total of 1,327,882 persons were vaccinated.

PAHO

UNICEF

COLOMBIA-18, Fellowships for Health Services

Awards	Field of study	Country of study	Months
2	Public health administration	México	10½
1	Ditto (dental care and hygiene)	Brazil	11
1	Sanitary engineering	México	10½

WHO/R

COLOMBIA-19, Leprosy Control

Objective: To organize a leprosy control program based on modern techniques and procedures.

Probable duration: 1958-1968.

Assistance provided: Technical advisory services by the Zone IV leprosy consultant (AMRO-263).

Work done: As in previous years, project activities

VII. PROJECT ACTIVITIES

continued to be conducted as part of the regular activities of the Departmental Health Services. By the end of 1963, there were 14,424 registered cases, of which 617 had been detected during the year. Of that total, 13,330 cases are under medical supervision.

WHO/TA

UNICEF

COLOMBIA-21, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Environmental sanitation (sanitary inspection)	Chile	5½
1	Nutrition	Guatemala	2½
1	Organization of dental education (teaching of orthodontics)	United States of America	3
1	Organization of public health teaching (veterinary public health)	Chile	10
1	Public health administra- tion	México	10

PAHO

COLOMBIA-22, *Aedes aegypti* Eradication

Objective: To eradicate *A. aegypti*.

Probable duration: 1951-1964.

Assistance provided: 1 sanitary inspector and advisory services by staff of project Venezuela-16.

Work done: The operations undertaken to eliminate the 1961 and 1962 reinfestations in Cúcuta and San Luis, near the Venezuela frontier, were continued; by the end of 1963 the 2 localities were again negative. Vigilance inspections were carried out in the port areas of Santa Marta, Barranquilla, Cartagena, and Buenaventura as well as in the international airport of La Soledad, which serves Barranquilla. A focus of *A. aegypti*, possibly imported from a Caribbean territory, was found in the port of Santa Marta. This focus was eliminated and a thorough inspection of the city of Santa Marta showed that the reinfestation had not spread.

PAHO

COLOMBIA-24, School of Public Health

Objective: To collaborate in, and advise on, matters related to organization and teaching at the School of Public Health of the National University of Colombia.

Probable duration: 1959-1969.

Assistance provided: A professor of public health administration and a nurse-educator.

Work done: Assistance was given to the School on the teaching of public health administration, to several departments of the School of Medicine in problems connected with public health, and to personnel of the health service. In addition to the regular activities of the professor of public health administration and of the nurse-educator, staff members of the Organization gave courses on sanitary engineering and epidemiology. At the end of the year, plans were being implemented to assist the new School of Public Health of the University of Antioquia, in Medellín, which the Ministry of Public Health has entrusted with the training of its personnel.

WHO/R

UNICEF

COLOMBIA-25, Promotion of Community Water Supplies

Objective: To assist with the study, planning, design, financing, construction, and operation of municipal water services and to provide advice on the planning and execution of a national water supply program.

Probable duration: 1960-1969.

Assistance provided: 2 full-time sanitary engineers, short-term consultants and fellowships as follows:

Awards	Field of study	Country of study	Months
2	Sanitary engineering	Brazil	10½
1	Ditto	Venezuela	½

Work done: With the assistance of the consultants the preparation of 6 water supply projects for the cities of Santa Marta, Ibagué, Neira, Cartago, Pamplona, and Bucaramanga were completed. The first five projects have been approved by the Inter-American Development Bank, and work has already begun on them. With the assistance of a short-term consultant in accounting, technical advisory services were given to the Water Boards of Bogotá and Cartagena on the reform and reorganization of their accounting systems. A short course for operators of fluor spar dosing equipment was attended by 22 persons. A short course for treatment plant operators was attended by 12 persons. Considerable progress has been made on the expansion of water supply and sewage disposal systems in the city of Cúcuta. The consultant in accounting also gave advice to the management of the Cúcuta services on all aspects of accounting. Technical advice was given to the Municipal Enterprises of Medellín on fluor spar dosing equipment. Advisory services were also provided to the Bucaramanga Water Board in connection with a request for a loan from a credit agency. Assistance was

provided to the School of Engineering of the National University of Bogotá in the form of 2 international short courses, one on the administration of water agencies and the other on the utilization of ground water.

PAHO/CWSF

IADB

COLOMBIA-26, Nutrition

Objective: To improve the level of nutrition in the Departments of Caldas, Cauca, and Norte de Santander, especially in the rural areas in coordination with the local health, education, and agricultural services; to train personnel at the local and intermediate level; to establish food preparation and school garden demonstration services.

Probable duration: 1961-1966.

Assistance provided: Technical advisory services by the consultant to projects AMRO-262 and Colombia-4.

Work done: A law was enacted to reorganize the National Institute of Nutrition and to provide it with sufficient funds to carry out its functions; assistance was given in the preparation of Organic Regulations for the Institute under the above-mentioned law. A program of food supplementation involving the use of powdered milk produced domestically was prepared and will be conducted in the Integrated Health Districts. Professional health workers with special training in nutrition were appointed to direct the expanded nutrition programs in Caldas, Cauca, and Norte de Santander. In Caldas and Cauca complete basic surveys were made covering the clinical, biochemical, dietetic, and socioeconomic aspects and will be used to prepare detailed programs of operations.

WHO/R

FAO, UNICEF

COLOMBIA-27, Teaching of Preventive Dentistry

Objective: To inculcate the dental graduates of the University of Antioquia with the preventive approach to dental health so that they can benefit the community in which they serve; and to establish a center for research on aspects of dental public health and on dentistry in general.

Probable duration: 1961-1966.

Assistance provided: Advisory services provided by Headquarters staff; teaching material.

Work done: Draft syllabi of the new subjects to be included in the curriculum were drawn up. An evaluation of the El Retiro dental program, developed by the Depart-

ment of Social and Preventive Dentistry, showed that the teaching was effective enough to reach the proposed target: field work to study the social, anthropological, and public health aspects of a rural community and to contribute to the solution of some community problems.

PAHO

KF

COLOMBIA-52, National Institute of Health (Carlos Finlay)

Objective: To strengthen the Yellow Fever Section of the National Institute of Health so as to improve the Section's research program and services to other countries.

Probable duration: 1950-

Assistance provided: An annual grant, and technical assistance.

Work done: The laboratory prepared 654,802 doses of yellow fever vaccine, of which 303,212 doses were supplied to: Aruba, Curazao, Cuba, Chile, Ecuador, Guatemala, British Guiana, Jamaica, Liberia, México, Nicaragua, Panamá, Perú, and Venezuela. The laboratory also made diagnostic examinations of 930 liver specimens, of which 11 were positive for yellow fever, and continued its research program.

PAHO

COSTA RICA-2, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1956-1967, when the consolidation phase is expected to be completed.

Assistance provided: 1 malariologist and 2 sanitary inspectors; antimalarial drugs for the treatment of individual cases and for mass treatment in areas where transmission persists; financial assistance to defray the local costs of mass treatment.

Work done: Large areas of the country are in the consolidation phase, but no adequate solution to the financial problem had been found. As a result, it was difficult to carry out spraying operations and the epidemiological evaluation was unsatisfactory. The 11th cycle, during which 21,443 houses were sprayed with DDT, was completed; the 12th cycle was begun immediately thereafter, with 21,256 houses treated.

Bearing in mind the excito-repellency power of DDT and the complete susceptibility of the vector (*Anopheles albimanus*) to dieldrin, it was decided to introduce the use of the latter in the campaign, at 6-month intervals, beginning in 1964.

VII. PROJECT ACTIVITIES

Owing to a severe financial crisis during the year, mass medication as a supplement to sprayings was delayed and only 9,023 of the 15,728 inhabitants to be submitted to treatment were protected.

Natural catastrophes that occurred in the country prevented SNEM from beginning the epidemiological investigation of several malaria cases recorded in the area in the consolidation phase and attacking the problem immediately and effectively as had been done during 1962.

Of a total of 257,850 blood films examined during 1963, 1,228 were found positive. In the area in the consolidation phase 371 cases were identified as: 244 autochthonous, 45 relapses, 4 imported from other countries, 3 imported from areas in the attack phase within the country, 10 introduced; 65 cases could not be investigated.

Areas in the consolidation phase bordering on infested countries are subject to imported cases, and this is a serious problem. For this reason, the Government actively supports the plan for regionalizing the malaria eradication campaign and has pledged its cooperation within the limits of its financial possibilities.

PAHO/SMF

UNICEF

COSTA RICA-12, Health Education

Objective: To reorganize the education and training program of health workers of all types and all levels in health education methods and coordinate it with the programs of other agencies, especially with respect to community development.

Probable duration: 1963-1964.

Assistance provided: Technical advisory services by the personnel of Zone III Office and the medical consultant to project Costa Rica-14.

Work done: Special emphasis was given to educational activities in community organization; for that purpose the establishment of social welfare committees, especially in rural areas, was encouraged. Training courses in health education methods at various levels were held.

PAHO

COSTA RICA-14, Expansion of Local Health Services

Objective: To prepare and implement a national health plan which is to be coordinated with the national social and economic development programs; to establish a suitable administration and improve and expand the health services, including medical care services; and to

train the necessary personnel and carry out an extensive program of rural sanitation.

Probable duration: 1959-1969.

Assistance provided: 1 medical officer specialized in public health administration; a 10-month fellowship for studies in public health administration (epidemiology) in Chile.

Work done: In connection with the reorganization of the central departments, consideration was given to the grouping of departments into functional divisions, so as to establish a pyramidal structure with policy-making bodies at the central level and executive bodies at the regional and local level. A manual of procedures was prepared for the health units, and the draft of the new health code is very advanced.

In the rural health program, 6 mobile units were in operation; this program covers an estimated population of 210,000 persons, provides preventive and curative services to communities distributed in 72 operational centers, and promotes community organization. The expanded program of applied nutrition was begun with participation of school teachers and agricultural extension workers.

The General Health Administration, which is responsible for national hospital services, established a regional medical care system so as to channel patients for better use of human and material resources. A hospital was put into operation as an integrated health center, as an experimental program on integration of services.

Two orientation courses, each lasting one month, were held for physicians who will do one year's social service in health units in the interior of the country.

The rural sanitation program which was drawn up includes the supply of water to 26 communities and the installation of sewage systems in 67; with the assistance of UNICEF and the municipalities this program is to be carried out in 2 years.

The health planning unit was established; and a start was made on the gathering of background information to formulate a national health plan.

PAHO

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 of Costa Rica, and to evaluate the School.

Probable duration: 1959-1965.

Assistance provided: A nurse-educator since 1 Octo-

ber, and one 6½-month fellowship to study public health nursing in Guatemala.

Work done: A study of the graduate course in midwifery education was carried out and recommendations for strengthening the course were presented.

PAHO

COSTA RICA-21, Nutrition

Objective: To improve the nutritional status of the population by disseminating information on the factors that determine and contribute to malnutrition, by dietetic and nutritional education, and by rehabilitating the undernourished.

Probable duration: 1960-1965.

Assistance provided: Technical advisory services by the Zone III Office, INCAP, and the medical adviser to project Costa Rica-14.

Work done: In the national nutrition program of the Ministry of Public Health, 71 nutrition centers were integrated in the local health services for the purpose of coordinating their activities. Nutrition centers were organized in almost all localities which have health units and 18 new centers began operations. The regional clinic for nutritional rehabilitation began operations and is intended to rehabilitate severely undernourished children and to carry out research and provide training in methods and procedures of applied nutrition. In addition, efforts were made to establish a second nutritional rehabilitation center, and a day center for the same purpose was organized. As for nutritional education, orientation was given to medical practitioners who will work in health units when they have completed their social service, and training was given to nurses and the medical officers of the local health services. As part of the nutritional education program which is to be developed in primary schools, special attention was given to class-room teaching of the subject. In order to integrate the nutrition program with other activities connected with the production, distribution, and marketing of foodstuffs, a joint plan is being worked out with State agencies responsible for these activities.

WHO/R

FAO, UNICEF

COSTA RICA-22, Promotion of Community Water Supplies

Objective: To provide advisory services on programs for the promotion of public water supply systems and

sewerage systems in rural and urban communities in the country. To give assistance in organizing and administering the national water supply and sewerage disposal service.

Probable duration: 1960-1968.

Assistance provided: A sanitary engineer and short-term consultants.

Work done: A plan was prepared for the construction of water and sewerage systems for 12 of the main towns in the interior of the country, at a total cost of \$4,750,000, which will benefit a population of 100,000 inhabitants. The Service has also completed the design of the new Río Blanco system to increase the supply of water to San José, for which purpose it has a loan from the Export-Import Bank; it will cost more than \$10,000,000. A sanitation program for 67 rural communities at a total cost of \$350,000 was drawn up. A request was presented to the United Nations Special Fund for the establishment in the University of Costa Rica of an Institute of Water Resources, a project which will last for 3 years and will cost \$970,000 in all. An application has been submitted to the IADB for the financing of studies on the new sewerage system for San José. The IADB awarded a loan of \$100,000 for studies of water and sewerage systems for 12 of the main towns in the interior of the country.

PAHO/CWSF

COSTA RICA-24, Laboratory for the Diagnosis of Virus Diseases

Objective: To organize a section for the diagnosis of virus diseases in the National Health Laboratory.

Probable duration: 1962-1966.

Assistance provided: Two short-term consultants and one 12-month fellowship for virology studies in Canada.

Work done: A start was made in putting into practice the recommendations suggested by the short-term consultants. In February a course on diagnostic techniques involving the use of fluorescent antibodies was attended by 16 members of the scientific staff of the laboratories of the following countries: Costa Rica, 8; El Salvador, 2; Guatemala, 2; Honduras, 1; Nicaragua, 1; and Panamá, 2.

WHO/R

VII. PROJECT ACTIVITIES

COSTA RICA-200, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Public health administration (maternal and child health)	México	10½
1	Ditto (veterinary public health)	Brazil	11

WHO/R

COSTA RICA-201, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Organization of medical education (microbiology)	Argentina, Brazil, Chile	1¼
1	Public health administration	Chile	10
1	Sanitary engineering	Colombia	¼

WHO/TA

CUBA-1, *Aedes aegypti* Eradication

Objective: To eradicate *A. aegypti*.

Probable duration: 1953-1967.

Assistance provided: 1 medical officer and 2 sanitary inspectors; supplies and equipment.

Work done: The campaign continued progressing satisfactorily. Eradication operations continued according to plan in the Provinces of La Habana, Matanzas and Pinar del Río. The initial survey was carried out in 327 localities of the 3 Provinces: of 69,783 houses that were visited, 3,146 in 230 of the localities were found infested. In 122 different localities 155,270 houses were treated. Verification operations in 526,517 houses of 163 localities led to the discovery of 498 positive houses in 22 of the localities.

PAHO

CUBA-3, Public Health Services

Objective: To reorganize health services at the national, intermediate, and local level, and to establish demonstration and training areas.

Probable duration: 1959-1969.

Assistance provided: 1 chief medical officer and 2 public health nurses; and the following fellowships:

Awards	Field of study	Country of study	Months
1	Nursing services	México	7
1	Public health administration	Ditto	10½
1	Zoonoses	Argentina	12

Work done: The plan of operations for the Marianao District health demonstration area, which provides for

the development of technical procedures and of standards for the training of personnel, continued under study. A study of the nursing personnel needed showed that, in general, the health services require the following: graduate nurses, 34 percent; nursing auxiliaries, 50 percent; nursing aides, 16 percent. The country at present has 28,309 beds, which are serviced by 3,754 nurses and 3,600 nursing auxiliaries. A course in public health, which ran from November 1963 to March 1964, was attended by 17 physicians and 10 nurses. Two seminars on nursing administration and supervision and a seminar for general sanitarians were held. A course in biostatistics was attended by 15 physicians and 2 veterinarians.

PAHO, WHO/TA

UNICEF

CUBA-4, Nursing Education

Objective: To strengthen the schools of nursing in the country and to prepare nursing instructors.

Probable duration: 1961-1969.

Assistance provided: Advisory services by the nurses assigned to Cuba-3.

Work done: Advisory services to the schools of nursing were terminated in August, when it was considered that national nurses were prepared to continue the work at the level desired by the national health authorities. The curriculum of the schools of nursing had been reduced to 24 months with entrance requirements limited to 8 years of education (equivalent to primary and 2 years of secondary education); in 1963, however, the health authorities agreed to increase the basic nursing course to 3 years in 1964 and to admit only students who had completed 9 years of education.

Eighteen instructors were prepared in an 8-month course; and 7 nurses completed another 8-month course, in nursing-service administration.

WHO/TA

UNICEF

CUBA-5, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1959-1969, when the consolidation phase is expected to be completed.

Assistance provided: 1 medical officer, 1 sanitary engineer and 2 sanitary inspectors; two 3-month fellowships for malariologists to study eradication techniques in México.

Work done: Serious operational difficulties were experienced owing to lack of spray pumps in good condi-

tion and of vehicles for the transportation of personnel. By year's end the first of these problems had been solved, but because of lack of vehicles the spraying schedule could not be carried out as planned, except in the areas of greatest transmission.

Spraying amounting to 659,916, corresponded to the 2nd, 3rd, and 4th cycles, but only the 2nd cycle was completed. Throughout the country, 126,336 blood films were collected, of which only 833 were found to be positive; 6 were *Plasmodium falciparum* and the remainder were *P. vivax*. It should be noted that these were the first *P. falciparum* infections to be found in the country since the campaign began.

WHO/MESA

CUBA-16, Emergency Health Services

Objective: To assist the health services in the areas affected by hurricane Flora to provide medical care to the victims of the hurricane.

Probable duration: 1963-1964.

Assistance provided: Services were rendered by the consultants assigned to other projects in the country; purchases and dispatch of supplies.

WHO/R

CUBA-200, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Leprosy control	México	3½
1	Public health administration	Ditto	10½

WHO/R

DOMINICAN REPUBLIC-2, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1957-1971, when the consolidation phase is expected to be completed.

Assistance provided: 1 sanitary engineer, 3 sanitary inspectors, and 1 administrative consultant; antimalarial drugs and a limited amount of other supplies and equipment; one 5½-month fellowship to a physician to study eradication techniques in Honduras, México, and Venezuela.

Work done: 546,037 houses were sprayed and of 73,202 blood films examined 386 were found positive, or 0.53 percent.

Under the tripartite plan of operations prepared in

1963 the SNEM will administer the program separately from the other activities of the Ministry of Health. This will allow greater flexibility in the handling of the funds needed for the execution of the activities. The Government also decided to have the program directed by two codirectors, one of them a national and the other designated by the Organization. The latter arrived in the country in February 1963.

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.

Probable duration: 1958-1965.

Assistance provided: A nurse-educator and fellowships as follows:

Awards	Field of study	Country of study	Months
1	Nursing education	Brazil	10½
1	Ditto	Costa Rica	11

Work done: 13 students were graduated, raising the total of graduates of the school to 24. Although the school could handle 40 first-year students adequately, only 10 new students registered.

A 12-week course in administration was attended by 8 nurses, 6 of whom received the certificate. Of the 13 graduate nurses trained in the two short courses in administration, 12 are working in the health services in Santo Domingo, which are used by student nurses as clinical practice areas.

WHO/R

DOMINICAN REPUBLIC-4, Public Health Services

Objective: To organize the health services at the national and regional level, and to extend the local services.

Probable duration: 1953-1967.

Assistance provided: 1 chief medical officer, 1 sanitary engineer, 1 health educator, and 1 public health nurse.

Work done: A national health plan, with long-term and short-term objectives, and a draft of a new sanitary code were prepared. Special priority was given to the training of professional personnel and, in short courses, to the training of nursing, sanitation, and statistics auxiliary personnel.

A mass poliomyelitis vaccination campaign in which

VII. PROJECT ACTIVITIES

the Sabin-type vaccine which was successfully carried out.

The health centers in Puerto Plata, Santiago de los Caballeros and San Pedro de Macoris were put in operation.

PAHO, WHO/R

ACC, UNICEF

DOMINICAN REPUBLIC-8, *Aedes aegypti* Eradication

Objective: To eradicate *A. aegypti*.

Probable duration: 1952-1966.

Assistance provided: 2 months of technical advisory services; in addition, the fellowships indicated under Dominican Republic-9 were financed with funds assigned to this project.

Work done: In view of mosquito resistance to chlorinated insecticides, eradication operations will not be resumed until the studies underway in Jamaica indicate which insecticides may be used to advantage.

PAHO

DOMINICAN REPUBLIC-9, Fellowships for Health Services

Awards	Field of study	Place of study	Months
1	Epidemiology	Chile	10
1	Maternal and child health	Puerto Rico	11
1	Nursing education	Brazil	10½
1	Pediatrics	México	11

WHO/R

DOMINICAN REPUBLIC-10, Tuberculosis Control

Objective: To organize in the Province of San Cristóbal a demonstration area to obtain epidemiological information, apply and evaluate practical methods of tuberculosis control, and train medical and auxiliary personnel for the gradual extension of the program to other areas of the country.

Probable duration: 1963-1967.

Assistance provided: Technical advisory services by staff assigned to other projects in the country and by the tuberculosis consultant assigned to project México-38.

Work done: The Tripartite Plan of Operations was signed. The training of local auxiliary personnel and the initiation of the program were postponed owing to unforeseen local circumstances.

WHO/TA

UNICEF

DOMINICAN REPUBLIC-11, Fellowships for Health Services

Awards	Field of study	Country of study	Months
2	Maternal and child health	México	10½
1	Veterinary public health	Chile	10

PAHO

DOMINICAN REPUBLIC-13, Smallpox Vaccination

Objective: To complete vaccinating 80 percent of the population.

Probable duration: 1962-1964.

Assistance provided: Technical advisory services by staff assigned to other projects in the Dominican Republic. The vaccine used was donated by the Government of Venezuela.

Work done: 20,492 persons were vaccinated between January and October 1963.

PAHO

DOMINICAN REPUBLIC-14, Medical Education

Objective: To reorganize the administration and teaching methods of the School of Medicine of the Autonomous University of Santo Domingo and to establish a 1-year premedical course.

Probable duration: 1962-

Assistance provided: A professor of physiology.

Work done: The professor continued teaching physiology and giving consultant service to the authorities of the School on its reorganization and the teaching of basic sciences, as well as on the reorganization of the medical section of the library of the University.

PAHO

DOMINICAN REPUBLIC-15, Promotion of Community Water Supplies

Objective: To assist in the organization of a central water supply and sewerage authority; to provide advisory services in the design of water supply and sewerage systems; and to assist in the preparation of loan applications to be submitted to international credit agencies.

Probable duration: 1961-1969.

Assistance provided: A sanitary engineer and two short-term consultants.

Work done: Assistance was again given to the Na-

tional Water Supply and Sewerage Institute (INAPA) in matters connected with the administration of water services and well drilling. In addition, one of the regional consultants in administration of services helped to organize the administrative services of INAPA.

In the second half of the year assistance was given to the Ministry of Public Health and Social Welfare in planning and executing a program of rural water supplies, for which purpose the Government was assisted in preparing an application to be submitted to UNICEF and a possible application to the Inter-American Development Bank. For the rural program the Government has allotted D.R.\$50,000 in cash and D.R.\$407,000 in its budget for 1964.

PAHO/CWSF

DOMINICAN REPUBLIC-16, Veterinary Medical Education

Objective: To improve veterinary medical education in the Dominican Republic, especially with regard to facilities and teaching methods.

Probable duration: 1962.

Assistance provided: A short-term consultant.

Work done: The consultant made a study of the School of Veterinary Medicine of the Autonomous University of Santo Domingo and presented a report suggesting possible changes.

WHO/TA

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 public health laboratories, especially with reference to the serological diagnosis of syphilis.

Probable duration: 1953-

Assistance provided: A medical officer and advisory services by staff of Zone II Office and of other projects in the Dominican Republic.

Work done: The yaws eradication program entered the consolidation phase. In an area comprising 11 provinces and the National District, with a population of 1,739,567 persons, 28 cases were diagnosed, or 1.6 per 100,000 inhabitants. The members of the case-finding teams were reassigned in 1963 to various health centers.

Venereal disease activities led to the discovery of 24,699 cases of syphilis. Of 3,122 contacts, 991 were traced and

919 were treated by the health services; the others were referred to private practitioners for treatment.

PAHO

ECUADOR-4, Public Health Services

Objective: To develop at the national and local level, and especially in the Province of Manabí, public health services based on the concept of integration of activities.

Probable duration: 1953-1969.

Assistance provided: 1 chief medical officer and 1 public health nurse, and the following fellowships:

Awards	Field of study	Place of study	Months
1	Clinical and social pediatrics	Perú	1
1	Nutrition	Guatemala, México	3¼
2	Ditto	Guatemala, United States of America	2½
1	Ditto	Puerto Rico	12
2	Public health administration	México	10½
1	Ditto (epidemiology)	Brazil	11
1	Public health nursing	Puerto Rico	12
1	Sanitary engineering	Brazil	11
2	Ditto	México	10½
1	Ditto	United States of America	9

Work done: As part of the program for the development of local services, an agreement was signed for the implementation of an integrated health project in the Province of Manabí, in which the Ecuadorian Tuberculosis League (LEA) and the Social Welfare Department were to take part and UNICEF was to supply equipment and materials. The program began with a training course for auxiliary personnel. In Guayaquil one of the health centers of the National Health Service was integrated with the Surveys Center of LEA. A new health center was set up in Guayaquil to serve the peripheral areas. Personnel training activities were intensified; courses were given for laboratory technicians, water treatment plant operators, auxiliary nurses, health educators, and to medical officers to assist in leprosy work. A study of nursing needs and resources was completed.

WHO/R, WHO/TA

UNICEF

ECUADOR-11, National Institute of Health

Objective: To promote the organization and development of various sections of the National Institute of Health.

Probable duration: 1952-

Assistance provided: Technical advisory services by

VII. PROJECT ACTIVITIES

Headquarters personnel; laboratory supplies and equipment; and one 1-month fellowship for studies in laboratory services in the United States of America, Panamá, Puerto Rico, and Venezuela.

Work done: The preparation of biological products was continued and expanded; a start was made on biological work.

PAHO

ECUADOR-14, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1956-1968, when the consolidation phase is expected to be completed.

Assistance provided: 2 malariologists, 1 sanitary engineer, 1 entomologist, and 4 sanitary inspectors; anti-malarial drugs, and other supplies and equipment; a 4½-month fellowship for study of medical entomology in Brazil.

Work done: Areas measuring 6,394 km² with a population of 926,931 were placed in the consolidation phase.

During this 6th year of attack, 409,722 houses were sprayed in the 11th cycle, and 358,780 houses in the 12th.

Blood films examined amounted to 286,453, of which 3,857 were found positive. From January to October, 156 positive cases were found in the areas in the consolidation phase. Epidemiological investigations showed that over half of these cases were imported from malarious areas still in the attack phase in the country.

PAHO/SMF, WHO/TA

AID, UNICEF

ECUADOR-16, Nursing Education

Objective: To improve national health services through the strengthening of the School of Nurses of the School of Medical Sciences of the University of Guayaquil, preparation of instructors, broadening of the curriculum to include public health nursing and principles of teaching and supervision, and improvement of physical facilities.

Probable duration: 1957-1964.

Assistance provided: A nurse-educator and one 10½-month fellowship to study nursing education in Brazil.

Work done: The school continues to receive growing recognition and is consulted on nursing matters, but its development is very slow. Of the many factors which contribute to retard the development, low salaries and the continued lack of recognition of nursing as a profession are perhaps the most important. Only 10 students registered in 1963 (raising the school's total to 24 students), in

spite of an intensive recruitment campaign. The school was transferred to quarters within the School of Medical Sciences building and now has sufficient classrooms, a spacious library, and offices for the director, instructors, and secretaries.

A study of nursing resources and needs was completed and the data was tabulated; the report was in press at the end of 1963.

WHO/R

ECUADOR-19, Fellowship for Health Services

One 10-month fellowship to study public health administration in Chile.

PAHO

ECUADOR-20, Smallpox Eradication

Objective: To eradicate smallpox from the country.

Probable duration: 1953-1965.

Assistance provided: A medical consultant and a sanitary inspector; vehicles, field supplies, and laboratory supplies.

Work done: Up to 31 December 1963 the number of persons vaccinated was 764,974, which brought the total number of persons vaccinated since 1958 to 3,273,445. In 16 provinces the percentage of population vaccinated ranged from 80 to 98. Vaccination was not yet completed in the Province of Chimborazo, where only 65 percent of the population had been vaccinated, nor in the Cantons of Cuenca and Sigsig in the Province of Azuay. The number of persons still to be vaccinated was about 300,000.

PAHO, WHO/TA

ECUADOR-21, Promotion of Community Water Supplies

Objective: To assist with the formulation of plans for water supply systems in various towns in Ecuador and especially the plan for the extension of the water service of Quito.

Probable duration: 1961-

Assistance provided: Special short-term consultants and the services of the engineering personnel of Zone IV.

Work done: Advisory services were given to the Cantonal Water Supply Board of Guayaquil on matters relating to the water treatment plant and laboratory tests.

Assistance was again given to the Cantonal Water Board of Quito with the preparation of a report and request to the IADB for the financing of the extension of the water supply system of that city. The IADB awarded a loan of 5.5 million dollars for the construction of water supply and sewage disposal services in 19 cities in the country, which will benefit a population of 150,000 inhabitants.

PAHO/CWSF

ECUADOR-22, Joint Field Mission on Indigenous Population

Objective: To accelerate the development of the rural population of the Andean Highlands, including health, in order to facilitate its integration into national life.

Probable duration: 1956-1970.

Assistance provided: 1 medical adviser and the services of the nurse assigned to project Ecuador-4.

Work done: This program, which covers 48 Indian communities, operates through health posts and 6 mobile medical units; it is assisted by the Social Security Service, which seeks to incorporate the Indian population into the insurance scheme for rural dwellers. A nutrition program including school breakfast and lunches is operated. A course for 39 nursing auxiliaries from rural areas was begun. The survey of the economic, social and cultural conditions of Indian communities was completed. More than 80 percent of the population was vaccinated against smallpox.

WHO/TA FAO, ILO, UN, UNESCO, UNICEF

ECUADOR-23, Planning

Objective: To formulate the Ten-Year National Health Plan.

Date and duration: 13 March-13 September 1963.

Assistance provided: A consultant for 5 months.

Work done: The consultant assisted the National Planning Council and the Planning Office of the Ministry of Health in the formulation of the Ten-Year National Health Plan. During the same period a course on planning, organized by the Planning Office of the Ministry of Social Welfare, Labor, and Health, was given for senior officials of this and other Ministries.

WHO/TA

ECUADOR-52, Plague Control

Objective: To control plague and to prevent its spread.

Date and duration: 2 March-11 April 1963.

Assistance provided: A short-term consultant.

Work done: The consultant studied the plague problem in the country, especially in Manabí Province, and recommended that a control program including the reorganization of the Plague Service should be started.

PAHO

ECUADOR-53^a, National Institute of Nutrition

Objective: To assist the National Institute of Nutrition in applied nutrition research and personnel training.

Probable duration: 1950-1967.

Assistance provided: Advisory services by Headquarters staff and the consultant assigned to project AMRO-262.

PAHO

KF

EL SALVADOR-2, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1955-1968, when the consolidation phase is expected to be completed.

Assistance provided: 2 malariologists, 1 sanitary engineer, 1 entomologist, 1 health educator, 1 entomologist's assistant, 2 sanitary inspectors; antimalarial drugs and other supplies and equipment; a 4½-month fellowship to study eradication techniques in Venezuela.

Work done: The attack phase, interrupted in July 1962 owing to financial difficulties, was resumed in March 1963 thanks to a financial contribution of the Government and a grant from AID; 436,369 houses were sprayed. Blood films collected and examined totalled 238,791 of which 17,846 (7.5 percent) were found positive. Over 75 percent of these positive samples came from the coastal area at less than 200 m. above sea level.

Experimental mass treatment was carried out in the area of the coast to protect 50,000 persons. The treatment, begun in May, consisted in administering combined chloroquine and primaquine tablets in 2-week cycles. Over 85 percent cooperation was obtained, so that prevalence was greatly reduced.

Studies made in the country showed that: (a) The area of greatest incidence is located on the coast at less than 200 m. above sea level; the problem is more serious

^a In 1963 the following grants were received:
E. I. duPont de Nemours and Co.
The Research Corporation (Williams-Waterman Fund)
W. K. Kellogg Foundation
National Institutes of Health (U.S.A.)

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below the 100 m. level. (b) The vector in the area, *Anopheles albimanus*, is resistant to DDT and dieldrin and intensely excited or repelled by both insecticides (the mosquito stops in a house only a very short time and frequently leaves without having fed). (c) The period of highest transmission is between June and October. Cases of malaria found at an altitude above 200 m. come from infections acquired on the coast, to which more than 80,000 agricultural workers go each year to work.

It was therefore decided to concentrate the attack in the area below 200 m., using biannual sprayings and adding mass drug-treatment for the entire population of some 240,000 persons that live in areas below 100 m. Epidemiological surveillance will be exercised in the areas above 200 m.

PAHO/SMF

AID, UNICEF

EL SALVADOR-8, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Hospital administration	United States of America	6
1	Nutrition	Guatemala	2½
1	Ditto	Ditto	9
1	Sanitary engineering	Brazil	11

WHO/R

EL SALVADOR-9, Fellowship for Health Services

One 6½-month fellowship to study nursing services in Guatemala.

PAHO

EL SALVADOR-14, Promotion of Community Water Supplies

Objective: To assist with the organization and administration of a central water supply and sewage disposal service and to provide technical assistance for the extension of the water supply systems in the country.

Probable duration: 1960-1969.

Assistance provided: 1 sanitary engineer, short-term consultants, and fellowships as follows:

Awards	Field of study	Place of study	Months
2	Sanitary engineering	Colombia, Puerto Rico	1
2	Environmental sanitation	Ditto	1¼

Work done: Assistance was given in completing designs for the water supply and sewerage system of 39

cities. Construction has begun in all of them and 21 water supply and 29 sewerage systems have been completed, all of which were financed by a loan from the IADB. Two new programs have been drawn up: one for water supply and sewerage systems for 112 cities, to be executed in 1964 and 1965, and the other for water supply systems for rural population centers, also with a duration of 2 years. Applications have been submitted to the IADB for both programs.

PAHO/CWSE, IADB

IADB

EL SALVADOR-19, Public Health Services

Objective: To plan and carry out integrated health programs in El Salvador, as part of a national health plan.

Probable duration: 1963-1968.

Assistance provided: 1 sanitary engineer and 1 public health nurse, and the following fellowships:

Awards	Field of study	Place of study	Months
1	Nursing midwifery (obstetrics)	Puerto Rico	8
1	Sanitary engineering	México	10½

Work done: After much study the Ten-Year Health Plan was prepared. With a view to improving the administrative structure of the Ministry of Public Health and Social Welfare, a Division of Nursing was established. Courses were held for 110 nursing auxiliaries already in service and for 96 new students. Courses on administration and supervision were also held for head nurses and supervisors: on the growth and development of the child, for 23 public health nurses; and on nutrition, for 90 nurses and student nurses. A 2-week course on immunization was held for 350 nursing auxiliaries working in the preventive and curative services. Two courses on supervision were held for sanitary inspectors.

PAHO, WHO/TA

UNICEF

FRENCH ANTILLES AND GUIANA-4, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1963-1970, when the consolidation phase is expected to be completed.

Assistance provided: Technical advice through the international team of project AMRO-117; 3 trailer trucks, 2 motorcycles, 3 outboard motors; antimalarial drugs, and a 2-month fellowship for study of malaria eradication in Jamaica.

Work done: In October an agreement was concluded between the Prefecture of French Guiana and the Pan American Sanitary Bureau, with the aim of intensifying the malaria campaign in that territory. The malarious area measures 32,000 km² and has an estimated population of 34,000.

From January to September 7,743 sprayings, or 91 percent of the work planned for this period, were carried out; also, 2,648 blood films were examined, of which 70, or 2.6 percent, were positive.

PAHO/SMF

GUATEMALA-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1955-1969, when the consolidation phase is expected to be completed.

Assistance provided: 2 malariologists, 1 sanitary engineer, and 3 sanitary inspectors; antimalarial drugs and limited amounts of other supplies and equipment; a 1-month fellowship for a physician to study eradication techniques in Bolivia and Honduras.

Work done: The population migration brought about by the opening of new agricultural areas, especially for planting cotton, along the Pacific coast, and the lack of additional resources with which to attack transmission in those areas gave rise in 1963 to cases and outbreaks in areas in the consolidation phase.

At year's end, 64.5 percent of the population originally exposed to malaria was living in areas in the consolidation phase. The area where the remaining 35.5 percent live continued in the attack phase, and of the 678,037 inhabitants exposed, only some 50,000 received the supplementary benefits of mass drug treatment or antilarval measures.

The 427,022 sprayings performed with DDT represented the end of the 8th cycle, all of the 9th, and part of the 10th. Epidemiological evaluation activities were intensified. Of the 348,866 blood films examined 15,116 were found positive; 2,846 of the positive films came from areas in the consolidation phase.

PAHO/SMF

AID, UNICEF

GUATEMALA-6, Nursing Education

Objective: To improve the nursing services of the country through the strengthening of the National School of Nursing, establishment of advanced educational programs, and training of nursing auxiliaries.

Probable duration: 1955-1964.

Assistance provided: 2 nurse educators; supplies and equipment.

Work done: In the program of basic nursing education, emphasis was placed on improving the system of admission of students; for the first time an entrance examination and a 6-week prenursing-training course were given. Revision of the course of study of the 27 subjects in the curriculum was finished. In-service education for the faculty was continued. Of the 52 students enrolled at the school, 18 were in the first year, 24 in the second, and 10 in the third; 29 nurses graduated in January: 15 nationals and 14 from 2 other Central American countries.

The third postbasic course in supervision and administration was carried out from 4 March to 21 September, for 21 students: 13 from Guatemala, 1 each from El Salvador, Honduras, and Nicaragua, 2 from Panamá, and 3 from Costa Rica.

An intensive course in psychiatric nursing was planned and carried out for nursing personnel scheduled to teach a postbasic course in psychiatric nursing in 1964. Certain services in the psychiatric hospital were used for clinical practice of students of the school and of the postbasic course.

A course for nursing auxiliaries was taught at the national hospital in the Departments of Escuintla, Huehuetenango, Jutiapa, and Zacapa, and in the neuropsychiatric hospital in the Capital; 234 auxiliaries completed courses and 75 were still in training at the end of 1963.

PAHO, WHO/TA

GUATEMALA-7, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Nursing education	Brazil	10½
2	Public health administration	México	10½

WHO/TA

GUATEMALA-8, Public Health Services

Objective: To reorganize the health services of the country at all levels; to train personnel; to formulate a national health plan and to put it into effect.

Probable duration: 1954-1971.

Assistance provided: A sanitary engineer and a sanitary inspector; a limited amount of supplies and one 11-month fellowship for studies in veterinary public health in Brazil.

VII. PROJECT ACTIVITIES

Work done: Work was begun in 2 health centers. A draft of the sanitary code was prepared. Plans were made for 2 vaccination programs, one, to cover a period of 5 years, to vaccinate 80 percent of the population against smallpox and the other, to cover a period of 3 years, to protect 70 percent of the population against diphtheria, pertussis, and tetanus. A Ten-Year Plan of Basic Sanitation was prepared. Assistance was given to the Municipal Council of the city of Guatemala in studying public health problems; the sanitary inspector assigned to this project and the staff of the National Public Health Service participated.

The following were trained: 8 nurses, 54 nursing auxiliaries, 17 waterworks operators, 18 municipal sanitation aides and 98 lay midwives.

WHO/R

UNICEF

GUATEMALA-14, Teaching of Public Health in the School of Veterinary Medicine

Objective: To strengthen the School of Veterinary Medicine of the University of San Carlos, especially as to the teaching of public health and preventive medicine.

Probable duration: 1957-1967.

Assistance provided: A short-term consultant and advisory services by personnel of Zone III Office; and teaching material.

Work done: The consultant assisted the Department of Public Health of the School of Veterinary Medicine to prepare its course of studies. The consultant from project AMRO-188 taught the course on infectious diseases.

PAHO

GUATEMALA-17, Promotion of Community Water Supplies

Objective: To cooperate in programs for the improvement of water services and in the planning, construction, and administration of new services.

Probable duration: 1961-

Assistance provided: Short-term consultant and advisory services by Zone III and project staff.

Work done: A short-term consultant in the administration and organization of services assisted in the preparation of a study of the water supply service of Guatemala City. Collaboration with the authorities of Guatemala City in the preparation of a project for the extension of its water supply and its presentation to the Inter-American Development Bank was continued.

PAHO/CWSF

GUATEMALA-19, Health Legislation

Objective: To prepare and put into force a Health Code to support health activities and health administration, especially the promotion, protection, and restoration of health and rehabilitation, based on the social and cultural characteristics of the country and the most up to date scientific knowledge.

Duration: 13 January-17 February and 24 February-3 March 1963.

Assistance provided: The services for 2 months of a consultant on health legislation.

Work done: The Health Code in force and the laws, decrees, and regulations supplementing it were studied and reviewed. A draft of a new health code was prepared, and the Government was studying the code with a view to its adoption.

PAHO

GUATEMALA-20, Mental Health

Objective: To study the mental health problem in Guatemala in connection with the proposed construction of a new national neuropsychiatric hospital in Guatemala.

Place and duration: Guatemala City, Guatemala, from 13 to 27 October 1963.

Assistance provided: One temporary adviser.

Work done: The adviser made a study of mental health needs and resources in Guatemala. His recommendations were submitted to the authorities of the country. Although the report recommended that a neuropsychiatric hospital be built it did draw attention to the fact that the building of such a hospital could be considered only part of a national program of mental health.

WHO/R

HAITI-1, Yaws Eradication

Objective: To eradicate yaws from the country and to vaccinate 80 percent of the population against smallpox in a period of 4 years beginning in 1962.

Probable duration: 1950-1965.

Assistance provided: A medical consultant and a sanitary inspector; a limited amount of transportation equipment and supplies.

Work done: 12 new cases of infectious yaws were confirmed by laboratory tests. The vigilance phase of the yaws eradication program was continued.

WHO/R

UNICEF

HAITI-4, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1961-1968, when the consolidation phase is expected to be completed.

Assistance provided: 1 malariologist, 1 epidemiologist, 1 sanitary engineer, and 3 sanitary inspectors; part of the local costs of studying the effectiveness of dichlorvos, or DDVP, and of other insecticides; a 1½-month fellowship to study eradication techniques in Colombia and Ecuador.

Work done: 902,687 houses were sprayed in the 3rd cycle and 914,430 houses in the 4th cycle; 386,657 blood films were examined, of which 6,662, or 1.72 percent were found positive. Compared with the 3.62 percent rate of 1962, in 1963 there was a marked reduction in the number of cases and consequently in the parasitic index.

Studies on the effectiveness of DDVP as an insecticide for malaria eradication campaigns were continued. This research is being carried out by the Government of Haiti, the Communicable Disease Center of the United States Public Health Service, AID, and PASB. The fumigant is being studied to determine its worth from both the entomological and the epidemiological viewpoints.

PAHO/SMF

AID, UNICEF

HAITI-9, Public Health Laboratory

Objective: To improve the operation of the public health laboratory.

Probable duration: 1953-1965.

Assistance provided: A consultant in laboratory services; supplies and equipment.

Work done: The consultant continued to assist in the reorganization of the central laboratory and in the training of personnel, and gave advisory services and supervised the Arcahaie health service laboratory. Research was carried out on problems connected with brucellosis, tuberculosis, tropical ulcer, and leptospirosis. During the year, 35,677 tests were made on 27,925 specimens.

PAHO

HAITI-16, Public Health Services

Objective: To organize modern public health services at the national and local level and to establish a demonstration and personnel training area.

Probable duration: 1957-1968.

Assistance provided: A medical officer, a nurse, and a sanitary engineer.

Work done: In accordance with the possibilities of the Government, the program prepared was limited to the Arcahaie area. After a survey had been made, maternal and child health and school hygiene services were organized, and sanitation work was done. Nursing auxiliaries were trained for work in this area.

PAHO, WHO/TA

UNICEF

HAITI-18, Smallpox Eradication

Objective: To vaccinate 80 percent of the population against smallpox.

Probable duration: 1962-1965.

Assistance provided: Technical advisory services by personnel assigned to other projects in Haiti. The Government of Brazil and Colombia supplied lyophilized smallpox vaccine.

Work done: 350,156 persons were vaccinated in the Departments of Artibonite, de l'Ouest, and du Nord. The percentage of population vaccinated in these departments by the end of 1963 was respectively 74.6, 75.1, and 75.8.

PAHO

HAITI-20, Nutrition

Objective: To assist the Government to conduct a nutrition program, including the establishment of an agency to coordinate the nutritional functions of the Ministries of Health, of Education, and of Agriculture.

Probable duration: 1961-1966.

Assistance provided: A nutrition adviser and a small amount of supplies and equipment.

Work done: The first stage of the project, namely the establishment of a nutrition office at the level of the Public Health Secretariat, was completed. The first two pilot projects in Bon Repos and Petite Place Cazeau have been in existence for 18 months and, like the centers which have recently been established, are used both as personnel training centers and as demonstration centers.

A start has been made on the integration of nutrition activities into public health activities, in coordination with project Haiti-16. Also, the Health Secretariat and the Agriculture Secretariat are collaborating in the final preparations for an expanded nutrition project.

PAHO

FAO, UNICEF

HAITI-22, Promotion of Community Water Supplies

Objective: To assist in the planning, design, and financing of an extension of the water supply systems of Port-au-Prince and the rest of the country.

Probable duration: 1960-

Assistance provided: Several consultants in administration and design of water supply systems.

Work done: Assistance was continued in the study of the loan application submitted to the Inter-American Development Bank, now pending a final decision.

PAHO/CWSF

HONDURAS-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1956-1968, when the consolidation phase is expected to be completed.

Assistance provided: 1 malariologist, 1 entomologist, and 2 sanitary inspectors; antimalarial drugs and a limited amount of other supplies and equipment.

Work done: As a calculated risk, it had been decided to suspend sprayings in an area measuring 78,703 km², with a population of 941,030, which then passed into the consolidation phase. The savings obtained through the suspension of sprayings in that area were used to improve the case-detection system and to apply organophosphorus insecticides and administer drugs in the area still in the attack phase. In March 1963 it was decided to use malathion at 4-month cycles in certain problem areas where favorable results are expected because the majority of houses have impermeable walls. It was also decided to use mass drug treatment as a supplement to spraying in other small areas where the vector, *Anopheles albimanus*, is resistant to both DDT and dieldrin.

During the year, 191,321 houses were sprayed with DDT in the 8th six-monthly cycle and in the 9th cycle, which was completed in December, 106,107 houses; there were also 38,726 sprayings with malathion in 4-month cycles. Blood films examined totalled 264,131 among which 7,077 cases were found; of these, 356 were identified as coming from areas in the consolidation phase, 177 were autochthonous, 51 were relapses, and 85 were imported from other countries or from other areas in the attack phase within the country; 43 remained unclassified.

PAHO/SMF

AID, UNICEF

HONDURAS-4, Public Health Services

Objective: To gradually organize integrated public health services both at the central level and in the field, including personnel training.

Probable duration: 1955-1967.

Assistance provided: A medical officer, a sanitary engineer, and a nurse.

Work done: Reorganization of the National Public Health Service was completed with the establishment of the policy-making and local health services departments, health promotion division, and maternal and child health department. The regulations of the National Service and local services were put into force. The following programs were organized in 56 health establishments: maternal and child health, immunizations, nursing and medical care. A manual of procedures for local services was prepared, covering all the activities to be carried out.

The Two-Year Health Plan (1963-1964) which is a consolidation and revision of the first 5-year health plan (1958-1962) was put into operation; a health planning board was established; an assessment of the health situation of the country was prepared, preliminary to the preparation of a new health plan for the period 1965-1969.

The first phase of the basic rural sanitation plan (water systems and privies) was put into operation in 80 communities. The tuberculosis control project begun in 1962 was continued. Buildings for 8 local health services were completed. Two training courses were attended by a total of 52 nursing auxiliaries and a 4-month course was held for 30 sanitary inspectors.

PAHO, WHO/TA

UNICEF

HONDURAS-5, Tuberculosis Control

Objective: To organize in the Departments of Morazán, Comayagua, and La Paz a demonstration area to obtain epidemiological information; apply and evaluate practical methods of tuberculosis control; and train medical and auxiliary personnel for the gradual extension of the program to other areas of the country.

Probable duration: 1962-1965.

Assistance provided: Technical advisory services by the tuberculosis consultant assigned to Zone III.

Work done: 135 persons—nurses and nursing auxiliaries—received training in 4-week courses. As a result of an agreement between the respective Governments, a Honduran physician specialized in tuberculosis attended a short course on public health at Caracas, Venezuela.

Program records showed the following data: persons X-rayed 73,201; cases diagnosed, 647, or 0.9 percent;

ambulatory patients still under supervision, 605; tuberculin tests read, 103,949; positive tuberculin tests, 36,609, or 35.2 percent; BCG vaccinations, 68,018.

Of the estimated 150,000 persons covered by the program, 70 percent were examined; the remaining population, scattered throughout places which are difficult of access, were administered only tuberculin tests and BCG vaccination.

Only in children under 10 years of age was tuberculin positivity found to be less than average (35.2), while it reached 50 percent in the age-group 20-24 years. Prevalence (0.9 percent) increased threefold in the age-group 40-54 years, and fivefold in the age group 55 years and above.

Because a check of radiological films led to the suspicion of some other etiology, the national authorities, with the advice of the Organization, made histoplasmin tests on 14,853 persons and coccidioidin tests on 4,896, the respective positivity rates being 51 percent and 0.6 percent.

PAHO

UNICEF

HONDURAS-6, Fellowships for Health Services

Two 11-month fellowships to study nutrition in Guatemala.

PAHO

HONDURAS-9, Promotion of Community Water Supplies

Objective: To assist in the organization, planning, and execution of national programs for the construction of water supply systems and the improvement of existing ones.

Probable duration: 1960-

Assistance provided: Engineering personnel of Zone III and of the project Honduras-4; a 4-month fellowship for studies in water analysis in the United States of America.

Work done: The Division of Environmental Sanitation of the Ministry of Public Health completed 17 rural water supply systems and rebuilt 13 systems.

In order to serve urban areas, the National Autonomous Waterworks and Drainage Authority (SANAA) obtained loans from the IADB and AID for the extension of the system to the Capital and for the construction of 24 new systems.

PAHO/CWSF

HONDURAS-10, Port City Development

Objective: To improve the sanitary conditions in Puerto Cortés by expanding the water supply service and installing sewerage and general drainage facilities.

Probable duration: 1961-1963.

Assistance provided: The services of a firm of consultant engineers were contracted. Assistance was also given by the engineering personnel of Headquarters, of Zone III, and of other projects in the country.

Work done: As planned, the field work of this project was completed. The firm of consultant engineers received all the necessary basic information for the design of the first stage.

WHO/TA

HONDURAS-12, Health Legislation

Objective: To plan and draft a Health Code.

Probable duration: 1963-1964.

Assistance provided: A short-term consultant.

Work done: Preliminary work was begun on this project, but was interrupted because of the death of the consultant.

PAHO

HONDURAS-51, Nutrition

Objective: To conduct an expanded nutrition program in a selected area of the country.

Probable duration: 1961-

Assistance provided: Advisory services by staff of Zone III Office and INCAP.

Work done: The communities in the area where the program will be conducted were selected.

WHO/R

FAO, UNICEF

JAMAICA-2, Malaria Eradication.

Objective: To eradicate malaria.

Probable duration: 1957-1964, when the consolidation phase is expected to be completed.

Assistance provided: Technical advisory services by the international team of project AMRO-117, and anti-malarial drugs.

Work done: Among the 145,596 blood films examined from January to September, 3 cases of *P. malariae* were discovered, but subsequent epidemiological investigation showed them to be relapses.

PAHO/SMF

AID, UNICEF

VII. PROJECT ACTIVITIES

JAMAICA-4, Department of Preventive Medicine, UWI^a

Objective: To improve the courses of the Department of Preventive Medicine of the University of the West Indies and to expand the teaching of clinical medicine in the Caribbean Area.

Probable duration: 1962-1965.

Assistance provided: 3 short-term consultants and a 1-year fellowship to study the organization of the teaching of medicine (microbiology) in Canada.

Work done: 2 short-term consultants and the Regional Adviser in medical education visited Jamaica and Barbados to study the medical curriculum of the University and advise the authorities of the Medical School on how to expand the facilities for the teaching of clinical medicine, mainly by making use of the new Barbados Hospital. PASB submitted the report of the consultants to the University authorities and the Barbados authorities, together with pertinent recommendations.

A short-term consultant advised the School on the teaching of preventive medicine. For that purpose he interviewed the authorities and staff of the Departments of Public Health of Barbados, Jamaica, and Puerto Rico. On concluding his mission he submitted a report together with recommendations.

PAHO, WHO/R

JAMAICA-7, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Clinical medicine (cancer gynecology)	United States of America	2
1	Public health administration	Ditto	12
1	Ditto	Canada	12

WHO/R

JAMAICA-13, *Aedes aegypti* Eradication

Objective: To eradicate *A. aegypti*.

Probable duration: 1952-

Assistance provided: Advisory services by staff of projects AMRO-8 and AMRO-88.

Work done: Some control operations were carried out in the international airports and port areas of Kingston and Montego Bay. The island is extensively infested; however, owing to the resistance of the mosquito to DDT and dieldrin, it is not considered advisable to reinstate

the eradication campaign until the studies begun in 1962 indicate which insecticides can be substituted for the chlorinated ones.

WHO/TA

JAMAICA-15, Health Legislation

Objective: To modernize the country's laws in the field of health.

Probable duration: 1962-1964.

Assistance provided: A short-term consultant.

Work done: With the consultant's advice, new legislation has been drafted on public health, mental health, food and drugs, nursing, midwifery and dentistry.

PAHO

JAMAICA-16, Rural Water Supplies

Objective: To assist in developing plans for water supply systems in rural areas.

Probable duration: 1963-

Assistance provided: A sanitary engineer and advisory services of Headquarters and Zone I Office staff.

Work done: Assistance was provided to the Ministry of Health in preparing a proposal for a rural water program, which was submitted to both PAHO/WHO and UNICEF for technical and material assistance. This program calls for the construction or improvement of 76 water supply systems in 14 parishes during a period of three years. By the end of 1963, the studies and the design work of the systems had been started. The Government of Jamaica already has available the local staff and equipment necessary for the program, including three engineers.

WHO/R

JAMAICA-17, Public Health Services

Objective: To assist the Government in an evaluation of present health problems, needs, resources, and cost of services; to prepare and develop a comprehensive national health plan within the framework of the national plan for social and economic development.

Probable duration: 1963-1968.

Assistance provided: Advisory services by the Zone I Office staff.

Work done: Preliminary work for an agreement with the Government was carried out.

PAHO

^a University of the West Indies.

MÉXICO-14, Nursing Education

Objective: To promote the development of basic nursing education in México through the advanced preparation of graduate nurses to serve as instructors; and to strengthen the preparation of auxiliary nursing personnel.

Probable duration: 1958-1967.

Assistance provided: 2 nurse educators, one of whom arrived in November; a small amount of nursing literature.

Work done: 23 instructors and 13 nursing-service administrators were prepared in two 6-month courses; 174 auxiliaries were trained in one 3-month and eleven 6-month courses. The 6-month course was set as the standard for the future, and 3 courses begun in 1963 with 69 students will be terminated in March 1964. The training of nursing auxiliaries was standardized through the preparation of a detailed program of studies which will serve as a guide for the instructors.

Plans for surveying the country's nursing needs and resources were begun.

PAHO

UNICEF

MÉXICO-15, State Public Health Services

Objective: To promote the organization and coordination of health services at the national and local level.

Probable duration: 1954-1967.

Assistance provided: A medical officer, 2 sanitary engineers, 2 public health nurses, a health educator and a sanitary inspector; a limited amount of supplies and equipment, and the following fellowships:

<i>Awards</i>	<i>Field of study</i>	<i>Place of study</i>	<i>Months</i>
1	Environmental sanitation (water treatment plants)	United States of America	1
1	Integrated public health services	Brasil, Colombia, Perú, Puerto Rico	3
1	Laboratory services (production of pertussis vaccine and other biologicals)	United States of America	3
1	Idem (virology)	Argentina, Brazil, Trinidad, Venezuela	1½
1	Organization on medical education	United States of America	1
1	Public health administration	Brazil, Chile, Puerto Rico, Venezuela	3
1	Nursing education	Brazil	10½

Work done: Assistance was given by UNICEF in the training of professional and auxiliary personnel, to which priority was given. Training in public health and statistics was given to physicians, engineers, and nurses, at the

School of Public Health and Social Welfare and the School of Sanitary Engineering. Six-month in-service training courses were held for physicians and nurses in Morelia, Michoacán, and Veracruz. Other courses of comparable duration were given for nursing auxiliaries, community developers, and sanitation aides.

Work on the construction of rural health centers and water supply units continued, and priority was given to the training of the necessary personnel.

A National Applied Nutrition Administration began to function.

PAHO, PAHO/CWSF, WHO/R

UNICEF

MÉXICO-23, National Institute of Nutrition

One 12-month fellowship was awarded for studies in the organization of medical education (nutrition) in the United States of America.

WHO/TA

FAO, UNICEF

MÉXICO-25, Fellowships for Health Services

<i>Awards</i>	<i>Field of study</i>	<i>Country of study</i>	<i>Months</i>
1	Organization of public health teaching (sanitary engineering)	United States of America	¾
1	Sanitary engineering	Ditto	¾

PAHO

MÉXICO-26, *Aedes aegypti* Eradication

Objective: To carry out the special investigation for certification of *A. aegypti* eradication.

Probable duration: 1959-1963.

Assistance provided: 4 sanitary inspectors for 8 months; orientation and technical supervision by the consultant of project AMRO-88.

Work done: The *A. aegypti* eradication program in México was begun in 1951; up to 1956, however, there had been two lengthy suspensions of the program and the results obtained were very limited.

In 1956, because of the opportunity offered by the malaria eradication program, the Government decided to reinstate the campaign against *A. aegypti*. To put the new plan into practice the National Antimosquito Service was established and made responsible for the eradication of *aegypti* throughout the country.

At the beginning of the new phase of the campaign the area presumed infested by *aegypti* comprised about

1,000,000 km.² and coincided with about 70 percent of the malarious area of México, the remaining 30 percent being nonmalarious areas in the north of the country and in the Peninsula of Yucatán. According to the plan of operations, in the malarious area it was left to the antimalaria spraying to eliminate *aegypti*, with the National Antimosquito Service limited to verifying the eradication of the yellow fever vector in that area. In the nonmalarious areas in the north and in Yucatán, as well as in a few cities where the Malaria Eradication Commission had only partly sprayed, the National Antimosquito Service was made entirely responsible for *aegypti* eradication.

The initial survey in the nonmalarious areas covered 3,700 localities, of which 248 were found infested with *aegypti*. In the malarious area, investigations made prior to 1956 of 572 localities had shown that 352 were infested with *aegypti*. Accordingly, of 4,272 localities inspected in the course of the initial survey in the entire area presumably infested, 600 were found positive for *A. aegypti*.

The results obtained by the campaign in its new phase were satisfactory from the beginning. At the end of 1961, treatment and verification operations had been carried out in the 600 initially positive localities, which by then were considered negative. Bearing this in mind as well as the results of two partial evaluations of the program, made in collaboration with PAHO in August 1959 and July 1961, the Government decided to carry out, with assistance from the Organization, the special verification of the whole country in order to confirm eradication of the mosquito.

This verification, which covered all the area of México that is ecologically favorable to *A. aegypti*, began in October 1961 and was completed in August 1963. At first the work was entrusted to 2 national teams (each composed of 6 agents and a team leader) supervised by 2 PAHO specialists. From February 1963 onwards, however, the local teams and international inspectors were respectively increased to 17 and 4. The consultant of project AMRO-88 was made responsible for the preparation of the plan of operations and itineraries for the verification as well as for the orientation and technical supervision of the work.

The results of the verification, in which 192,170 houses in 432 localities in 14 States and Territories were inspected, confirmed the eradication of the vector in the country. At the XIV Meeting of the Directing Council (Washington, D.C., 16-25 September 1963), México was formally declared free of *A. aegypti*.

PAHO

MÉXICO-28, Public Health Laboratory

Objective: To expand the services of the National Public Health Laboratory, with emphasis on the control of biological products, food, and drugs.

Probable duration: 1958-1964.

Assistance provided: Technical advisory services by Headquarters and Zone II Office; supply of reagents and strains; continuation of a fellowship for further 12 months for studies in virology in the United States of America.

Work done: The recommendations suggested by the short-term consultant were put into practice; reference laboratory services were provided for the control of the products produced in the country; plans were drawn up for a study on immunization against epidemic typhus by means of Strain E of *Rickettsia prowazeki*.

PAHO

UNICEF

MÉXICO-29, Leprosy Control

Objective: To develop a national leprosy control program based on modern methods and techniques.

Probable duration: 1960-1968.

Assistance provided: One medical officer and a grant for an epidemiological study.

Work done: In 1963 the working area included 10 States and the Federal District (19.5 percent of the country's total surface) and, according to the 1960 census, had a population of 16,276,641, or 42.5 percent, of the country's total population. This area has the highest leprosy prevalence in the country and contains 89.5 percent of all the registered cases. The epidemiological investigation of endemic areas continued during the year. Up to September the following new leprosy cases had been registered: 543 detected through dermatological consultations, 235 through examinations of contacts, 480 through notifications and reports, 8 through group examinations, and 79 by other means. A total of 58,099 dermatological consultations were handled, and 62,717 apparently healthy persons from among various population groups were examined for the purpose of case detection. The task of bringing most of the known leprosy patients under supervision was continued during the year. Although the surveillance of contacts may be considered the weakest point of the program, some progress was made in this area since 61.8 percent of the contacts of newly detected cases were examined in 1963.

An epidemiological study is being carried out by means of the mechanical tabulation of the case histories of

leprosy patients throughout the country. These case records were collected during the past three years.

WHO/R

UNICEF

MÉXICO-30, School of Public Health

Objective: To strengthen and expand the teaching program of the School of Public Health of the Ministry of Health and Welfare of México.

Probable duration: 1954.

Assistance provided: Advisory services by Headquarters staff and the following fellowships:

Awards	Field of study	Country of study	Months
1	Organization of public health education (public health administration)	Colombia, Cuba, Dominican Republic, Guatemala, Haiti, Honduras, Panamá	2
1	Ditto (epidemiology)	United States of America	2½

Work done: Assistance was given to regular teaching activities and seminars organized by the School, which continued to be used by the Bureau as one of the centers of international training for fellows of the countries in the Caribbean Area.

WHO/R

MÉXICO-32, Medical Education

Objective: To enlarge the basic professional education of physicians, especially in the preventive and social aspects of medical practice; and to improve the teaching of basic subjects in the medical curriculum by providing training abroad for teaching staff.

Probable duration: 1958.

Assistance provided: A short-term consultant and the following fellowships:

Awards	Field of study	Place of study	Months
1	Medical librarianship	Colombia	4½
1	Organization of the teaching of medicine	Chile, Colombia, El Salvador	1½
1	Ditto	Brazil, Colombia, El Salvador, Puerto Rico, Venezuela	2
2	Ditto	Chile	1½
1	Thoracic surgery	United States of America	12

Work done: In collaboration with the authorities of the University of Nuevo León, the consultant made a study of the educational program of the University's School of Medicine. The study showed that the institution was

capable of being used as a center for the training of teaching staff for schools of medicine of Latin American countries. As a result, cooperation between the Organization and the University was intensified.

PAHO

MÉXICO-35, Environmental Sanitation Training

Objective: To assist the School of Sanitary Engineering of the National Autonomous University of México and the School of Engineering of the University of Nuevo León in Monterrey to organize sanitary engineering courses and public health courses for engineers.

Probable duration: 1961-1967.

Assistance provided: Advisory services by staff of Zone II Office and of other projects in the country; and limited amounts of laboratory supplies.

Work done: Collaboration continued regarding the regular course of sanitary engineering at the National Autonomous University and the regular course on public health engineering at the University of Nuevo León. With the cooperation of the Ministry of Water Resources of México an intensive short-course was held at the National University on the selection of pumping equipment for water supply services; it was attended by 25 engineers. During the year, laboratory supplies provided by the Organization were received and delivered to both Universities.

WHO/R

MÉXICO-38, Tuberculosis Control

Objective: To carry out a series of epidemiological surveys in selected areas and to establish a demonstration area to show the applicability and effectiveness of tuberculosis control measures.

Probable duration: 1960-1968.

Assistance provided: Technical advisory services by the Regional Adviser in tuberculosis and by the consultant assigned to the program, who joined it in September 1963.

Work done: The mobile units completed surveys in Veracruz, Salina Cruz, Mérida, and Los Mochis; 30,746 persons were X-rayed and 3 percent of the films showed abnormal shadows. This percentage increased twofold in the age group 44 years and above, and threefold in the age group 60 years and above.

In Querétaro and San Juan del Río, 17,220 radiological examinations were made, and 2.3 percent showed suspicious shadows. In the remainder of the State of Querétaro

VII. PROJECT ACTIVITIES

the survey continued as part of the planning of the demonstration area.

As a result of the surveys, suspected cases were referred to regular services (chest clinics) for diagnosis and subsequent treatment.

The Tripartite Plan of Operations was revised and a new draft, more in accordance with actual conditions and present policy, was under preparation. A document was also prepared in justification of the request for additional PAHO/WHO and UNICEF assistance, including equipment for the regional laboratory at Querétaro.

WHO/R, WHO/TA

UNICEF

MÉXICO-39, Promotion of Community Water Supplies

Objective: To assist in the formulation of a national water supply program.

Probable duration: 1961-

Assistance provided: A sanitary engineer and, for 3 months, advisory services of the regional consultant in administrative methods.

Work done: Through these 2 consultants, collaboration was continued, as follows: with the Ministry of Water Resources, in the technical aspects of the design and operation of water services and in the administrative and organizational aspect; in the preparation of a request that the Government of México will submit to the World Bank for the financing of the construction and improvement of water supply services in the country; and with the Monterrey Water Board, in studies to improve the water services of that city.

PAHO/CWSF

MÉXICO-53, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1956-1966, when the consolidation phase is expected to be completed.

Assistance provided: 1 chief adviser, 2 malariologists, 1 sanitary engineer, 1 health educator, and 1 sanitary inspector; antimalarial drugs and financial assistance in conducting a pilot project of mass treatment in a problem area with persistent transmission; and fellowships as follows:

Awards	Field of study	Country of study	Months
1	Medical entomology	Brazil	4½
1	Ditto	Venezuela	4½

Work done: Epidemiological studies were expanded, as a result of which more information and accuracy was obtained on the delimitation of problem areas, periods of transmission, types of housing, ecology of the principal vectors (*Anopheles albimanus* and *A. pseudopunctipennis*) and population of the areas. The resistance of the principal vectors to DDT is not a very great problem; far more serious is that of their excitorepellency to the insecticide. The greatest problem, however, is financial. Despite efforts made by the Government, it has not been possible to obtain the funds needed for a suitable attack on transmission in problem areas where additional measures, such as antilarval treatment, mass treatment of the population with antimalarial drugs, and so forth, are needed.

The lack of progress in reducing transmission in the problem areas threatens the areas in the consolidation phase, where some four or five epidemic outbreaks occurred as a result of the agricultural and industrial development which is taking place in the latter. In the areas in the consolidation phase, transmission was interrupted but the vector was not eradicated, therefore any human migration from infested areas can easily reestablish transmission.

The houses sprayed in 1963 totalled 2,338,899, of which 1,551,297 corresponded to the 13th cycle and 1,606,127 to the 14th cycle. Several systems of spraying were tried: in some areas the houses were sprayed every 4 months with different doses of DDT; in other areas they were sprayed twice a year, but at shorter intervals during the period of transmission; in still other areas, half-yearly cycle sprayings were extended to the roofs of the houses regardless of the height of the walls, and, in addition, all annexes to the houses were also sprayed, regardless of whether they were used as human dormitories or not. Finally, in one area, only one annual spraying is being performed to prevent transmission.

In April 1963 a lack of financial resources put an end to an experiment that had been underway in the State of Guerrero, consisting in mass treatment of the population with chloroquine and primaquine in a single tablet administered in 15-day cycles, in addition to house sprayings with DDT every 6 months. This study showed that malaria disappeared in the rural areas where the drug was accepted by the population, but that transmission, although low, continued in urban areas where there was greater resistance to the treatment. Three months after suspending the administration of the tablet and because the suspension coincided with the period of greatest transmission, the latter was reestablished and within a short period reached the previous level. The study proved

that mass medication should be planned for fairly long periods and that it should not be used in areas near to or bordering on infested areas which are not subject to effective attack measures, because there are no static populations and the exchange of infected persons and persons who have not been treated for a sufficient length of time is continuous.

The problem of rejecting sprayings because the bedbugs have developed resistance to DDT was overcome by adding benzene hexachloride, or BHC, to DDT, but additional funds are needed to use the same method in other areas found in 1963 to have the same problem.

During the 12 months of the year, 1,832,551 blood films were examined, of which 16,741 were found positive. Of the positive films, 3,835 cases came from areas in the consolidation phase and were classified as: 1,775 autochthonous, 74 relapses, 1 case imported from abroad, 486 imported from other areas in the attack phase within the country, 340 introduced, 12 induced, and 1,147 could not be located for investigation and classification. Among the 3,835 cases, 183 infections were positive for *Plasmodium falciparum*, 3,634 for *P. vivax*, and 18 for *P. malariae*.

In view of these results the Government decided to return to the attack phase in 1964 those areas where autochthonous cases manifested the reestablishment of transmission.

PAHO/SMF, WHO/TA

UNICEF

NETHERLANDS ANTILLES-1, *Aedes aegypti* Eradication

Objective: To eradicate *A. aegypti*.

Probable duration: 1952-

Assistance provided: 1 sanitary inspector for the first quarter of 1963 and advisory services by the consultant of project AMRO-8.

Work done: Curaçao continued to be highly infested with a strain resistant to chlorinated insecticides; activities were limited to the port area of Willemstad and the results were inadequate. The Dutch part of the island of St. Martin continued infested, and no work was carried out during the year. Bonaire, which had been free of the mosquito for several years, was found reinfested in 1963, but eradication operations were not resumed. Aruba, Saba, and St. Eustaquius continued to be considered negative.

WHO/TA

NETHERLANDS ANTILLES-2, Fellowship for Health Services

One 12-month fellowship to study health education in Puerto Rico.

PAHO

NICARAGUA-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1957-1969, when the consolidation phase is expected to be completed.

Assistance provided: 2 malariologists, 1 sanitary engineer, 1 entomologist, 2 sanitary inspectors, and 1 entomologist's assistant; antimalarial drugs and a limited amount of other supplies and equipment.

Work done: During the second half of 1962 and all of 1963 it was decided, in view of the epidemiological data and financial resources available, to take a calculated risk and suspend sprayings in an area of 108,527 km.² with a population of 668,327 along the Atlantic coast. This freed the resources needed for increasing case-detection in that area and for intensifying the campaign in other areas where transmission persists.

As there was no possibility of obtaining additional financial assistance immediately, it was decided to conduct specific programs in the various problem areas. In Managua the only attack measure used is antilarval treatment, with which it has been possible to keep transmission at a low level; malathion is used as a residual insecticide in 4-monthly cycles at 3 large sugar plantations; and mass medication and malathion sprayings are used in the Madriz-Esteli area, where the vector is resistant to both DDT and dieldrin although it is not excited by DDT.

Difficulties were encountered in the Madriz-Esteli area because the population rejected the drug treatment and opposed the malathion sprayings. In the remainder of the area of persistent transmission, attack operations were suspended because of lack of additional funds and only a case-detection service is maintained.

During 1963 the following sprayings were carried out: 115,023 houses sprayed with DDT in the 9th cycle, and 59,875 houses sprayed in the 10th; there were also 22,816 sprayings with malathion. A total of 214,850 blood films were examined, of which 11,559 were positive; of these, 966 came from areas in the consolidation phase. The cases involved were classified as follows: 491 autochthonous, 39 relapses, 229 imported from other malarious areas in the country, 3 introduced, and 1 induced; 203 could not be investigated.

PAHO/SMF

AID, UNICEF

VII. PROJECT ACTIVITIES

NICARAGUA-3, Public Health Services

Objective: To plan and draft a national health plan that will serve as a basis for the preparation and execution of specific programs.

Probable duration: 1963-1970.

Assistance provided: Advisory services of 2 short-term consultants; one 11-month fellowship for studies of public dental health in Brazil.

Work done: A planning commission was set up to collect and analyze basic information.

PAHO, WHO/R

NICARAGUA-5, Nursing Education

Objective: To strengthen the National School of Nursing through the preparation of instructors, broadening of the curriculum to include public health nursing and courses in teaching and supervision, and improvement of physical facilities and clinical practice areas.

Probable duration: 1955-1964.

Assistance provided: A nurse educator up to 30 June and one 12-month fellowship to study nursing education (teaching of pediatric nursing) in Puerto Rico.

Work done: The reorganized curriculum was approved by the Ministry of Education. The school was transferred to the building of the former general hospital, and clinical practice areas were organized in the new El Retiro Hospital. The school graduated 26 students in March. The scholastic year began, in May, with 25 students in the first year, 24 in the second, and 19 in the third. Negotiations to incorporate the school into the National University of Nicaragua continued.

WHO/R

NICARAGUA-7, Fellowship for Health Services

One 10½-month fellowship to study maternal and child health in México.

PAHO

NICARAGUA-8, Tuberculosis Control

Objective: To organize in Chinandega and León a demonstration area to obtain epidemiological information, apply and evaluate practical methods of tuberculosis control, and train medical and auxiliary personnel for the gradual extension of the program to other areas of the country.

Probable duration: 1964-1968.

Assistance provided: Technical advisory services by the tuberculosis consultant assigned to Zone III.

Work done: Completion of the Tripartite Plan of Operations, which was awaiting signature at the end of 1963.

As a result of an agreement between the respective Governments, a Nicaraguan physician was undergoing training in the demonstration area of the Honduras-5 project. An in-service training program for auxiliary personnel was also organized.

PAHO

UNICEF

NICARAGUA-10, Promotion of Community Water Supplies

Objective: To assist in organizing a national water supply program and in the establishment of a central agency responsible for this service and for sewerage systems.

Probable duration: 1963.

Assistance provided: 1 sanitary engineer and the services of the engineering personnel of the Zone III Office; and a 2-month fellowship for sanitary engineering studies in Puerto Rico and Venezuela.

Work done: Assistance was given in the drafting of a bill for the establishment of the central agency, as well as in the drafting of design standards for water supplies. An investigation of the water supply situation in rural areas was started. A \$3,000,00 loan was obtained from the World Bank for the expansion of the water system in Managua. In addition, the IADB provided funds for a study of the drainage and sewage disposal system of the same city.

PAHO/CWSF

NICARAGUA-11, Nutrition

Objective: To conduct an expanded nutrition program in a selected area of the country, including education and training activities; promotion of the production of highly nutritious foods; and the improvement of the nutritional status of pregnant women, nursing mothers, preschool and school children.

Probable duration: 1962.

Assistance provided: Advisory services by staff of the Zone III Office and INCAP.

Work done: The program, which was begun in 1961, covers 4 Departments of the country including 47 primary

schools, 11 health centers and 5 agricultural extension agencies. Training has been given to 350 persons, including physicians, nurses, agriculture extension workers, supervisors, and school-teachers; 45 school gardens were established and these benefit about 3,000 school children and their families.

WHO/R

UNICEF

PANAMÁ-1, Public Health Services

Objective: To prepare a national health plan; to train personnel in the appropriate fields; to reorganize, improve, and extend the national health services.

Probable duration: 1952-1970.

Assistance provided: A medical officer, a sanitary engineer, a public health veterinarian, a consultant on administrative methods and procedures; a limited amount of supplies and equipment; and one 12-month fellowship for studies in public health nursing in Puerto Rico.

Work done: A national health plan covering the period 1962-1970 was prepared; the central administration of the Public Health Department was reorganized; at the local level the 3 existing regions were divided into a total of 16 health areas in which integrated health services are given to both the urban and the rural population.

In the period 1961-1963 training was given to 50 nurses, 40 sanitary inspectors, 28 laboratory technicians, 62 nursing auxiliaries and, by means of in-service training in public health services, to 20 physicians.

In the Central Region of the country the pilot area of Penonomé was set up. This area has a population of 68,916 inhabitants of which 89.4 percent live in rural communities or hamlets. A tuberculosis annex was organized as part of the Penonomé Medical Center.

In 1963, 210 wells were dug and 1,282 privies were constructed.

PAHO, WHO/TA

UNICEF

PANAMÁ-2, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1956-1968, when the consolidation phase is expected to be completed.

Assistance provided: 1 medical officer, 1 sanitary engineer, 3 sanitary inspectors, and 1 administrative officer from project AMRO-118 stationed in Panamá; also anti-malarial drugs, a limited amount of supplies and equipment, and fellowships as follows

Awards	Field of study	Country of study	Months
1	Malaria eradication	Brazil	4½
1	Ditto	Costa Rica, Nicaragua, Honduras	¾

Work done: The 2nd cycle of DDT sprayings, which covered 184,355 houses, was completed in April. In the 3rd cycle, begun in May, 195,675 houses were sprayed, and the 4th cycle was begun in October. During the year, 373,452 houses were sprayed with DDT and 2,216 with dieldrin. The blood films examined amounted to 152,898, of which 2,670, or 1.7 percent, were found positive.

During the year, 2 areas where persistence of transmission was strong were discovered, and special studies were begun to determine the cause of the failure of the insecticide. To date, no signs have been found of any resistance by the vector, *Anopheles albimanus*, to either DDT or dieldrin, but in some areas the vector is strongly excited or repelled by DDT.

PAHO/SMF

UNICEF

PANAMÁ-7, Fellowship for Health Services

One 2-month fellowship to study control of pharmaceutical preparations (food and drug control) in the United States of America.

WHO/R

PANAMÁ-9, Promotion of Community Water Supplies

Objective: To cooperate in the organization of a national water supply and sewerage authority and in the development of a national water supply program.

Probable duration: 1960-

Assistance provided: Assistance was given through Zone III Office staff and by personnel assigned to other projects in the country.

Work done: Advisory services to the National Water Supply and Sewerage Institute (IDAAN) on various aspects of its program, specifically water rates and personnel training, were continued. With the aid of loans received from the IADB and AID, waterworks are being constructed in the seven main towns in the interior and the water supply and sewage disposal system of the city of Panamá is being expanded. Assistance was given in a program to supply piped water in twelve rural communities in a period of two years.

PAHO/CWSF

PANAMA-10, Planning and Organization of Hospital Services

Objective: To study the operation of medical care services in the country; to establish a hospital network in the country; and to improve the administration of existing hospital institutions.

Probable duration: 1962-1966.

Assistance provided: One medical officer.

Work done: According to the National Health Plan, a hospital policy was established for medical care; also considered were the development of hospital services that include the physical plant, equipment, personnel, budget, extension of services, and the coordination with other health institutions in the country.

PAHO

PANAMÁ-11, Nutrition

Objective: To conduct an expanded nutrition program in a selected area of the country.

Probable duration: 1962-1966.

Assistance provided: Advisory services by technical staff of Zone III Office and of INCAP.

Work done: A short course was given at the central level for 120 supervisors from the Ministries of Public Health, of Agriculture, and of Education; subsequently, 460 officials, mostly primary school teachers, attended local training courses. By May the nutrition program was in operation in 41 selected schools in the Central Region.

WHO/R

FAO, UNICEF

PANAMÁ-13, Leprosy Control

Objective: To promote a fuller awareness of the problem of leprosy in the country, and the organization, conduct, and evaluation of a national leprosy control program based on modern methods and procedures.

Probable duration: 1961-1967.

Assistance provided: Advisory services by the Zone III leprosy consultant (AMRO-202).

Work done: The program is being conducted as a part of the regular activities of the public health service. At the end of 1963 a total of 185 leprosy cases had been registered, of which 8 were discovered during the year. There were 475 contacts registered by December 1963, of which 372 were under surveillance.

PAHO

UNICEF

PANAMA-14, Tuberculosis Control

Objective: To develop a tuberculosis control program, integrated with the local health services in the provinces of the Central Region of the country, and to expand and improve the control programs in the other two regions, insofar as it is justified by the progress of the demonstration area.

Probable duration: 1963-1968.

Assistance provided: Advisory services by the tuberculosis consultant assigned to Zone III.

Work done: The initial phase in the Central Region of the country was completed. The 206,119 persons examined showed a positivity rate of 22.1 percent in the age-group under 15 years of age and a prevalence of 0.8 for every 100 persons examined. This program, which reached record figures for photofluorograms per day, refers discovered cases to the attention of local health services for treatment.

PAHO

UNICEF

PARAGUAY-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1961-1970.

Assistance provided: 1 sanitary inspector and occasional advice from the malariologist assigned to project Argentina-8; and a 3-month fellowship to study eradication methods in Brazil.

Work done: The program has been in the preparatory phase since spraying operations were stopped in 1961.

During 1963 a total of 92,806 blood films were examined, of which 3,443, or 3.7 percent, were found positive.

With the interruption of the campaign, malaria incidence has increased in comparison with previous years.

PAHO/SMF

UNICEF

PARAGUAY-9, Leprosy Control

Objective: To formulate and develop a national leprosy control program based on modern techniques and procedures.

Probable duration: 1956-1964.

Assistance provided: Advisory services by the Zone VI leprosy consultant (AMRO-305).

Work done: A total of 3,739 patients were registered by 30 June 1963, of which 2,691, or 73 percent, were under regular supervision. By 31 December of the same year the estimated number of contacts was 14,676, of

which 2,366, or 16.1 percent, were under surveillance. Of the total of registered cases, 48.7 percent were lepromatous, 29.71 percent tuberculoid, 20.78 percent indeterminate, and 1.28 percent were borderline. During 1963, 188 new cases were detected.

WHO/R

UNICEF

PARAGUAY-10, Public Health Services

Objective: To formulate a ten-year health plan for the country as part of the national economic and social development plans.

Probable duration: 1959-1966.

Assistance provided: A chief medical officer, a sanitary engineer, a public health nurse, advisory services by the consultant in administrative methods and procedures and by personnel of Zone VI Office and of Headquarters; and the following fellowships:

Awards	Field of study	Place of study	Months
1	Nutrition	Guatemala	11
1	Public health administration	Puerto Rico	4½

Work done: For the first time, program budgets and health center budgets were prepared. They contained quantitative objectives and the estimated costs of each activity. Planning activities were developed by planning areas, in close coordination with the work of the General Planning Board. The Ministry of Health was reorganized, and the medical care services of the Capital were coordinated and concentrated in order to achieve better use of personnel and resources.

As for educational activities 15 nurses were graduated at the Dr. Andrés Barbero Institute. Thirty-three nursing auxiliaries were trained, and refresher courses were held for 20 welfare workers, 20 nurses, and 19 midwives.

PAHO, WHO/TA

UNICEF

PARAGUAY-12, Fellowships for Health Services

Awards	Field of study	Country of study	Months
2	Clinical and social pediatrics	Chile	3
2	Ditto	Perú	1

WHO/R

PARAGUAY-13, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Maternal and child health	Chile	6½
1	Ditto	México	10½
1	Public health administration	Brazil	11

PAHO

PARAGUAY-18, Nutrition

Objective: To promote the improvement of the nutrition status of the population by means of a coordinated program, through the health, agricultural and education agencies, which will include the treatment and prevention of malnutrition, intensive education and increase in production of nutritious foods.

Probable duration: 1960-1963.

Assistance provided: Advisory services by Zone VI Office staff.

Work done: A recent evaluation of this project showed 66 school gardens in use, 29 poultry units, 39 orchards, and 40 reforestation areas. During the year orientation courses on the program were given to 47 directors of schools, 90 artisan masters, and 130 community leaders. Short courses in nutrition were given to 120 school teachers and 20 directors of superior primary schools. The program of salt iodization continues successfully and a national survey of population nutrition status is being prepared.

WHO/R

FAO, UNICEF

PARAGUAY-19, Promotion of Community Water Supplies

Objective: To assist in the formulation and execution of a national water supply program.

Probable duration: 1961.

Assistance provided: Services by Headquarters and Zone VI engineering personnel, and short-term consultants; and a 2½-month fellowship for environmental sanitation studies in the United States of America and Puerto Rico.

Work done: The National Autonomous Service of Sanitary Works (SANOS), established in 1962, prepared a document entitled The Ten-Year Water Supply Plan which sets the targets to be reached in the next 10 years. A consultant in administration and the PASB liaison engineer visited the country to orient national officials as to the financing and administration of water services.

Projects for three cities in the interior are being designed, and requests were presented to IADB and AID for financial assistance for studies of other important cities in the country.

PAHO/CWSF, UN

PERÚ-5, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1956-1971, when the consolidation phase is expected to be completed.

VII. PROJECT ACTIVITIES

Assistance provided: 1 malariologist, 1 sanitary engineer, and 5 sanitary inspectors; antimalarial drugs and a limited amount of other supplies and equipment; two 5½-month fellowships for physicians to study eradication techniques in Honduras, México, and Venezuela.

Work done: New areas were added to those already in the consolidation phase which by September included 268,211 km² with a population of 2,198,958.

Malaria was declared eradicated from an originally malarious area of 31,039 km² with 42,740 population in the Departments of Tacna and Moquegua, and their surveillance became the responsibility of the local health authorities.

There were 500,218 sprayings during the year, and the epidemiological operations continued at a favorable pace. In 490,927 blood films examined 1,722 cases were found. Of these, 64 cases came from areas in the consolidation phase and were classified as: 15 autochthonous, 11 relapses, 2 imported from other countries and 18 from other areas in the attack phase within the country, 12 introduced, and 7 induced; the remaining 9 could not be classified. No cases were found in the area in the maintenance phase.

PAHO/SMF, WHO/TA

AID, UNICEF

PERÚ-15, Nursing Education

Objective: To prepare graduate nurses for administrative, supervisory, and teaching posts for schools of nursing, hospitals, and national health services of the country; to strengthen the existing schools of nursing and, if necessary, to organize new schools. The objective of this project was restricted to the field of basic nursing education after a new agreement for the training of health personnel (Perú-33) was signed in April.

Probable duration: 1959-1968.

Assistance provided: A nurse educator, shared with Perú-33; and one 12-month fellowship to study nursing education in the United States of America.

Work done: A study of the 10 existing schools of nursing showed that in 1963 there were 653 students and 68 instructors, and that 30 of the instructors (44 percent) had had preparation for teaching. This was a striking improvement over the situation existing in 1959 when, of 57 instructors, only 2 (3.5 percent) had been prepared for teaching.

Plans were undertaken to assist the University of San Marcos in organizing the first school of nursing in Perú at university level.

WHO/R

PERÚ-22, Public Health Services

Objective: To improve health services at the national, regional and local levels; to organize health areas, beginning with the Junín Health Area.

Probable duration: 1956-1967.

Assistance provided: A chief medical officer, a sanitary engineer, a public health nurse, and the following fellowships:

Awards	Field of study	Place of study	Months
1	Mental health	Denmark, the Netherlands, United Kingdom, United States of America	4
1	Occupational health	United States of America	6
1	Public health administration	Brazil, El Salvador, México, Panamá, Puerto Rico, Venezuela	4
1	Ditto (epidemiology)	Chile	10
1	Ditto (veterinary public health)	Brazil	11

Work done: A start was made on the reorganization of the administrative services of the Ministry of Public Health and Social Welfare. Plans were made for the reorganization of the Purchasing and the Mobilization Units and changes in the personnel regulations were under study.

A plan of operations for the Junín Health Area covering the period 1963-1967 was prepared, as was a guide for the programming of the activities of health units. One mobile health unit and 3 health posts were organized in the area. Three health-center hospitals, 2 medical posts, and 17 health posts were organized.

Two physicians, 30 nursing auxiliaries and 17 sanitary inspectors were trained in local courses; and 15 nursing auxiliaries were given in-service training. By the end of the year, 100 percent of the physicians and 71 percent of the nurses in the area had received public health training, and 51 percent of the sanitary inspectors and 29 percent of the nursing auxiliaries had received training in their own fields.

Four water supply systems were built and 3 wells dug in rural communities, benefiting 2,100 persons (0.67 percent of the rural population). In a community with a population of 2,200 (0.68 percent of the population), 403 privies were constructed.

In the maternal and child health program, care was given to 7.5 percent of all pregnant women and 4.7 percent of deliveries were attended. Forty percent of the children under 1 year of age were examined, and the average number of visits per child was 1.8.

There are 683 hospital beds, or 1.3 per person, in the Area. In 1963 the average hospital stay was 21.8 days, with an occupancy rate of 67.3 percent. There were

13 outpatient consultations for every hospital admission and an average of 0.17 medical consultation per inhabitant per year.

There were 66,620 persons, or 12.5 percent of the population, vaccinated against smallpox; and 6,471 children under 7 years of age (5.6 percent of the total) were vaccinated against diphtheria and whooping cough.

In 80 percent of the districts, registers of births and deaths were maintained and 36.2 percent of all deaths were medically certified.

In 1963 the birth rate in the area was 43.3 per 1,000; the general mortality rate, 17.4 per 1,000; and the infant mortality rate, 118 per 1,000 live births.

WHO/TA

UNICEF

PERÚ-23, Joint Field Mission on Indigenous Population

Objective: To accelerate the development of the rural population of the Andean Highlands, including health, in order to facilitate its integration into national life.

Probable duration: 1955-

Assistance provided: Advisory services by technical staff of Zone IV Office and by the consultants assigned to projects Bolivia-11, Ecuador-22, and Perú-22.

Work done: This project covers 112,000 persons in the Department of Puno; they are provided with care by 2 medical posts, each of which has 8 beds, and by 4 health centers. Eleven nursing auxiliaries and 6 sanitation aides were trained. Ninety-two school teachers underwent a short course on applied nutrition and the establishment of school vegetable gardens. Training with special emphasis on nutrition was given to 14 homemakers. Thirty-one school gardens, 39 community gardens, 10 homemakers' clubs, 9 agricultural clubs for young persons, 10 demonstration fields, and 92 local committees were organized.

WHO/TA

FAO, ILO, UN, UNESCO, UNICEF

PERÚ-25, Fellowship for Health Services

One 10½-month fellowship to study public health administration in México.

PAHO

PERÚ-29, Tuberculosis Control

Objective: To carry out a preliminary epidemiological survey; to establish in the Tacna and Moquegua health

area a demonstration area for the application and evaluation of practical methods of tuberculosis control; and to train medical and auxiliary personnel for the gradual extension of the program to other areas of the country.

Probable duration: 1961-1966.

Assistance provided: Technical advisory services by the tuberculosis consultant assigned to Zone IV and by a nurse, specialized in tuberculosis, who is permanently assigned to this program.

Work done: The sample survey carried out in the Tacna health area was completed in April 1963. Of the persons included in the survey, 88.3 percent were examined with the following results: persons X-rayed, 6,261; shadows attributable to tuberculosis, 283 or 4.5 percent; cases confirmed by bacteriological examination, 60; tuberculin tests read in the age-group 7-14 years, 1,443; positive tuberculin tests, 573, or 39.7 percent.

The demonstration area began to function on 1 July 1963. By the end of October the records showed the following data: persons X-rayed, 22,736; suspected to be tuberculous, 1,801; completed examinations, 1,308; cases confirmed by X-ray examination, 740. The estimated tuberculosis prevalence among the persons examined was 4.5 percent; tuberculin tests read, 19,239; positive tests, 13,778, or 71 percent; BCG vaccinations, 5,714.

The follow-up of patients was satisfactory in medium size and small localities, but considerably less so in the city of Tacna itself. The percentage of patients under supervision between the eighth and twelfth month ranged from 64.6 to 81.7.

PAHO

UNICEF

PERÚ-30, Promotion of Community Water Supplies

Objective: To advise the Ministry of Development and Public Works on the planning, organization, and development of a national program for the construction or extension of water supply and sewage disposal services, including their administration and operation.

Probable duration: 1960-

Assistance provided: A sanitary engineer, short-term consultants, and a ¾-month fellowship to study sanitary engineering in Colombia and Puerto Rico.

Work done: Assistance was provided in the revision of the technical part of the water supply and sewage disposal plan the Government submitted to AID for financing. This plan, which includes water supply and sewerage

VII. PROJECT ACTIVITIES

projects for 68 communities, will cost approximately 8 million dollars. The Sanitary Corporation of Lima obtained loans from AID and from the Export-Import Bank in the amount of 15.1 million dollars for the extension of its water supply and sewerage services. Through short-term consultants, assistance in administration and accounting was given to the Ministry. Assistance was also given in the drafting of a bill, to be presented to the Government, for the transformation of the present Department of Sanitary Works into a National Sanitary Works Corporation, which would be an independent agency administering all water supply and sewage disposal services in the country.

PAHO/CWSF, WHO/TA

IADB

PERÚ-32, Infant diarrhea and malnutrition

Objective: To study the nature of the water metabolism and electrolyte changes in children suffering from diarrhea and malnutrition and find the best ways of treating such children.

Probable duration: 1960-1964.

Assistance provided: Management of the administrative aspects of this project through the Zone IV Office.

Work done: Research was continued at the Anglo-American Hospital in Lima.

NIH

PERÚ-33, Training of Health Workers

Objective: To ensure the adequate preparation of professional, technical, and auxiliary health personnel for the services of the Ministry of Public Health and Social Welfare.

Probable duration: 1963-1966.

Assistance provided: A nurse educator, shared with Perú-15, and advisory services of Zone IV Office technical personnel.

Work done: 10 nurses each were prepared in nursing service administration, in nursing education, and in public health nursing. This raised the number of nurses prepared by the Institute for Postbasic Studies in Nursing to a total of 97. As the faculty for the Institute becomes prepared, the nurse adviser will be able to give less time to the strengthening of this program and more to the strengthening of basic nursing education.

PAHO, WHO/R

UNICEF

SURINAM-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1957-1968, when the consolidation phase is expected to be completed.

Assistance provided: A chief malariologist who at the Government's request acts as the technical director of the program, 1 entomologist, 1 health educator, 2 malaria specialists, and 1 sanitary inspector; malarial drugs, audiovisual material, radio-communication equipment and other facilities.

Work done: The coastal area of this territory, where 80 percent of the population lives, continued in the consolidation phase. Between January and September, 5 cases of malaria imported from the interior were identified in this area. In addition, 21 cases were found in Paramaribo, an area originally considered nonmalarious; all came from the interior of the country.

Because of the strong opposition to sprayings in 1962, brought about by the resistance to DDT of the *Blata germanica* cockroach, which infests most of the houses in the interior, it was decided to apply dieldrin in six-month cycles. The 8th half-yearly cycle of dieldrin sprayings was carried out from January to June; 16,584 houses were sprayed, and 5,509 houses remained pending. Of these, 13 were considered as nonsprayable, 1,036 as refusals, and 4,460 closed. The proportion of houses not sprayed was 24.9 percent. During the first 3 months of the 9th cycle 6,522 houses were sprayed and 1,875, or 22.2 percent, remained unsprayed.

Of the 67,696 blood films taken, 1,882 were positive; over 90 percent of the cases were positive for *Plasmodium falciparum*.

PAHO/SMF

UNICEF

SURINAM-51, *Aedes aegypti* Eradication

Objective: To eradicate *A. aegypti*.

Probable duration: 1952-

Assistance provided: 1 sanitary inspector for 12 months and the services of another sanitary inspector for 6 months; supplies; and supervision by the medical officer of project AMRO-8.

Work done: The campaign began in July 1963 when eradication operations were undertaken in the city of Paramaribo. From July to November, 4 cycles of treatment and inspection in the city were completed and the infestation rate was reduced from 32 percent to 10 percent. The limited success of the campaign was due to technical and administrative difficulties that included low susceptibility of the mosquito to chlorinated insecticides,

high rate of absenteeism among field staff, and high percentage of houses not visited during the course of each cycle.

In addition to the operations in Paramaribo, the initial survey was carried out in 15 other localities, in all of which a high infestation rate was found.

WHO/R

TRINIDAD-3, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1958-1964, when the special evaluation to declare the country free of malaria will be carried out.

Assistance provided: Technical advisory services by the international team of project AMRO-117.

Work done: No autochthonous case of malaria has been recorded in Trinidad since 1960, and in Tobago for the past 10 years.

From January to October, 93,351 blood films were examined, and all were found negative.

PAHO/SMF

UNICEF

TRINIDAD-9, Nutrition

Objective: To develop a national expanded nutrition program and to train professional and auxiliary personnel in the field of nutrition.

Probable duration: 1962-1965.

Assistance provided: Advisory services by the consultant of the project AMRO-269, and Zone I Office staff.

Work done: 12 pilot project schools have been selected for development of school gardens and home economic centers, and 4 training courses for community leaders and teachers have been conducted. A nutritional center for clinical studies, research training, and services to the community has been organized.

WHO/R

FAO, ICNND, UNICEF

TRINIDAD-10, Promotion of Community Water Supplies

Objective: To assist in developing plans for water supply systems in rural areas; to assist in the unification of the urban water supply systems.

Probable duration: 1963-

Assistance provided: Two short term consultants, advisory services of Headquarters and Zone I staff.

Work done: A short-term consultant was provided to assist in the preparation of a project proposal to be submitted to the United Nations Special Fund for the determination of the total water resources of the country as well as to prepare a better utilization of said resources. The Government is studying the report before submitting it to the UNSF. The report produced by the short-term consultant regarding the unification of the agencies involved in the operation and management of the urban water supply system in Trinidad was considered by the Government, which accepted the recommendations made in the report. The Government requested a new visit by the short-term consultant, for further implementation of his recommendations; the visit has been scheduled for early 1964. The Government requested assistance in preparing an island-wide water supply program for Tobago. The national engineer has already been selected and a PAHO/WHO water-supply design engineer from the project West Indies-18 will pay regular visits starting early in 1964.

PAHO, WHO

TRINIDAD-11, Pathogenesis and Prevention of Anemia

Objective: To study the pathogenesis and prevention of anemia in Trinidad and Tobago, in order to identify the major environmental (including nutritional) and hereditary factors and to qualify their relative importance, seeking practical measures to reduce the prevalence of the disease.

Probable duration: 1963-1965.

Assistance provided: Advisory services by the nutrition consultant of the project AMRO-269 and Zone I Office staff; supplies and equipment.

Work done: Studies to determine the pathogenesis of anemia in the following human groups have been completed: pregnant women, nursing mothers, and cases of protein-calorie malnutrition. A fourth study on anemia in adult men is now being conducted.

PAHO

NIH

TRINIDAD-12, Nursing Services

Objective: To strengthen and improve the nursing services in Trinidad and Tobago, British Guiana, and Surinam.

Probable duration: 1959-1966.

Assistance provided: One nurse consultant.

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Work done: The shortage of nursing personnel in Trinidad and Tobago has made it difficult for the Government to release a suitable person for the post of Principal Nursing Officer and this has impeded the progress of the project. An inservice education program was prepared.

In British Guiana assistance was provided in strengthening the supervision of public health nurses and planning for inservice education. In Surinam a preliminary survey was made of the nursing resources and suggestions were formulated for planning an inservice education program for public health nursing personnel.

WHO/TA

TRINIDAD-13, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Medical technology	Jamaica	11
1	Nutrition	United States of America	12
1	Nutrition education	Ditto	12
1	Organization of public health teaching (sanitary engineering)	Ditto	1½

WHO/R

UNITED STATES-10, Consultants in Specialized Fields of Public Health

Objective: To provide short-term consultants for the study of special public health problems.

Probable duration: 1958-

Assistance provided: 2 short-term consultants.

Work done: The consultant on foreign quarantine lectured (7 January-8 March) at the Division of Foreign Quarantine of the USPHS. A report on his mission was formally presented to the Surgeon General. The consultant on town planning spent 3 months at the Division of Environmental Engineering and Food Protection of the USPHS.

WHO/R

UNITED STATES-11, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Hospital and medical care administration	Denmark, Sweden	1
1	Maternal and child health	Denmark, Greece, Italy, Netherlands, Sweden, United Kingdom, Yugoslavia	3

1	Ditto	Ditto, Switzerland	3
1	Nursing education	Norway	2
1	Ditto	Netherlands, United Kingdom	2
1	Ditto	Denmark, Norway, United Kingdom	1¾
1	Organization of medical education	Germany, Sweden	1½
1	Ditto (psychiatry)	France, Netherlands, United Kingdom	2
1	Organization of public health teaching	Congo, Ethiopia, Ghana, Kenya, Nigeria, Uganda	2½
1	Ditto (environmental sanitation)	Italy, Netherlands, Switzerland, United Kingdom	3¼
1	Ditto (maternal and child health)	Brazil, Colombia, Chile, Perú, México	2¼
1	Public health administration	Colombia, México, Panamá, Perú	2
1	Ditto (geriatrics)	Denmark, Netherlands, Sweden, United Kingdom	8
1	Public health nursing (school health)	Norway	2
1	Rehabilitation	Denmark, Finland, Netherlands, Sweden, Yugoslavia, United Kingdom	3½

PAHO

UNITED STATES-12, Medical and Public Health Training (Traveling Seminar)

The fellowships awarded to U.S. nationals who participated in the Traveling Seminar on Organization and Administration of Schools of Public Health in Europe were financed with funds from this project (see AMRO-16; see also Professional Education in Public Health, Chapter IV).

PAHO

UNITED STATES-200, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Organization of public health teaching (epidemiology)	Israel, Kenya, Netherlands, Southern Rhodesia, Uganda, Yugoslavia	2
1	Ditto (public health administration)	Bulgaria, Czechoslovakia, Denmark, Norway, Soviet Union, Sweden	2½

WHO/R

URUGUAY-5, Public Health Services

Objective: To organize integrated health services in 5 Departments and subsequently to extend them to the whole country.

Probable duration: 1955-1969.

Assistance provided: A chief medical officer, a public health nurse, a sanitary engineer; and the following fellowships:

Awards	Field of study	Country of study	Months
1	Nutrition	Guatemala	11
1	Public health administration	Chile	10

Work done: A new plan of operations was prepared and by the end of the year was under discussion. This plan provides for the extension of activities to a further 4 Departments, defines the objectives of the plan with more accuracy and adds other new objectives, including planning, Chagas' disease control, and some aspects of medical care. Attempts at health planning were not successful. In the field of rural sanitation better results were obtained than in previous years; 23 wells were dug with the aid of 5 drills. Training courses in nutrition and clinical and social pediatrics were held.

WHO/TA

UNICEF

URUGUAY-8, Fellowships for Health Services

Awards	Field of study	Place of study	Months
1	Clinical and social pediatrics	Chile	3
1	Ditto	Ditto	2¾
2	Ditto	Perú	1
1	Health statistics	Chile	9¼
1	Organization of medical education (preventive medicine)	Brazil, Puerto Rico, United States of America	3

WHO/R

URUGUAY-13, Training of Health Personnel

Objective: To strengthen the Dr. Carlos Nery School of Nursing, and to prepare auxiliary personnel as needed for the health plans of the country.

Probable duration: 1960-1968.

Assistance provided: A nurse educator up to July 1963.

Work done: 2 seminars were conducted: one, on evaluation of nursing education in Uruguay, in which instructors of the two schools of nursing in Montevideo and nurses from the health services participated; and the

other (a follow-up of a preliminary study begun in 1962), on planning for a survey of nursing and midwifery needs and resources.

PAHO

UNICEF

URUGUAY-18, Promotion of Community Water Supplies

Objective: To formulate and carry out national water supply programs.

Probable duration: 1962-

Assistance provided: Advisory services by Zone VI Office and by staff of project Uruguay-5.

Work done: The National Sanitary Works Administration obtained a loan of \$5,745,000 to finance the extension of the Montevideo water supply system, the total cost of which will amount to 14.5 million dollars. A loan of 2.5 million dollars was also obtained from IADB for the improvement of the Montevideo sewerage system.

PAHO/CWSF

VENEZUELA-9, Fellowships for Health Services

Awards	Field of study	Country of study	Months
1	Occupational health	United States of America	11
1	Zoonosis control	Ditto	1½

PAHO

VENEZUELA-10, Fellowships for Health Services

Awards	Field of study	Place of study	Months
2	Clinical and social pediatrics	Peru	1
1	Health statistics	Chile	9½
1	Medical records librarianship	Puerto Rico, United States of America	1½
2	Organization of dental education	Colombia	½
1	Organization of medical education (preventive and social medicine)	Brazil, Colombia, United States of America	1¾
1	Ditto (public health administration)	United States of America	12
1	Ditto (teaching of preventive medicine)	Brazil, Colombia, Chile, El Salvador	1½
1	Organization of public health teaching (dental health)	Colombia	½
1	Public health laboratory	United States of America	4
1	Sanitary engineering	México	10½

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2	Ditto	United States of America	12
1	Social and preventive medicine	Brazil, Chile, Colombia, El Salvador	1½
2	Veterinary public health (food control)	United States of America	1

WHO/R

VENEZUELA-11, Plague Investigation

Objective: To determine the extent and nature of plague foci in the country.

Probable duration: 1963-1964.

Assistance provided: A short-term consultant.

Work done: The consultant arrived at the end of 1963 and began the investigation.

PAHO

VENEZUELA-14, Nursing Education

Objective: To broaden nursing education to include the preventive and curative aspects of nursing and specialization in administration and supervision; to establish training centers for nursing auxiliaries.

Probable duration: 1959-

Assistance provided: A nurse educator and one 12-month fellowship to study nursing education in Puerto Rico.

Work done: A 9-month program in advanced nursing was begun in October with 10 enrolled in nursing administration and 4 in teaching methods. A 4-month course carried out for instructors of schools of nursing was attended by 6 graduate nurses who had completed high school education; and an intensive 6-week course was carried out for 23 nurses who lacked complete high school education but were employed in administrative and supervisory posts in health services of the country.

WHO/TA

VENEZUELA-16, *Aedes aegypti* Eradication

Objective: To eradicate *A. aegypti*.

Probable duration: 1958-

Assistance provided: 1 medical officer and 3 sanitary inspectors, one of them for 4 months.

Work done: The campaign progressed slower than anticipated. The field personnel, drastically reduced at the end of 1962 because of labor problems, did not reach the complement provided for in the plan of operations.

Strains of *aegypti* resistant to chlorinated insecticides were found in some areas where it became necessary to concentrate all available field personnel, delaying operations in other areas. Nevertheless, the initial survey was completed in 63 new localities, in which 26,856 houses were inspected; *A. aegypti* were found in 13 of the localities and in 1,799 of the houses. In 123 localities, 174,405 houses were treated; verification was carried out in 732,761 houses of 226 localities, 12,067 houses having been found positive in 86 of the localities; and in various parts of the country 7,846 vessels were inspected and 55 of them were found to be infested with *A. aegypti*.

PAHO

VENEZUELA-17, Medical Education

Objective: To improve medical education in Venezuela, especially in the areas of preventive medicine and the teaching of basic sciences.

Probable duration: 1958-1964.

Assistance provided: Two short-term consultants; printed matter on the teaching of medicine; and the following fellowships:

<i>Awards</i>	<i>Field of study</i>	<i>Country of study</i>	<i>Months</i>
1	Organization of the teaching of medicine	Brazil, Chile	1
1	Ditto	United States of America	1

Work done: The consultants collaborated with the authorities of the Central University of Venezuela in a study of the medical curricula of 5 schools of the country and assisted in the planning of the Second Seminar on Medical Education, scheduled for January 1964. Both consultants also assisted in the preparation of working documents for the discussions to be held at the Seminar.

PAHO

VENEZUELA-19, School of Public Health

Objective: To assist the School of Public Health to broaden its scope and improve the teaching of public health professional personnel.

Probable duration: 1961-1967.

Assistance provided: A professor in health education.

Work done: Assistance was provided in special courses of public health administration, health education and nutrition. The professor of health education continued as a member of the teaching staff. The department of health education has expanded its functions and is act-

ing as an orienting and training center in the fields of health education and of behavioral sciences applied to public health work. The School appointed a full-time counterpart.

WHO/R

VENEZUELA-27, Promotion of Community Water Supplies

Objective: To collaborate with the Government in the preparation of long-range plans for urban water supply programs, in establishing appropriate water rates for financing the construction of new water supply systems and for expanding existing ones, and in the reorganization of the management of the water supply service of Caracas.

Probable duration: 1961-

Assistance provided: Five short-term consultants and advisory services by Headquarters and Zone I Office staff; and the following fellowships:

Awards	Field of study	Country of study	Months
4	Sanitary engineering	United States of America	12
1	Ditto	Ditto	3

Work done: The National Institute of Sanitary Works (INOS) is proceeding, as scheduled, in the implementation of several water supply programs. The programs call for the construction of 90 systems in 2 years, and it is expected that by April 1964, 73 percent of the urban population have water service, instead of the 42 percent so serviced up to April 1963. INOS, to which assistance was provided in obtaining 2 loans from the IADB for a total of \$16,000,000, has requested further assistance in their negotiations with the World Bank to finance the expansion of the Caracas water supply system. A team of short-term consultants was provided to make a study on the management and technical side of this project; the report contains recommendations on administrative organization, structure and program for the management, operation, maintenance, engineering, and financing of a complete water supply system for Caracas. The report also makes a review of the water-rates structure, recommending reviews therein as may be needed to provide adequate income and a self-financing system.

PAHO/CWSF

IADB

VENEZUELA-28, Industrial Hygiene

Objective: To assist the Ministry of Health in the improvement of industrial hygiene services.

Probable duration: 1962-

Assistance provided: Two short term consultants and the services of the Regional Adviser in industrial hygiene; and one 5½-month fellowship to study occupational health in Perú and Chile.

Work done: A study was carried out in search of ways to solve the increasingly important problem derived from the use of toxic insecticides for pest control in agriculture. The recommendations refer more to the regulations of use of insecticides than to the policing of residues in foods on the general market.

PAHO

VENEZUELA-34, Helminthiasis

Objective: To evaluate, by means of pilot areas and the application of a different control technique in each area, several methods for the control of helminthiasis, in order to plan the most effective control program possible.

Place and duration: Caracas and Maracay, 19-24 August 1963.

Assistance provided: A short-term consultant.

Work done: The consultant visited Venezuela and began both a preliminary study of the proposed project and an exploration of the feasibility of developing a collaborative project with Tulane University of Louisiana. Work on the preparation of a detailed plan of operations for the collaborative project was progressing.

PAHO

VENEZUELA-35, Rural Water Supplies

Objective: To assist in developing plans for water supply systems in rural areas.

Probable duration: 1962-

Assistance provided: A sanitary engineer and advisory services of Headquarters and Zone I Office staff and by the health educator of the project Venezuela-19.

Work done: The Ministry of Health and Social Welfare is already implementing 2 rural water supply programs which were approved. One is partially financed with a loan obtained from the IADB for \$10,000,000 to provide water for 343 localities with less than 5,000 inhabitants. Seventy of the rural water supply systems planned were built during 1963, providing water for 66,000 persons. The other program, assisted by UNICEF, will service 150 communities of less than 500 inhabitants; 32 water supply units were under construc-

VII. PROJECT ACTIVITIES

tion at the end of 1963 and 8 had been completed during the year.

PAHO/CWSF

UNICEF

VENEZUELA-37, Rehabilitation

Objective: To provide rehabilitation services to the incapacitated, through the creation of a national rehabilitation institute and rehabilitation units attached to the hospitals and health centers of the country.

Probable duration: 1963-1965.

Assistance provided: A short-term consultant and the services of the Regional Adviser on rehabilitation.

Work done: An experimental survey on disability was conducted, and a study was made of current rehabilitation facilities and needs. The unification of scattered rehabilitation centers under the guidance of the National Institute of Physical Medicine and Rehabilitation was in progress. From attending leprosy cases only, the scope of the services are gradually being extended to persons with circulatory, pulmonary, mental, and other ailments.

PAHO

VENEZUELA-38, Rural Housing

Objective: To assist in the planning of rural villages in order to reduce the problem created by the migration of population groups into rural areas, and to provide adequate health and sanitation facilities, including water supplies and sewerages, schools, etc.

Probable duration: 1963-

Assistance provided: A short term consultant and advisory services by Headquarters and Zone I Office staff.

Work done: A short-term consultant visited the country with regard to the planning of rural settlements and made recommendations on this subject.

PAHO

VENEZUELA-40, Food and Drug Control

Objective: To improve and expand the national health services for the control of foods, drugs, and biological products.

Probable duration: 1963-1964.

Assistance provided: 1 consultant (arrived in the country at the end of 1963).

Work done: The consultant surveyed and appraised the present status of the total food and drug service, undertook

special studies of the food control aspects, and formulated recommendations for improvements where necessary.

WHO/R

WEST INDIES-1, *Aedes aegypti* Eradication

Objective: To eradicate *A. aegypti* in Trinidad and in the British Territories of the Caribbean, other than the British Virgin Islands.

Probable duration: 1952-

Assistance provided: Supervision by the staff of project AMRO-8.

Work done: In Trinidad new foci of reinfestation were found in the port area of Port of Spain; the reintroduction of the mosquito was attributed to infested small craft coming from Venezuelan ports. The pertinent authorities of both countries agreed to adopt joint measures to prevent future reinfestations. Tobago continued to be considered negative.

In Bermuda a special verification confirmed the eradication of the mosquito. Grenada, Nevis, St. Kitts, and St. Vincent are considered negative. The reinfestation in Montserrat was eliminated.

In British Guiana, found to be extensively infested in 1962, eradication operations were not resumed, despite the interest expressed by the Government, because of internal difficulties. In Barbados the Government increased the number of field personnel and their salaries, which favorably influenced the quality of the work; the results obtained in some areas of the island, however, were poor because of the resistance of the mosquito to DDT, the replacement of which by dieldrin has not been approved by the Government. The campaign in Dominica continued suspended, and lack of funds hampered work in the Bahamas and Anguilla. The campaign in Antigua was still suspended for financial reasons. In St. Lucia, which is extensively reinfested and where the mosquito is resistant to chlorinated insecticides, attempts were being made to resume eradication operations using the classic procedure. In the Grenadines, Carriacou, Petit Martinique, Bequia, and Union continued to be positive, and no eradication activities were undertaken.

WHO/TA

WEST INDIES-3, Nursing Services

Objective: To strengthen and improve the nursing services in the eastern Caribbean. At present the project covers Barbados, St. Lucia, Dominica, and Montserrat and will be extended as soon as possible to other areas.

Probable duration: 1959-1968.

Assistance provided: One nurse consultant, and the following fellowships:

<i>Awards and place of origin</i>	<i>Field of study</i>	<i>Country of study</i>	<i>Months</i>
1 (Antigua)	Public health nursing	Jamaica	10
1 (Grenada)	Ditto	Ditto	12

Work done: In Barbados followup was done on the public health nursing function study. Data was collected on the national child health services and assistance was provided in a survey of infant deaths. Collaboration continued in Dominica and Montserrat in planning for the implementation of the integrated health programs. In St. Lucia a week's course on maternity care was given to 20 district nurses. In St. Kitts assistance was given during 2 courses on nutrition for nurses. A 9-week orientation course in public health nursing was given to 30 district nurses from Antigua, Barbados, Dominica, Grenada, Montserrat, St. Kitts, St. Lucia and St. Vincent.

WHO/R

WEST INDIES-4, Fellowship for Health Services

One 12-month fellowship for a Dominican to study environmental sanitation in the United States of America.

PAHO

WEST INDIES-5, Fellowships for Health Services

<i>Awards</i>	<i>Field of study</i>	<i>Country of study</i>	<i>Months</i>
2	Medical technology	Jamaica	11
1	Public health nursing	Ditto	10
2	Ditto	Ditto	12
1	Sanitary engineering	United States of America	12

WHO/R

WEST INDIES-12, Nursing Education

Objective: To assess the present nursing training and nursing resources in the islands; to develop a long-range plan to improve nursing services; to design a basic nursing curriculum to meet administrative and teaching needs; and to integrate educational, medical, social, and community health concepts in all areas of nursing education.

Probable duration: 1963-1965.

Assistance provided: The Zone I Office nurse adviser collaborated in the preliminary plans.

Work done: All Governments in the area which follow

the British pattern of nursing education were contacted and declared their interest in being included in the study of nursing resources, needs, and education. An adviser in nursing education was recruited, to begin functioning on 15 January 1964; the consultant will be stationed in Antigua.

PAHO

WEST INDIES-17, Malaria Eradication (Windward Islands)

Objective: To eradicate malaria.

Probable duration: 1958-1966, when the consolidation phase will probably be completed in Dominica; the St. Lucia program, begun in 1956, and the Grenada program, begun in 1957, were completed in 1962.

Assistance provided: 1 sanitary inspector for Dominica; advisory services by the international team of project AMRO-117; and a 4½-month grant to a fellow from Trinidad to study malaria eradication in Venezuela.

Work done: Grenada, Carriacou, and St. Lucia continued in the maintenance phase. Surveillance disclosed no cases in Grenada, but in St. Lucia, after 5 years without a case, 7 cases of *Plasmodium malariae* were found, all in children ranging from 4 to 12 years of age. Emergency measures were taken to extinguish this focus. In Dominica (where the last malaria case was recorded in 1961) 16,775 blood films were examined and all were found negative.

PAHO/SMF

UNICEF

WEST INDIES-18, Promotion of Community Water Supplies

Objective: To assist in the preparation of plans for water supply systems.

Probable duration: 1962-

Assistance provided: A sanitary engineer for Dominica since May 1963 and a sanitary engineer and a surveyor draftsman for St. Lucia until May 1963; 2 short-term consultants for Montserrat, St. Lucia and Barbados; and one 12-month fellowship for a fellow from Dominica to study sanitary engineering in the United States of America.

Work done: The detailed plans for supplying water to St. Lucia were completed, and the respective report was under preparation. Similar assistance is being provided to Dominica in the preparation of an island-wide water program. Pending requests from Barbados, St. Vincent,

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Antigua and Grenada are to be satisfied in 1964. Further assistance in regard to possible ways of financing these projects is being given.

The possibilities of ground water development were studied in Montserrat and St. Lucia. Similar assistance given to Barbados included advice on waterworks management, with emphasis on the factors which affect water quality.

PAHO/CWSF, WHO/TA

WEST INDIES-22, Nutrition

Objective: To improve the level of nutrition in Antigua, Barbados, Dominica, Grenada, Montserrat, St. Kitts, St. Lucia and St. Vincent, through training courses for technical and local personnel, school gardens and nutrition education through school and health centers.

Probable duration: 1962-1965.

Assistance provided: Advisory services by the consultant of the project AMRO-269 and Zone I Office staff.

Work done: In Barbados, assistance has been provided with the school meals program, and plans have been made for training 20 teachers to initiate nutrition education activities through schools. In St. Lucia, a nutrition unit composed of a nutrition educator, 2 food demonstrators and an administrative officer has been established for followup activities through health centers, schools and community welfare centers; nurses, teachers and agricultural extension workers have received 2-week inservice training courses in basic nutrition. In St. Kitts, a National Nutrition Committee to plan nutrition programs for the island was established; 2 training courses for 48 nurses were conducted; and a nutrition officer responsible for the followup activities through health centers and schools began implementing this aspect of the program. Plans were completed to initiate in 1964 nutrition activities in Antigua, Dominica, Grenada, Montserrat, and St. Vincent.

WHO/R

UNICEF

WEST INDIES-27, Health Services

Objective: To assist the Governments of the West Indies in the reorganization, integration and expansion of present services, training of personnel and coordination of health activities with other plans for social and economic development.

Probable duration: 1963-1968.

Assistance provided: Advisory services by the staff of

the projects AMRO-95, AMRO-346, and West Indies-3, and the Zone I Office.

Work done: Plans for integrated health services in Dominica and Montserrat were completed and had been approved by UNICEF and the Organization. A special study on water development was made for Montserrat and an island-wide water supply survey was underway in Dominica. The plans for St. Lucia and Grenada have been approved and cooperation from UNICEF will be considered in January 1964. An island-wide study for St. Lucia and a program for water supplies was prepared and was under discussion for financing.

PAHO

UNICEF

WEST INDIES-28, Rabies Control

Objective: To control rabies on the island of Grenada.

Probable duration: 1963.

Assistance provided: Consultant services by the director of the Pan American Zoonoses Center and by a specialist of the U.S. Fish and Wildlife Service.

Work done: A study was made of the rabies problem in Grenada, where the situation is complicated by the existence of the disease in the mongoose population of the island. A plan of operations aimed at the eradication of rabies through the elimination of stray dogs, vaccination of dogs that have owners, and extermination of the mongoose was submitted to the Government.

PAHO

U.S. Fish and Wildlife Service

WEST INDIES-29, Medical Care (Barbados)

Objective: To organize the Bridgetown 500-bed general hospital which is to be the medical center for Barbados and will have the necessary facilities for the teaching of medicine.

Probable duration: 1963-1964.

Assistance provided: Advisory services by the 2 short-term consultants of project AMRO-185.

Work done: The 2 consultants, one in medical care and the other in hospital administration, made a thorough study of the medical care services to be provided by the Barbados General Hospital and of its administration. Specific recommendations on hospital activities, staff functions, and administrative procedures and operations were submitted to the Government and the University of the West Indies. Following the recommendations, a coordinating unit was appointed to assist in the general organization and first stage of operations.

PAHO

AMRO-3, Rehabilitation

Objective: To provide advisory services to the countries of the Americas in the field of rehabilitation; to provide consultant services to rehabilitation programs set up by several countries.

Probable duration: 1962-

Assistance provided: Technical advisory services by the Regional Adviser on rehabilitation.

Work done: The consultant gave advisory services to Brazil, Chile, and Venezuela. In addition, services were given to the School of Physiotherapy in Buenos Aires, Argentina; two Argentine students were given training in the manufacturing and fitting of all kinds of orthopedic appliances in the Rehabilitation Center in Santiago, Chile, and, at the request of the National Commission for Rehabilitation, the prosthetics consultant assigned to Chile-21 assisted in the teaching of a prosthetics course held in Buenos Aires.

At the request of the Uruguayan Government, the Regional Adviser also held preliminary discussions in Montevideo concerning rehabilitation work there.

PAHO**AMRO-8, *Aedes aegypti* Eradication**

Objective: To furnish advisory services on *A. aegypti* eradication to Jamaica, Trinidad and Tobago, and the British, French, and Netherlands Territories in the Caribbean Area.

Duration: 1950-

Assistance provided: 1 medical officer and 3 sanitary inspectors; supplies and equipment.

Work done: Orientation and technical supervision were given to the *A. aegypti* eradication campaigns in the Caribbean Area (see projects British Virgin Islands-1, Jamaica-13, Netherlands Antilles-1, Surinam-51 and West Indies-1).

WHO/TA**AMRO-10, Program for Biostatistics Education**

Objective: To improve vital and health statistics in Latin America by training technical and professional personnel.

Probable duration: 1952-

Assistance provided: A grant to the School of Public Health of the University of Chile for expanding its teaching staff, and fellowships as follows:

Awards	Country of origin	Country of study	Months
1	Argentina	Chile	16
1	Ditto	Ditto	9¼
1	Bolivia	Argentina	9¼
1	Dominican Republic	Chile	16
1	Ecuador	Ditto	16
2	Paraguay	Argentina	9¼

Work done: At the end of 1963, 10 statisticians from 6 countries were receiving instruction in biostatistics in the advanced nine-month course which began in September, in Chile. Three others received instruction in Argentina, and four in México.

WHO/TA**AMRO-13.4, Seminar on Sanitary Engineering (Zone III)**

Objective: To assist in the organization of the biennial seminar on sanitary engineering for the countries of Central America and Panamá.

Probable duration: 1961-

Assistance provided: Two temporary consultants, fellowships for 10 participants, and assistance by personnel of Zone III Office and of projects in Panamá.

Work done: The fourth seminar of this type was held in the City of Panamá from 1 to 7 December; it was attended by 110 sanitary engineers from 6 countries of Zone III as well as by 2 officials of IADB, personnel of Headquarters, and of AID.

PAHO/CWSF**AMRO-16, Schools of Public Health**

Objective: To aid schools of public health of Latin America, the United States of America and Canada, especially those that do not have special programs with the Organization, to strengthen and improve their organization, administration, and teaching.

Probable duration: 1953-

Assistance provided: Equipment and supplies, library materials, and advisory services.

Work done: Advice was given in the recruitment of faculty members for various schools. The Traveling Seminar on Organization and Administration of Schools of Public Health, which visited 4 schools in Europe, was conducted through this program (see Professional Education in Public Health, Chapter IV).

Headquarters staff gave consultant services to Department of Preventive Medicine and Public Health of the School of Tropical Medicine of Puerto Rico and, in

VII. PROJECT ACTIVITIES

Brazil, to the Ministry's School of Public Health, in Rio de Janeiro, and to that of Minas Gerais, in Belo Horizonte.

WHO/R

AMRO-17.6, Courses for Waterworks Operators

Objective: To assist the countries of Zone III with the training and preparation of water treatment plant operators.

Probable duration: 1960-1966.

Assistance provided: A short-term consultant, services of personnel of Zone III, publications, and fellowships as follows:

Awards and place of origin	Field of study	Country of study	Months
1 (British Honduras)	Sanitary engineering	Guatemala	1½
2 (Costa Rica)	Ditto	Ditto	1½
2 (El Salvador)	Ditto	Ditto	1½
2 (Guatemala)	Ditto	Ditto	1½
2 (Honduras)	Ditto	Ditto	1½
2 (Nicaragua)	Ditto	Ditto	1½

Work done: The purpose of this project is to train operators for water treatment plants in the region of Zone III. Up to the end of 1963, three courses had been held, the last of which was held in the city of Guatemala in February 1963 and attended by 15 participants.

PAHO/CWSF

AMRO-18, Medical Education

Objective: To improve medical education in Latin America.

Probable duration: 1953-

Assistance provided: Advisory services through short-term consultants and Headquarters staff, printed material on medical education, and the following fellowships.

Awards	Country of origin	Field of study	Country of study	Months
1	Argentina	Organization of the teaching of medicine (educational methods)	Chile	2½ weeks
1	Brazil	Ditto	Ditto	2½ weeks
1	Cuatemala	Medical librarianship	Colombia	4½
1	México	Ditto	Ditto	2¼
2	Ditto	Organization of the teaching of medicine	United States of America	1
1	Perú	Ditto (pediatrics)	México	6

Work done: A short-term consultant visited the School of Medicine of the University of Minas Gerais, in Belo Horizonte, Brazil, to see whether the School could be used as a center for the training of teaching staff for other Latin American medical schools.

A consultant with experience in medical education assisted the Schools of Medical Sciences of the Universities of Cuenca and Guayaquil, in Ecuador, in improving the organization of teaching. He also visited the Schools of Medicine of the University of San Marcos, in Lima, and of the National University of San Agustín, in Arequipa, Perú, to advise the authorities on the organization of teaching and administration of the schools.

Short-term consultants or Headquarters staff gave advice to 24 medical schools in 13 countries in the Region (Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Jamaica, México, Nicaragua, Perú, and Venezuela).

WHO/R, KF

Milbank Memorial Fund

AMRO-28, Advanced Nursing Education

Awards	Country of origin	Field of study ^a	Months
3	Colombia	Public health nursing	10
2	Dominican Republic	Ditto	10
1	Ecuador	Ditto	10
1	El Salvador	Ditto	10
1	Venezuela	Ditto	10

WHO/R

AMRO-35, Fellowships for Health Services

Awards	Place of origin	Field of study	Months
1	Surinam	Laboratory services	2
1	Dominican Republic	Maternal and child health	10½
1	Nicaragua	Nursing services	6½
2	Panamá	Ditto	6½
1	Perú	Organization of medical education (internal medicine)	11
1	Venezuela	Pediatrics (biochemistry)	2
1	Bolivia	Production of antigens and vaccines	12
1	Honduras	Public health nursing	6½
1	Chile	Veterinary public health	3
1	Chile	Virology	1

PAHO, WHO/R

AMRO-45, Laboratory Services

Objective: To improve public health laboratory services; to establish new sections in existing laboratories; to

^a All studied in Chile.

assist in the production and control of biological products; and to expand animal colonies or establish them.

Probable duration: 1955-

Assistance provided: Technical advisory services by Headquarters staff; supplies and equipment; and the following fellowships:

<i>Awards and place of origin</i>	<i>Field of study</i>	<i>Country of study</i>	<i>Months</i>
1 (Antigua)	Laboratory services (medical technology)	Jamaica	15
1 (Brazil)	Public health laboratories (administration and organization)	Denmark, Sweden, United Kingdom, United States of America	3
1 (El Salvador)	Laboratory services (diagnosis using fluorescent antibodies)	Costa Rica	½
1 (Guatemala)	Ditto	Ditto	½
1 (Honduras)	Ditto	Ditto	½
1 (México)	Diagnosis of venereal diseases	United States of America	1
1 (Montserrat)	Laboratory services (medical technology)	Jamaica	8½
1 (Nicaragua)	Ditto (diagnosis using fluorescent antibodies)	Costa Rica	½
1 (Paraguay)	Virology	Chile	12

Work done: At the request of the countries the following services were provided: advice on the planning of new laboratories; assistance in the purchase and installation of equipment; provision of standard reagents (microbial strains, antisera, biological products); laboratory animals; and information on laboratory techniques.

PAHO

AMRO-46.9, Seminar on Nursing Education

Objective: To contribute to the improvement of the training of nursing auxiliaries in Latin America.

Place and duration: Cuernavaca, México, 1-10 December 1963.

Assistance provided: The services of 10 temporary consultants, transportation and per diem for 28 participants from 11 countries, and supplies and equipment.

Work done: The Seminar on the Training of Nursing including participants from Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, México, Nicaragua, Panamá, and the United States of America. The final report, *Guide for the Training of Nursing Auxiliaries in Latin America*, will be published

early in 1964 in Spanish and in English for distribution throughout this and other Regions.

PAHO, WHO/R

Government of México

AMRO-47, Yaws Eradication and Syphilis Control (Caribbean Area)

Objective: To determine the prevalence of yaws and to stimulate and assist in the organization, conduct and evaluation of yaws eradication programs; to reduce the prevalence of syphilis and gonorrhoea; to strengthen laboratory services and organize venereal disease control services.

Probable duration: 1954-

Assistance provided: A medical officer; equipment, audiovisual supplies, and scientific literature.

Work done: Trinidad reported one imported case; St. Vincent reported 109 infectious cases up to October 1963; and St. Lucia 221 up to May 1963.

British Guiana and Surinam completed surveys and prepared plans of operations for eradication programs.

Routine activities of the health services of Jamaica disclosed 92 new cases by September 1963. A survey was carried out to determine the extent and characteristics of yaws in the country. The investigation covered 12 of the 13 Parishes of Jamaica and lasted for 3 months. Random sampling of the population led to the discovery of 673 cases, of which 265 were infectious forms of the disease. When the survey was completed, PAHO/WHO presented to the Government a special report containing recommendations on an eradication program.

WHO/R

UNICEF

AMRO-50, Water Fluoridation

Objective: To furnish advisory services on methods of water fluoridation in order to prevent dental caries in the population served.

Probable duration: 1961-

Assistance provided: A short-term consultant and services by Headquarters, Zones and projects personnel.

Work done: The short-term consultant visited countries and territories in the Caribbean Area where he gave advisory services on the possible fluoridation of drinking water. The PAHO personnel gave advisory services to the Municipal Undertakings of Medellín on the installation of fluoridation equipment.

WHO/R

AMRO-54,^a Institute of Nutrition of Central America and Panamá

Objective: To serve the countries of Central America and Panamá in developing their nutrition services and in conducting scientific research in this field.

Probable duration: 1949-

Assistance provided: One medical director, one associate director, one nutrition adviser, one nutrition education adviser, one nutrition consultant, one technical auxiliary, one auxiliary editor, and a limited amount of supplies and equipment.

Work done: See Chapter III.

PAHO

AMRO-60, Smallpox Eradication

Objective: To encourage and assist in the production of smallpox vaccine; to assist in the organization, operation, and evaluation of national smallpox eradication programs.

Probable duration: 1951-

Assistance provided: Advisory services by Headquarters and Zone Offices staff; equipment and vaccine.

Work done: The services of the Danish Serum Institute, in Copenhagen, were made available to the countries for the testing of purity and potency of smallpox vaccine prepared in national laboratories. Arrangements were made for Brazil, Colombia, México and Venezuela to donate vaccine for the programs being carried out by some countries of Central America and the Caribbean Area. Glycerinated vaccine was distributed to countries that requested it.

A report on the status of smallpox eradication in the Americas was prepared for the XIV Meeting of the PAHO Directing Council.

PAHO, WHO/R

^a Grants received in 1963:

Association for the Aid of Crippled Children
American College
Massachusetts Institute of Technology
Milbank Memorial Fund
National Institutes of Health (U.S.A.)
The Nutrition Foundation, Inc.
The Rockefeller Foundation
United Nations Children's Fund
WBZ Radio

AMRO-61, Rabies Control

Objective: To provide, wherever needed, specialized personnel and materials to control rabies epidemics until the national resources can be mobilized.

Probable duration: 1954-

Assistance provided: Consultant services by the Regional Adviser in veterinary public health and by the veterinary public health adviser stationed at the El Paso Field Office.

Work done: Assistance was provided to the health authorities of the States along the United States-México Border, especially when a rather sharp outbreak of rabies, mainly in dogs, occurred in the California-Baja California area. Throughout 1963 the services of the 2 advisers contributed to the significant progress achieved against rabies in the Border region. Wildlife control campaigns were conducted and plans were prepared for continuing these campaigns as well as for initiating operations to cover other areas. The campaigns are coordinated and simultaneously carried out on both sides of the Border. Inter-country rabies-control areas were established, with interchange of rabies information and periodic meetings of officials from both countries in each area.

The Fourth International Rabies Conference between United States of America and México was held on 2 May 1963 in Nogales, Arizona. Rabies control progress was reviewed, problems were studied, and plans were made for future coordinated activities.

Laboratory aids in the form of biologics, standards, and technique descriptions were provided to the countries as were vaccine reference-testing services when requested.

Assistance was also given in the teaching of a rabies fluorescent antibody training course conducted in San José, Costa Rica.

PAHO

AMRO-62, Public Health Aspects of Housing

Objective: To determine and stimulate the participation of health authorities in housing programs and town and country planning. To provide advisory services to the countries on the long-term planning and establishment of health standards for housing and urbanization.

Probable duration: 1962-

Assistance provided: 1 short-term consultant and Headquarters and Zone Offices personnel.

Work done: PAHO staff and consultants participated in the First Inter-Regional Seminar on Public Health Aspects of Housing held in Madrid, Spain. A short-term consultant who is a specialist in town and country plan-

ning and housing, visited various countries on behalf of WHO in order to determine possible areas of action of PAHO. He assisted the authorities of Panamá to draw up a pilot project for the improvement of the housing in rural communities.

PAHO

AMRO-63, Schools of Nursing

Objective: To provide short-term consultation service in specialized areas of nursing education, travel grants for selected members of nursing faculties, and a copy of at least one nursing text in Spanish to every school of nursing in Latin America which meets certain minimum requirements.

Probable duration: 1962-

Assistance provided: A short-term consultant in curriculum development; supplies and equipment.

Work done: The work of the short-term consultant is reported under Chilc-41. Two thousand additional copies of the *Guía para escuelas de enfermería en la América Latina* were printed and distributed. A compilation of selected nursing articles which had appeared in English in various nursing journals was translated into Spanish and published with the title of *Enfermería, Recopilación de trabajos*; 3,000 copies were distributed, through the Zone Offices, to nursing schools and services in Latin America.

WHO/R

AMRO-67, Teaching of Public Health in Schools of Veterinary Medicine

Objective: To assist schools of veterinary medicine to incorporate into their curricula the teaching of public health and preventive medicine.

Probable duration: 1955-1966.

Assistance provided: A short-term consultant; travel and per diem of participants; and supplies and equipment for the Seminar held in México City.

Work done: The Second Seminar on the Teaching of Public Health and Preventive Medicine in Schools of Veterinary Medicine in the Americas (México, D.F., México, 25-31 August 1963) was held as one of the activities of this program. This Seminar, at which 30 schools of veterinary medicine, public health services, and international agencies were represented dealt with problems concerned with the incorporation of the teaching of public health into the curricula of such schools; it also evalu-

ated the results of the first seminar of the same type (Kansas City, Missouri, U. S. A., 16-22, August 1959).

WHO/R

AMRO-72, Public Health Dentistry

Objective: To strengthen dental services in the member countries by providing advisory services and fellowships for training in public health dentistry.

Probable duration: 1954-

Assistance provided: A short-term consultant and Headquarters staff, and the following fellowships for studies in public health dentistry:

Awards	Country of origin	Place of study	Months
1	Bolivia	Brazil	2½
1	Chile	Ditto	2½
1	Colombia	Ditto	2½
1	Ecuador	Ditto	2½
1	El Salvador	Ditto	2½
1	Uruguay	Ditto	11
1	Venezuela	Colombia, Panamá, Puerto Rico	1

Work done: A course on public health and preventive dentistry was held, and advisory services were provided to two dental schools in Chile; assistance was given in the organization of a Department of Preventive and Social Dentistry at the School of Dentistry in Caracas, Venezuela; advisory services were provided to the Government of Colombia to enable it to establish regular courses for dental auxiliary workers at the University of Antioquia; studies were made in conjunction with the University of Nuevo León in Monterrey, México, and the University of El Salvador, of the feasibility of establishing departments of preventive and social dentistry. With the Dental Board responsible for submitting a plan for a new dental school in Panamá, discussions were held on its location in the University; advisory services were provided to the Government of Jamaica in connection with the establishment of a school for dental auxiliaries and also to the Government of Brazil regarding the teaching of preventive and social dentistry. Assistance was also given to the International Relations Committee of the American Dental Association.

PAHO

AMRO-76, Vaccine Production and Testing

Objective: To provide laboratories preparing vaccines in the Americas with advisory services to enable them to produce high quality products.

VII. PROJECT ACTIVITIES

Probable duration: 1954-

Assistance provided: Contractual technical services.

Work done: At the request of the countries 22 products prepared in national laboratories were tested in reference laboratories. Advisory services were given on methods of producing biological products.

WHO/R

AMRO-77, Pan American Foot-and-Mouth Disease Center

Objective: To control and finally eradicate foot-and-mouth disease.

Probable duration: 1951-

Assistance provided: The personnel of the Center provided advisory services, carried out research, and the following fellowships were awarded:

Awards	Country of origin	Field of study	Country of study	Months
2	Brazil	Zoonoses	Argentina, Brazil	4
1	Ditto	Ditto	Brazil, Venezuela	4
1	Ditto	Veterinary public health (foot-and-mouth disease)	Brazil	6
1	Ditto	Veterinary public health (vaccine production)	Ditto	11
1	Chile	Foot-and-mouth disease	Ditto	2
1	Ecuador	Foot-and-mouth disease (vaccine production)	Brazil, Venezuela	6
1	Uruguay	Laboratory services (foot-and-mouth disease)	Brazil	4
1	Ditto	Ditto	Argentina	2

Work done: See Chapter II.

PAHO, OAS/PTC

AMRO-81, Pan American Zoonoses Center

Objective: To provide the countries with advisory services to improve veterinary services and zoonoses control programs; to carry out research on zoonoses; to train scientific personnel.

Probable duration: 1956-

Assistance provided and work done: See Chapter II.

PAHO, WHO/TA

KF, NIH, Government of Argentina

AMRO-85, Latin American Center for Classification of Diseases

Objective: To study problems of medical certification of causes of death; to give instruction on classification of causes of death in accordance with the *International Classification of Diseases*; and to assist in the development of the *Eighth Revision of the Classification*.

Probable duration: 1955-

Assistance provided: A grant for an instructor and for consultant visits to countries, and fellowships as follows:

Awards	Country of origin	Field of study	Months
11	Brazil	Vital statistics	1/2
1	Ecuador	Ditto	1/2
2	México	Ditto	1/2
1	Panamá	Ditto	1/2

Work done: Eight courses were provided by the Center: two in Argentina, three in Colombia, one in El Salvador, one in Perú, and an international course in Caracas, Venezuela. Eleven persons from Brazil attended the course in Caracas and plans were underway for future courses in Brazil. Proposals were developed for the Eighth Revision of the *Classification*.

WHO/R

AMRO-86, Health Statistics (Zone III)

Objective: To assist the countries in Zone III to improve their vital and health statistics systems, and to give consultant services in the use of statistical data in program planning and on the statistical aspects of projects.

Probable duration: 1955-

Assistance provided: A statistical consultant.

Work done: The consultant devoted the first eight months of the year principally to national health planning and was reassigned to a project on health planning in August 1963.

A course on Statistics in public health was organized and held in El Salvador from 29 April to 3 May, with 43 students. The objectives of the course were to formulate the statistical basis for the preparation of the Ten-year Public Health Plan of El Salvador and to extend understanding of the use of statistics in health planning.

WHO/R

AMRO-88, *Aedes aegypti* Eradication

Objective: To foster support, coordinate, and evaluate *A. aegypti* eradication projects.

Probable duration: 1954-

Assistance provided: 1 medical officer and 1 entomologist; and a certain amount of supplies and equipment.

Work done: Projects British Virgin Islands-1, Cuba-1, Jamaica-13, Surinam-51 and West Indies-1 were evaluated; a review was made of the vigilance service in El Salvador; and as to project México-26, orientation and technical supervision were provided for the special verification carried out in that country. Studies on the problem of *A. aegypti* resistance to chlorinated insecticides were continued (see project Jamaica-13).

PAHO

AMRO-90, Malaria Technical Advisory Services (Inter-Zone)

Objective: To provide advisory services and local training in certain specialties which do not require long-term consultants.

Probable duration: 1955-1967.

Assistance provided: 1 epidemiologist, 1 entomologist, 1 parasitologist, 2 vehicle-maintenance technicians, 1 translator, and 1 typist; supplies and equipment.

Work done: The epidemiologist functioned as chief consultant to México-53 while the consultant assigned to the project was serving in another WHO Region. The entomologist collaborated in several campaigns, conducting research, and training local personnel in techniques for testing excito-repellency, susceptibility, etc. He also made studies to determine the existence of certain problem areas. The parasitologist collaborated in all courses at the Training Center in Jamaica and gave consultant services to the diagnostic laboratories of some campaigns. The vehicle consultants trained local personnel of several campaigns in vehicle maintenance and in the organization of repair shops. They also cooperated with some Governments in preparing requests for motor equipment and spare parts from UNICEF. The translator and typist worked at PASB.

PAHO/SMF

AMRO-93, Health Education (Zone II)

Objective: To assist the countries of Zone II in the strengthening of their health education services and in training personnel.

Probable duration: 1955-March 1963.

Assistance provided: A health educator and a limited amount of supplies and equipment.

Work done: Advisory services were provided to the countries of Zone II.

WHO/R

AMRO-94, Diarrheal Diseases in Childhood

Objective: To elucidate the epidemiology of diarrheal disease in childhood and its relationship to nutritional status.

Probable duration: 1956-

Assistance provided: A statistician, an epidemiologist, and a small amount of supplies and equipment.

Work done: Four years of data collection in Guatemala were concluded. The reduction, analyses and interpretation of data suggest a beneficial effect in terms of improved ossification in preschool children who received a protein supplement. Upon approaching the final stage of data collection, special emphasis was given to the refinement of information relating to weaning practices and the introduction of foods during the lactation period. Plans for the termination of the present stage of this study were completed; these included the design of procedures to study specific questions which became apparent through the information analyzed to date.

PAHO

AMRO-95, Environmental Sanitation (Caribbean)

Objective: To assist the Governments in the work of environmental sanitation through the investigation and evaluation of existing conditions and the development of extensive sanitation programs.

Probable duration: 1956-

Assistance provided: A sanitary engineer, two sanitarians and a short term consultant; advisory services by Headquarters and Zone I Office staff; and the following fellowships:

Awards	Place of origin	Place of study	Months
9	Barbados	Barbados	2 $\frac{3}{4}$
1	British Honduras	Ditto	Ditto
2	Curacao	Ditto	Ditto
2	Dominica	Ditto	Ditto
2	Grenada	Ditto	Ditto
3	Jamaica	Ditto	Ditto
3	St. Lucia	Ditto	Ditto
2	St. Kitts	Ditto	Ditto
2	St. Vincent	Ditto	Ditto
1	Surinam	Ditto	Ditto
5	Trinidad	Ditto	Ditto

VII. PROJECT ACTIVITIES

Work done: A second international course was planned and given in Barbados for 30 sanitary inspectors and two health educators of the Caribbean area. A latrine program continues to be carried out in Barbados, St. Kitts, St. Lucia, St. Vincent and Grenada, completing 80,522 units out of 150,000 planned for the whole program since it started in 1959.

PAHO, WHO/TA, UNICEF

UNICEF

AMRO-110, Tuberculosis Control

Objective: To assist Governments in planning and carrying out tuberculosis control programs.

Assistance provided: Consultant services upon request, by the regional adviser on tuberculosis and by a short-term consultant; and the following fellowships:

<i>Awards and country of origin</i>	<i>Field of study</i>	<i>Country of study</i>	<i>Months</i>
1 (Honduras)	Tuberculosis (public health nursing)	Colombia, México, Panamá, Perú	2
1 (Paraguay)	Public health administration (tuberculosis control problems)	Chile	10

Work done: Advisory services were provided to Argentina, Bolivia, Brazil, British Honduras, Costa Rica, Ecuador, El Salvador, Jamaica, México, Nicaragua, Panamá, and Perú. Copies of 6 publications (information documents or guides) were distributed to field personnel and to national tuberculosis authorities.

A new draft of the tripartite agreement and plan of operations was prepared, providing for the incorporation of the tuberculosis control activities into the general health services, the establishment of operational targets, and the training of personnel and periodical reporting on activities.

A document on general policy and basic concepts was prepared to serve as a basis for discussion at the meeting of the tuberculosis consultants, which was scheduled to be held in 1964.

Work was done on the preparation of the Technical Discussions that will be held during the XV Meeting of the Directing Council in 1964 on "Tuberculosis eradication: a task for present planning and future action." Preliminary arrangements were also made for a Regional Seminar on Tuberculosis.

WHO/R

AMRO-112, Community Development Training Center

Objective: To cooperate with the Regional Fundamental Education Center for Latin America (CREFAL) in training community development workers for Latin America.

Probable duration: 1951-1953; 1961-1970.

Assistance provided: A medical officer and some supplies and equipment.

Work done: During the last 3 years WHO has supplied a consultant in public health. An interagency committee composed of representatives of the organizations participating in CREFAL meets periodically to evaluate the work done.

An average of 65 fellows from different Latin American countries come to the Center each year; in recent years the level of the fellows has been higher and more homogeneous.

It is considered necessary to train considerably more personnel in this field, for which purpose consideration is being given to the possibility of former students of CREFAL establishing similar courses in other countries.

WHO/R

FAO, ILO, OAS, UN, UNESCO

AMRO-114, Training Center for Malaria Eradication (México)

Objective: To provide practical training in malaria eradication work.

Probable duration: 1957-1963.

Assistance provided: A grant equivalent to the local salary of 1 physician, 1 engineer, and the necessary per diem allowances.

Work done: Field training was given to the graduates of the malaria courses held in Jamaica and Venezuela. Technical information was given to observers from other WHO Regions who visited the México program. The project was eliminated at the end of 1963.

PAHO/SMF

AMRO-117, Malaria Technical Advisory Services (Zone I)

Objective: To advise and coordinate the malaria eradication programs of the countries and to collaborate in Zone I in research projects and the training of national and international personnel.

Probable duration: 1970 or until all countries of the Zone complete the consolidation phase.

Assistance provided: 1 epidemiologist from January through April and another for the entire year; 1 entomologist and 1 laboratory technician; a limited amount of supplies and equipment.

Work done: The epidemiologists gave advisory services to all programs of the Zone, especially to those which had no direct technical assistance, such as Grenada, Carriacou, and St. Lucia, already registered as areas from which malaria has been eradicated; and to those of Jamaica, Trinidad and Tobago, etc. which are in the consolidation phase. Assistance was also given to British Guiana, French Guiana, and Surinam which still have areas in the attack phase.

The microscopist stationed at Surinam gave assistance to all programs of the Zone, except Venezuela, in reviewing all positive slides examined by the local laboratories and 10 percent of the negative slides; and wherever necessary, trained microscopists for the local laboratories.

PAHO/SMF

AMRO-118, Technical Advisory Services (Zone III)

Objective: To advise and coordinate the malaria eradication programs in the countries of the Zone, and to assist in the coordination of research and training projects in the continent-wide program of malaria eradication.

Probable duration: 1958-1969, year in which it is expected that all the countries in the Zone will have completed their consolidation phase.

Assistance provided: One malariologist, and one administrative methods consultant, with headquarters in Panamá.

Work done: The malariologist resigned the latter part of January 1963. The administrative methods consultant concentrated his chief efforts on giving advisory services to the Panamá campaign, which had been resumed in May 1962.

Pursuant to Resolution XVIII of the XVI Pan American Sanitary Conference (Minneapolis, Minnesota, 21 August-3 September 1962), the Director of the Bureau proposed the organization of a Malaria Eradication Service of the Isthmus of Central America (SEMICA). The agreement to organize the Service was signed *ad referendum* at the VIII Conference of Ministers of Health of Central America and Panamá, held in San José, Costa Rica, from 3 to 6 July 1963. The definitive organization of this regional program is at present in the negotiation phase. The first draft of regulations for SEMICA was

submitted to the signatory countries in November. The Governments of Costa Rica and Nicaragua have already indicated their support officially, although the latter proposed that the matter of financing system be studied in greater detail.

The SEMICA project has the approval of UNICEF and, in principle of AID, whose representatives participated in the meeting of Ministers in Costa Rica.

PAHO/SMF

AMRO-119, Malaria Technical Advisory Services (Zone IV)

Objective: To give technical advisory services to the eradication programs of the countries in Zone IV.

Probable duration: 1958-1971, until all countries in the Zone have concluded the consolidation phase.

Assistance provided: 1 malariologist, 1 sanitary engineer and 1 administrative methods consultant.

Work done: Advice was given to Zone projects, especially those with areas in transition from the attack to the consolidation phase, and to the national authorities in the periodic evaluation of each campaign. Cooperation was also given in the organization of the administrative part of some projects and in the preparation of their budgets.

PAHO/SMF

AMRO-134, Training Center for Malaria Eradication (Kingston, Jamaica)

Objective: To train English-speaking professional and auxiliary personnel in malaria eradication techniques.

Probable duration: 1958-1963.

Assistance provided: The services of the director of the Center, and 1 administrative officer, part-time instructors to teach the various subjects, and local auxiliary personnel; teaching materials and equipment.

Work done: 3 courses were held for professional personnel (physicians, engineers, entomologists, administrators, etc.) at which 51 professional students were trained, and one course was held for auxiliary personnel, at which 19 candidates were trained.

The Center was closed at the end of 1963; it was considered to have accomplished its task since new training centers had been established in other regions.

PAHO/SMF

AID

VII. PROJECT ACTIVITIES

AMRO-137, Training Center for Malaria Eradication (São Paulo, Brazil)

Objective: To train professional personnel for the malaria eradication programs of Brazil and other countries in Latin America.

Probable duration: 1958-1966.

Assistance provided: A grant was awarded to the School of Hygiene and Public Health of the University of São Paulo to defray the costs of teaching material, equipment, and auxiliary personnel directly connected with the courses.

Work done: 2 courses were held, 1 for physicians and engineers, and the other for entomologists. In the former course, training in eradication techniques was given to 4 fellows from other countries and 10 nationals. Training in medical entomology was given to 3 fellows from abroad and 6 nationals.

PAHO/SMF

AMRO-140, Investigation of Diseases Caused by Other Viruses

Objective: To carry out research on the ecology of hemorrhagic fever in order to establish procedures for its control.

Probable duration: 1963-

Assistance provided: Technical advisory services by Headquarters personnel.

Work done: The Organization coordinated the work of the MARU research team which made studies in the Beni Department of Bolivia leading to the isolation of a virus from human specimens and arthropods. This research showed that this agent and the causative agent of Argentinian hemorrhagic fever (Junin virus) have similar if not identical characteristics. By the end of the year attempts were being made to produce a vaccine and to prepare immune gammaglobulin from convalescent serum.

PAHO

AMRO-142, Health Aspects of Radiation

Objective: To encourage national health services to develop procedures and regulations and adopt international standards for radiation protection connected with the use of X rays and radioisotopes and for the disposal of radioactive wastes; to promote the teaching of basic health physics, radiobiology, and radiation protection in medical, dental, veterinary public health, and other professional schools; and to foster the use of radioisotopes for medical diagnosis, therapy, and research.

Probable duration: 1958-

Assistance provided: Four short term consultants, a limited amount of equipment and supplies, and the following fellowships for the study of the medical uses of radioactive isotopes at the Salvador Hospital in Santiago, Chile (see also project Chile-39):

<i>Award</i>	<i>Country of origin</i>	<i>Field of study</i>	<i>Months</i>
1	Bolivia	Radiology	12
2	Brazil	Ditto	6
1	Costa Rica	Ditto	9
1	Panamá	Ditto	6

Work done: Consultant services were provided to 3 countries: to Brazil, for the study of the public health implications to the local population in areas of high background radiation; to México, for the determination of the pathology of human casualties from external radiation produced by a sealed source (research followup was suggested); and to Perú for the determination of existing problems connected with the use of medical X ray and radioisotopes. Several research proposals were initiated or continued as the result of staff member visits to Chile, Perú and Venezuela.

PAHO, WHO/R

AMRO-143, Health Statistics (Zone IV)

Objective: To assist the countries in Zone IV to improve their vital and health statistics systems, and to give consultant services in the use of statistical data in program planning and on the statistical aspects of projects.

Probable duration: 1956-

Assistance provided: A statistical consultant.

Work done: The consultant assisted in the development of a six-month course for statistical personnel in Colombia, started on 15 July. Plans were begun in Perú to revise the vital statistics system, in order to extend the coverage and improve the data.

WHO/R

AMRO-144, Health Statistics (Zone II)

Objective: To assist the countries in Zone II to improve their vital and health statistics systems, and to give consultant services in the use of statistical data in program planning and on the statistical aspects of projects.

Probable duration: 1958-

Assistance provided: A statistical consultant.

Work done: Vital statistics record forms for the San Cristóbal Health Center of the Dominican Republic were

redesigned as a first step to introduce their use in the other health centers of the country, and an effort was made to standardize definitions and procedures and to stimulate regular reporting of births, deaths, and fetal deaths. The consultant also assisted in the planning and carrying out of a census of that Province. A course for statistical auxiliaries finished with 18 persons registered. Short visits to give consultant services were made to Cuba and Haiti.

WHO/R

AMRO-149, Leprosy Control

Objective: To determine the extent and characteristics of leprosy in the Americas. To assist in the planning, programming and organization of leprosy control activities and in the professional training of personnel working in the control programs.

Probable duration: 1958-

Assistance provided: Technical advisory services by Headquarters staff.

Work done: A meeting of leprosy consultants, epidemiologists, and PAHO/WHO technical staff was held in Cuernavaca, Morelos, México in August 1963 to examine various aspects of the planning, programming, and organization of leprosy control programs and the training of personnel for them. The group made preparations for the Leprosy Seminar (see AMRO-351).

Scientific and informational material was distributed to leprosy control program personnel throughout the continent. The report system recommended by the Study Group on Leprosy which met in Lima, Perú, in 1962 was instituted.

Meetings to consider the physical and social rehabilitation of leprosy patients were held with private and governmental organizations during the year. A start was made on the planning of a course, on the physical rehabilitation of leprosy patients and the prevention of deformities by nonsurgical methods, which is expected to be held in Venezuela in 1965.

A system of leprosy data registration was prepared and tested in the pilot area of Entre Ríos Province, Argentina. Preliminary work was begun on a glossary of technical terms relating to the epidemiological and administrative aspects of leprosy control programs. Both the data registration system and the glossary will be included in a manual for leprosy control programs which is being prepared by the personnel of the project.

PAHO

ARMO-150, Food and Drug Services

Objective: To provide technical help to the national services responsible for the control of foods, drugs and biologics manufactured and sold in a country and those imported, surveying the present status of the problem and assisting the countries in the improvement of national regulatory services.

Probable duration: 1959-

Assistance provided: 1 consultant and reference materials.

Work done: Publications of technical interest and importance were sent to each of the countries. Specific standards, testing aids, and technique descriptions were provided when requested. Close surveillance was maintained in order to alert the countries on actually or potentially dangerous products on the market; whenever a country took important action, such as prohibiting sale of a product, suspending a permit, or placing a product under conditioned license, information on the action was sent to the others.

Special collaboration was given to Panamá, which had requested assistance to reorganize its Food and Drug Service in 1962. A consultant sent towards the end of that year continued his services into 1963, at the end of which an extensive report was sent to the Ministry of Health.

Two professional staff members of the Service's laboratory received specialized training abroad, and a consultant visited the laboratory to give advice on the animal colony. Continuing consultative services were provided by the veterinary public health consultant stationed in Panamá.

A detailed study was made of the current workload and problems, and the type and size of service needed. A decision was reached to develop the services in the areas of drugs, foods, and biologics, in that order. Plans were prepared for the reorganization of the administrative section of the Service and for the recruitment and training of field staff.

An interesting feature of the Service being developed in Panamá is the fact that the laboratory analyses are conducted in the University of Panamá. The University plays no role in the administration of the food and drug regulations but provides, for listed fees, the laboratory services required by the Ministry. As this University laboratory is further developed it would be in a position to provide similar services to countries that have difficulty in financing complete food and drug laboratories.

PAHO

AMRO-152.3, Seminar on Schools of Public Health

Objective: To study the teaching of health administration in schools of public health and consider its possible coordination with the teaching of the social sciences and behavioral sciences.

Place and duration: Serra Negra, São Paulo, Brazil, 22-28 September 1963.

Assistance provided: Advisory services; travel and per diem of participants; supplies and material.

Work done: The Seminar (officially known as the third Conference of Directors of Schools of Public Health of Latin America) was attended by 25 participants from Argentina, Brazil, Chile, Colombia, México, Venezuela, and the Commonwealth of Puerto Rico. Nine participants were directors or deans of schools of public health and the others were professors in the same schools or officials of health services. In addition to discussing or considering all aspects of the teaching of public health administration and its relation to the social sciences and its relation to the social sciences and pertinent pedagogic aspects, the Association of Schools of Public Health of Latin America was established and its statutes were formulated and approved by the directors or deans of the participating schools.

PAHO**AMRO-155, Schistosomiasis Control**

Objective: To develop practical and effective methods to control the disease.

Probable duration: 1960-

Assistance provided: Temporary advisers, services of regular staff, and supplies.

Work done: The agreement with the Government of Brazil to establish the International Center of Snail Identification for the Study of Schistosomiasis, in Belo Horizonte, Minas Gerias, was signed on 1 August 1963. The PASB/WHO Working Group for the Development of Guidance for Identification of American Planorbidae Involved in Schistosomiasis held its Second Meeting in Rio de Janeiro, Brazil, from 28 to 31 August 1963 (see Schistosomiasis, Chapter II, Eradication or Control of Diseases).

PAHO**AMRO-156, Training Program in Hospital Statistics**

Objective: To provide training for personnel working in medical records and hospital statistics, in order to develop essential data for planning for health and medical services.

Probable duration: 1961-

Assistance provided: A medical records librarian, a short-term consultant, supplies, and fellowships for study of medical records and hospital statistics as follows:

Awards	Country of origin	Country of study	Months
1	Costa Rica	Venezuela	10
1	Ecuador	Ditto	10

Work done: The consultant on medical records provided instruction on medical records and hospital statistics in the courses at the School of Public Health of the National University of Buenos Aires and in the course for statisticians held at Bogotá, Colombia, and gave consultant services in Argentina, Colombia, and Venezuela. The short-term consultant visited Costa Rica and made recommendations on the country's hospital program.

PAHO**AMRO-159, Health Statistics (Zone VI)**

Objective: To assist the countries in Zone VI to improve their vital and health statistics systems, and to give consultant services in the use of statistical data in program planning and on the statistical aspects of projects.

Probable duration: 1959-

Assistance provided: A statistical consultant.

Work done: The consultant gave advisory services in Argentina to the School of Public Health of the national University of Buenos Aires, the Federal Council on Investments, the Public Health Service of the City of Buenos Aires, the National Committee of Vital Statistics, and the Provincial Health Services of Mendoza and San Juan; and in Uruguay to the Ministry of Public Health. Two courses on statistics were given in Buenos Aires for members of medical faculties. The consultant participated in six planning conferences and courses.

PAHO**AMRO-160, Yaws Eradication and Venereal Disease Control**

Objective: To provide advisory services on yaws eradication and venereal disease control.

Probable duration: 1961-

Assistance provided: Technical publications and supplies; a 3½ month fellowship for studies on methods of venereal disease control in the United States of America and México.

Work done: The international team to evaluate the yaws eradication programs in Colombia, the Dominican Republic, Ecuador, and Haiti were brought up to full strength. The study of the population sample to be examined in each of these countries was completed and an agreement was reached on the methods of work to be used. Several local circumstances prevented carrying out the survey in the Dominican Republic and Haiti. At the end of the year the decision of the Governments of Colombia and Ecuador was being awaited.

Scientific material concerning yaws and the venereal diseases was distributed, and a start was made on preparations for a seminar on venereal diseases.

PAHO

AMRO-163, Epidemiology (Zone VI)

Objective: To stimulate the execution and coordination of programs for the eradication and control of communicable diseases in the countries of Zone VI; to advise on new control methods and techniques; to promote better reporting of communicable diseases and advise on problems connected with the international sanitary regulations.

Probable duration: 1958-

Assistance provided: An epidemiologist.

Work done: The epidemiologist continued to assist in communicable disease projects and in the laboratory activities in which the Organization is cooperating with the countries in the Zone.

PAHO

AMRO-165, Nutrition Advisory Services (Inter-Zone)

Objective: To provide short-term advisory services in nutrition to countries not covered by specific projects, and to provide specialized consultants for specific needs.

Probable duration: 1958-

Assistance provided: 4 short-term advisers, 1 special consultant, and fellowships as follows:

<i>Awards and country of origin</i>	<i>Field of study</i>	<i>Country of study</i>	<i>Months</i>
1 (Bolivia)	Nutrition	Guatemala, México	3¾
1 (Colombia)	Ditto	Guatemala	2½
1 (El Salvador)	Ditto	Ditto	2½

Work done: Advisory services were continued in Zone V. Advisory services were also continued for the promotion of INCAPARINA in Latin America. Short-term consultants were appointed to the regional training nutrition centers in Montevideo and Puerto Rico.

PAHO, WHO/R

AMRO-179, Veterinary Public Health (Zone IV)

Objective: To provide advice on veterinary public health to the countries in Zone IV.

Probable duration: 1959-1963.

Assistance provided: A public health veterinarian.

Work done: Advice on epidemiology and control of zoonoses, as well as services to research and teaching institutions in Zone IV countries.

PAHO

AMRO-181, Live Poliovirus Vaccine Studies

Objective: To cooperate with Governments in the control of poliomyelitis, using attenuated, live-virus vaccine.

Probable duration: 1958-1965.

Assistance provided: Advice of regular staff.

Work done: Assistance was given to the health authorities of Barbados in the planning and carrying out of a vaccination campaign with oral poliovirus vaccine. Similar assistance was given to the Dominican Republic.

PAHO, ACC

LL, USPHS

AMRO-183, Maternity Nursing

Objective: To provide the countries with advisory services for improving their maternity care services and institutions for the training of midwives.

Probable duration: 1962-1967.

Assistance provided: The services of a nurse midwife; one 6¾-month fellowship to a nurse from El Salvador for studies in nursing education in Costa Rica.

Work done: Data were collected on schools of midwifery in 6 countries (Argentina, Bolivia, Chile, Ecuador, Perú, and Uruguay) and, in connection with a survey of midwives in the Region, a questionnaire on the distribution and utilization of midwives was tested in Perú and Paraguay. Advisory services were continued to the School of Nursing in Paraguay. In Perú, advisory services were provided to the Department of Nursing and Midwifery; assistance to the Maternal and Child Health

VII. PROJECT ACTIVITIES

Division was continued, in connection with the First Seminar on Maternal and Child Health in the Junin Health Area; assistance was again given to the School of Midwifery. In the South American countries advisory services in midwifery continued to be provided through projects in basic health services.

PAHO

AMRO-185, Medical Care and Hospital Organization

Objective: To cooperate with the Governments in studies associated with planning, organization, training, and applied research in medical care services.

Probable duration: 1961-

Assistance provided: 2 short-term consultants in medical care; fellowships to study hospital administration or organization of medical care, as follows:

Awards	Place of origin	Country of study	Months
1	Barbados	Canada, United States of America	1
1	Brazil	United States of America	6
1	Chile	France, United Kingdom, United States of America	2½
1	Colombia	Chile	16
1	Honduras	Ditto	16

Work done: See project West Indies-29.

PAHO, WHO/R

AMRO-187, Promotion of Community Water Supplies

Objective: To furnish advisory services to countries in the planning, financing, and execution of national water programs and on the organization and administration of central and local water supply and sewerage authorities.

Probable duration: 1959-

Assistance provided: A consultant on the design of water supplies, two consultants on administrative methods, secretarial services, and short-term consultants.

Work done: Advisory services were again furnished to the countries and territories of the Americas on various matters connected with the planning, financing, design, construction, and administration of water supply services.

PAHO/CWSF

AMRO-188, Veterinary Public Health (Zone III)

Objective: To assist the countries of Zone III in the development and reorganization of veterinary public health services and activities, in particular in the study and control of zoonoses and the application of protective measures in food control; to promote the teaching of veterinary public health; to assist in the evaluation of programs of veterinary public health and in other programs aimed at the satisfactory use of these services.

Probable duration: 1957-

Assistance provided: A public health veterinarian, supplies and equipment, and funds for special publications.

Work done: Training continued to be given to laboratory personnel in Guatemala where a Training Course in Diagnosis with Fluorescent Antibodies was organized. Rabies control programs were conducted in various countries, as were brucellosis control activities in dairy herds in the towns of Panamá, El Salvador, and Guatemala. A start was made on an economic survey of the possibilities of producing and controlling low cost biological products, and assistance was given in the preparation of regulations for slaughterhouses in Guatemala.

WHO/R

AMRO-189, Veterinary Public Health (Zone V)

Objective: To provide advice on veterinary public health matters in Zone V.

Probable duration: 1957-

Assistance provided: A public health veterinarian.

Work done: Work continued on the survey of the live-stock industry of Brazil, the diseases involved, and the veterinary services to attend these problems. Assistance was given in the planning and development of animal disease programs. Contacts were maintained throughout the year with officials from the Ministries of Health and Agriculture on the zoonosis problem. A study of the rabies problem in Brazil was completed and presented to the Ministry of Health.

WHO/R

AMRO-196, Groups Responsible for Insecticide Testing

Objective: To conduct field research on new residual insecticides for malaria eradication campaigns, and to study the effectiveness of larvicides and methods of application.

Probable duration: 1959-1966.

Assistance provided: 1 chief entomologist, 1 sanitary engineer, and 2 entomologists; supplies and equipment; and the costs of local personnel of team, whose laboratories have been installed in San Salvador by agreement with the Government of El Salvador.

Work done: The surveys in the problem area along the coast of El Salvador, where the vector *Anopheles albimanus* is resistant to both DDT and dieldrin, were continued. The group continued the evaluation of antilarval methods and concluded that the manual application of fenthion and paris green, even when complemented by aerial application of DDT or paris green, was not a worthwhile supplement to house sprayings with DDT. However, fenthion applied as a larvicide by crop-dusting airplanes, holds promise in areas where the breeding places are few and well defined.

A study of the new insecticides, Bayer 39007, Bayer 41831, Savin, and Hercules 5727 was begun in June. The last mentioned was soon discarded because of its high toxicity.

PAHO/SMF

AMRO-197, Research on the Resistance of Anophelines to Insecticides

Objective: To study anopheline resistance to insecticides.

Probable duration: 1960-1963.

Assistance provided: A grant to the School of Hygiene and Public Health of Johns Hopkins University.

Work done: During the last 6 months of this 3-year grant, the main efforts were concentrated on developing a homozygotic strain of *bisignatus mutans* of *Anopheles albimanus*. This has not yet been possible for, despite continued selection, some mosquitoes of the sylvatic type crop up in the colony. Some hybrid generations have been obtained. The work continues, especially the study of the heredity mechanism.

A search for other mutant characteristics is at present underway, but none has been found to date.

PAHO **Johns Hopkins University**

AMRO-198, Administrative Methods and Practices in Public Health

Objective: To improve and modernize the administrative practices of national health services at all levels.

Duration: 1959-

Assistance provided: Advisory services by Headquarters staff; supplies and equipment.

Work done: The major activity continued to be the technical coordination of the work of consultants in administrative methods and practices assigned to Zones I, III, IV, and VI; of the specialists in administration who are assisting the malaria eradication programs in Brazil, Panamá and the Dominican Republic; and of the administrative methods officer assigned to public water supplies projects (AMRO-187).

The most important meeting organized during the year under this project was the Seminar on the Organization and Administration of Public Health Services, held in Kingston, Jamaica, from 18 to 22 November 1963. It was organized for the representatives of the Governments of the English-speaking and Dutch-speaking territories in the Caribbean. A report on the Seminar was distributed at the beginning of December.

As a result of this Seminar the consultant in administrative methods and practices in Zone I reviewed the administrative structures and procedures in various Caribbean territories as part of a general survey of the situation in all the countries that took part in the meeting. In addition, plans were drawn up for a course on public health planning and for other meetings on administrative topics.

The work being done by PAHO in the field of public administration was discussed in an article entitled "The PAHO Program in Public Administration," published in the *International Review of Administrative Sciences* XXIX: 2, 1963.

PAHO

AMRO-201, Health Statistics (Zone V)

Objective: To assist Brazil to improve its vital and health statistics systems, and to give consultant services in the use of statistical data in program planning and on the statistical aspects of projects.

Probable duration: 1959-

Assistance provided: The part-time services of the statistical consultant from project Brazil-3.

Work done: The consultant provided advisory services to the Ministry of Health.

WHO/TA

AMRO-202, Leprosy Control (Zone III)

Objective: To assist the Governments of Central America and Panamá in the study, organization, conduct, and evaluation of leprosy control programs; the training of medical and paramedical personnel in modern tech-

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niques of leprosy control; the integration of leprosy control services into the general health services.

Probable duration: 1960-1965.

Assistance provided: One medical officer and advisory services by technical staff of Zone III Office and of the country projects.

Work done: The leprosy services of the countries of Central America and Panamá continued to operate normally during the year, despite short interruptions. The services in Costa Rica and Panamá were expanded and are being completed. Leprosy services were set up in the other four countries, which did not have such organized services. The teaching of leprology at the School of Medical Sciences of the National University of Nicaragua in León became a regular activity as the result of the establishment of a chair in leprology. In Zone III, which has a population of 12,866,648, there were 1,573 cases in 1963, which gives a leprosy prevalence rate of 14.12 cases per 100,000.

PAHO

AMRO-203, Epidemiology (Zone III)

Objective: To promote the conduct and coordination of programs for the eradication or control of communicable diseases in the countries of the Zone; to advise on new methods and techniques of control; to improve reporting of notifiable diseases; and to advise on all problems related to the application of the International Sanitary Regulations.

Probable duration: 1961-

Assistance provided: 1 epidemiologist.

Work done: Activities continued oriented toward the organization and development of epidemiology services; the training of professional and auxiliary personnel, especially for rural health services; and the improvement of methods of reporting notifiable diseases and emergency control measures. Quantitative objectives were adopted for immunization programs, better to evaluate results. Also continued was the preparation of manuals on standards and procedures for epidemiological research and the control of communicable diseases. Immunization programs against poliomyelitis were carried out in Costa Rica, El Salvador, and Panamá. The consultant also cooperated in controlling a poliomyelitis outbreak in the Dominican Republic.

PAHO

AMRO-204, Sanitary Engineering (Zone I)

Objective: To assist the countries of the Zone to organize and strengthen the environmental sanitation services of the Ministries of Public Health; to assist the agencies responsible for water supplies and sewage disposal; to cooperate with the Universities in preparing and training professional and auxiliary engineering personnel.

Probable duration: 1960-

Assistance provided: A sanitary engineer, a secretary, and fellowships as follows:

<i>Awards and country of origin</i>	<i>Field of study</i>	<i>Country of study</i>	<i>Months</i>
1 (Jamaica)	Environmental sanitation	United States of America	12
1 (Venezuela)	Sanitary engineering	Ditto	12

Work done: The sanitary engineer assigned to Zone I continued to collaborate in all the sanitation and development programs in the countries and territories of the Zone. He continued collaborating with the Ministry of Public Health and the National Sanitary Works Institute of Venezuela, where it is estimated that, by 1964, 73 percent of the urban population will be supplied with potable water and 47 percent of the rural population will be so supplied. He also collaborated with the University authorities to obtain the approval of a project, in which more than 1.5 million dollars will be invested, for the improvement of the teaching of sanitary engineering in 4 universities in Venezuela.

AMRO-205, Sanitary Engineering (Zone II)

Objective: To assist the countries of the Zone to organize and strengthen the environmental sanitation services of the Ministries of Public Health; to give assistance to the agencies responsible for the water supply and sewage disposal systems and to cooperate with the universities in education and training of professional and auxiliary engineering personnel.

Probable duration: 1960-

Assistance provided: A sanitary engineer and a secretary; and fellowships as follows:

<i>Awards and country of origin</i>	<i>Field of study</i>	<i>Country of study</i>	<i>Months</i>
1 (Dominican Republic)	Sanitary Engineering	México	10½
1 (México)	Ditto	United States of America	7½

Work done: The sanitary engineer gave technical advice and coordinated the activities of various programs

being carried out in the countries in the Zone. The work done in the Dominican Republic was important since it led to the completion of plans for a program of rural water supplies in the whole country. Assistance was also given in supervising the malaria eradication programs in some countries in the Zone. The first meeting between the United States of America and México to study sanitation problems along their common frontier was organized and held in México City. Advisory services were again given to universities in México conducting postgraduate courses in sanitary engineering.

PAHO, WHO/R

AMRO-206, Sanitary Engineering (Zone III)

Objective: To assist the countries of the Zone to organize and strengthen the environmental sanitation services of the Ministries of Public Health; and to assist the agencies responsible for water supply and sewage disposal systems; and to cooperate with the universities in the education and training of professional and auxiliary engineering personnel.

Probable duration: 1960-

Assistance provided: A consultant sanitary engineer for Zone III and a secretary; and fellowships as follows:

Awards and country of origin	Field of study	Country of study	Months
1 (Costa Rica)	Environmental sanitation	El Salvador	2¼
1 (El Salvador)	Ditto (sanitation of ports and air-ports)	México, Panamá	3
3 Ditto	Ditto (food control)	México, United States of America	2
1 (Guatemala)	Ditto	El Salvador	2¼
1 Ditto	Sanitary engineering	México	10½
1 (Honduras)	Environmental sanitation	El Salvador	2¼
1 Ditto	Ditto (food control)	México, United States of America	2
1 Nicaragua	Ditto	El Salvador	2¼
1 Panamá	Ditto	Ditto	2¼

Work done: In the course of the year the vacant posts for consultant sanitary engineers in the Zone III projects were filled and, as a result, all the sanitation programs in the countries of the Isthmus have been strengthened and the promotion activities of the Zone engineer have been facilitated. The Zone engineer helped to promote sanitation activities, especially those connected with urban and

rural water supply programs, drainage, and sewage disposal, education and training of personnel, housing programs, investigation of ground water, and sanitary engineering associations.

PAHO, WHO/R

UNICEF

AMRO-207, Sanitary Engineering (Zone IV)

Objective: To help the countries in the Zone to organize and strengthen the environmental sanitation activities of the Ministries of Public Health; to provide assistance to the agencies responsible for water supply and sewage disposal systems; and to cooperate with the universities in the education and training of professional and auxiliary engineering personnel.

Probable duration: 1960-

Assistance provided: A sanitary engineer and secretarial services; and fellowships as follows:

Awards	Country of origin	Field of study	Country of study	Months
1	Bolivia	Environmental sanitation (sanitary inspection)	Chile	5½
2	Colombia	Sanitary engineering	México	10½
1	Ditto	Ditto	Brazil	11
1	Perú	Environmental sanitation (sanitary inspection)	Chile	5½

Work done: The engineer gave assistance to all the sanitation programs being carried out in the countries of the Zone, especially those connected with water supply and sewage disposal.

In the countries of the Zone loans in the amount of 118 million have been granted or are being negotiated or planned and will benefit about 10 million persons in urban areas and in the amount of \$7,500,000, which will benefit 516,000 inhabitants of the rural areas.

PAHO

AMRO-208, Sanitary Engineering (Zone V)

Objective: To assist the countries of the Zone to organize and strengthen environmental sanitation services of the Ministries of Public Health; to assist the agencies responsible for water supply and sewage disposal systems; and to cooperate with the universities in the education and training of professional and auxiliary engineers.

Probable duration: 1960-

Assistance provided: A sanitary engineer and secretarial services.

Work done: The sanitary engineer assisted all the environmental sanitation programs being carried out in the

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country. Assistance was given to the air pollution control program and the water pollution control program in São Paulo and in preparing an application for assistance to be submitted to the United Nations Special Fund for the establishment of a Sanitary Engineering Institute in Rio de Janeiro. He also took part in the planning and development of a short course on the design of water supplies which was held at the University of São Paulo. He gave assistance and took an active part in the holding of the Second Congress of AIDIS of Brazil and in the First Symposium on Air and Water Pollution in the city of Pôrto Alegre.

PAHO

AMRO-209, Sanitary Engineering (Zone VI)

Objective: To assist the countries in the Zone to organize and strengthen the environmental sanitation services of the Ministries of Public Health; to assist the agencies responsible for water supply and sewage disposal systems; and to cooperate with the universities in the education and training of professional and auxiliary engineering personnel.

Probable duration: 1960-

Assistance provided: A sanitary engineer and secretarial services.

Work done: The consultant engineer gave assistance to all the sanitation programs being carried out in the countries of the Zone, in particular activities relating to water supplies in rural and urban areas. Assistance has been increased in studying solutions for the complex problems of water supply and the disposal and treatment of sewage and industrial wastes in industrial areas. Special attention was again given to the training of engineers and auxiliary personnel.

PAHO

AMRO-220, Malaria Eradication Epidemiology

Teams

Objective: To determine the causes of the persistence of malaria transmission in areas subject to regular attack by means of the intradomiciliary application of residual insecticides, and to recommend remedial measures.

Probable duration: 1960-1966.

Assistance provided: 1 epidemiologist, 1 malariologist, 1 entomologist, and an entomologist's assistant; also supplies and equipment.

Work done: The only group formed, which works in

El Salvador, developed a method to determine the DDT excito-repellency capacity of the known vectors in each area. The method is being considered by WHO for possible international use.

It was possible to determine that under the conditions existing in El Salvador the excito-repellency of DDT in sprayed houses exerts a certain influence on the entry of vectors and therefore disturbs the chain of transmission. There were more mosquitoes and more malaria in unsprayed houses than in sprayed ones. Excito-repellency alone does not interrupt transmission, but does reduce it. In view of this, it may be possible, by insisting on sprayings and the application of a supplementary attack measure such as mass treatment or antilarval treatment, to interrupt transmission.

PAHO/SMF

AMRO-234, Sewage Disposal and Water Pollution Control

Objective: To assist in the formulation of programs for the construction of sewerage systems and plants for sewage treatment and in the solution of specific problems of the pollution of water courses.

Probable duration: 1962-

Assistance provided: Short-term consultants.

Work done: Through a consultant technical advisory services were given to the authorities of the National Sanitary Works Administration in Argentina concerning possible solutions to the problem of sewage disposal in the metropolitan area of Buenos Aires. A short-term consultant also carried out a preliminary survey of the metropolitan area of São Paulo, Brazil, with particular reference to water supply and the pollution of water courses in that area. Applications for assistance have been received from the authorities of Bogotá, Colombia, and Montevideo, Uruguay.

PAHO

AMRO-235, Food sanitation

Objective: To review the municipal food control practices and to prepare a guide on the subject for the Latin American countries.

Probable duration: 1961-1964.

Assistance provided: A short-term consultant and advisory services by Headquarters and field personnel.

Work done: A first draft of a guide was prepared by the short-term consultant. It has been distributed to the

officials of PAHO and of the countries for review. The final text is expected to be ready by the end of 1964.

PAHO

AMRO-236, Waste and garbage disposal

Objective: To advise on appropriate methods of collecting and disposing of waste and garbage and on the organization and administration of municipal waste and garbage disposal services.

Probable duration: 1961.

Assistance provided: Short-term consultants and personnel of Zone Offices and country projects.

Work done: Assistance to various countries and municipalities was continued.

WHO/R

AMRO-237, Medical Education (Zone III)

Objective: To assist the Governments to improve the teaching of medicine in Central America and Panamá.

Probable duration: 1960.

Assistance provided: Two short-term consultants, one in preventive medicine and the other in medical statistics.

Work done: The consultant in preventive medicine gave advice to the School of Medical Sciences of the National University of Nicaragua on a plan for the construction, at the León University Hospital, of a health unit and an outpatient department for welfare and teaching purposes. The consultant in medical statistics gave advice to the Schools of Medicine of Costa Rica and El Salvador, as well as to the School of Medical Sciences of Guatemala.

PAHO

AMRO-240, Seminar on Nursing Services

Objective: To give an opportunity to key nurses, representing public health and hospital nursing services, and to personnel connected with the education of public health nurses in 10 South American countries to exchange ideas, increase their knowledge, and improve skills in the administration of nursing services.

Place and duration: Paracas, Perú, 22 April-3 May 1963.

Assistance provided: A short-term consultant; costs of the meeting, and costs of participants; supplies and equipment.

Work done: The first seminar of this type was held in

1961 in San Salvador, El Salvador. The Paracas Seminar which was the first to be held in South America was attended by 46 nurses from the following 10 countries: Argentina (4), Bolivia (4), Brazil (6), Colombia (5), Chile (3), Ecuador (3), Paraguay (3), Perú (10), Uruguay (4), and Venezuela (4). In order to establish a common basis for discussion, the working groups made use of a hypothetical situation in country X; in addition, the participants used health data drawn from their own countries which had been requested prior to the meeting. The main topic of the seminar was "The administration of nursing services" which was dealt with by means of discussions on the participation of nurses in the planning of health services; bases of administration of nursing services, participation of nurses in health education, use of statistical data in nursing services, administration of a maternal and child health program and administration in tuberculosis nursing services.

WHO/R

AMRO-242, Seminar on Water Supply Design, Construction, and Management

The final report and official documents of the Seminar were edited. The publication was in press by December 1963.

PAHO/CWSF

AMRO-246, Tuberculosis Control (Zone III)

Objective: To assist the countries of Zone III in orienting their tuberculosis control activities.

Probable duration: 1963-1966.

Assistance provided: Technical advisory services by a tuberculosis consultant.

Work done: Agreements concerning tuberculosis control work in both Honduras and Panamá were signed. In both these countries the initial stage of the work was completed, the results being those given under projects Honduras-5 and Panamá-14. The bases for new agreements were established in British Honduras, Costa Rica, El Salvador, and Nicaragua. Short training courses for nurses and nursing auxiliaries were held in Honduras and Nicaragua. The gradual reorientation of the national tuberculosis services was achieving increased population coverage and better utilization of available resources.

PAHO

UNICEF

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AMRO-247, Teaching of Statistics in Medical Schools

Objective: To assist in the development of medical statistics courses in schools of medicine in Latin America.

Probable duration: 1961-

Assistance provided: A professor of biostatistics for 5 weeks.

Work done: The consultant gave a two-week course at the national University of Buenos Aires for 20 members of the medical faculty and visited several medical schools in Central America to promote the teaching of medical statistics.

PAHO

AMRO-250, Financial Aspects of Malaria Eradication

Objective: To study and measure the impact of malaria eradication on the economic development of a community.

Probable duration: 1961-1964.

Assistance provided: A grant to the Bureau of Health Economics of the University of Michigan, U.S.A.

Work done: Owing to the difficulties inherent in this problem, it has as yet not been possible to obtain a universally acceptable formula from the economists consulted. The funds for this project were transferred to the Dean of the School of Public Health of the University in 1963.

PAHO/SMF University of Michigan, NIH

AMRO-253, Administrative Methods and Practices in Public Health (Zone III)

Objective: To assist the Governments of the countries in Zone III to improve the administrative methods and practices in their national health services.

Probable duration: 1963-

Assistance provided: A consultant in administrative methods.

Work done: A review was begun of the progress made since the meeting on administrative practices held in 1960 in San José, Costa Rica. Plans were made for a seminar to be held in 1964.

PAHO

AMRO-256, Industrial Hygiene

Objective: To assist the countries to organize and operate national industrial hygiene services.

Probable duration: 1961-

Assistance provided: 1 short-term consultant and advisory services by the Regional Adviser.

Work done: Advisory services were given to Bolivia, Colombia, and Panamá on matters relating to the establishment and reorganization of national industrial hygiene services in the Ministries of Health. A series of lectures were given to students attending the course at the Inter-American Safety Institute in México, D. F. In Lima, Perú, a meeting was held of the Organizing Committee for the First Seminar on Industrial Hygiene which is to be held in São Paulo in March 1964. The consultant attended the Second Congress of AIDIS in Pôrto Alegre, Brazil and a meeting of an expert committee in Geneva, Switzerland. In response to the request of the authorities of São Paulo, a short-term consultant was sent to make a preliminary study of the problem of air pollution in the metropolitan area of that city.

PAHO

AMRO-257.1, Seminars on the Teaching of Dentistry

Objective: To examine the present status of dental teaching, discuss problems, and formulate recommendations for their solution.

Probable duration: 1962-1966.

Assistance provided: Advisory services by Headquarters staff; a short-term consultant.

Work done: Special attention was given to the dissemination of the conclusions of the First Latin American Seminar on the Teaching of Dentistry, held in Bogotá in 1962; assistance was also given in the preparation of the April issue of the *Boletín de la Oficina Sanitaria Panamericana* which was devoted to the Seminar. A special publication devoted to this Seminar was prepared and distributed to more than 2,000 professors, dental schools, and libraries in Latin America. Plans for the Second Seminar, which is to be held in the city of México from 18 to 24 October 1964, and is intended for the countries of Middle America, were completed. A questionnaire to obtain information about the status of dental education in the participating countries was prepared. Three consultants were selected to visit these countries, and schools of dentistry in the Caribbean Area and 6 schools of dentistry in México were visited. Scientific material to be distributed to the participating countries was prepared.

PAHO, KF

KF

AMRO-261, Regional Advisory Committee on the International Classification of Diseases

Objective: To develop a Regional Proposal for the Eighth Revision of the *International Classification of Diseases*.

Probable duration: 1961-

Assistance provided: Short-term advisers and costs of meeting.

Work done: Comments received from 29 countries and territories on the draft proposals were reviewed by the Committee (see *Scientific Publication PAHO 83*, July 1963) and a Regional Proposal was submitted to WHO Headquarters in Geneva.

PAHO

AMRO-262, Nutrition Advisory Services (Zone IV)

Objective: To give the countries of Zone IV advice on the operation of nutrition programs, especially at the local health service level, on applied research on nutrition programs, and on personnel training for these purposes.

Probable duration: 1956-

Assistance provided: A medical adviser and the following fellowships for studies in Guatemala:

Awards	Country of study	Field of study	Months
1	Colombia	Nutrition	2½
1	Perú	Ditto	2½

Work done: The consultant gave advisory services to the expanded nutrition programs in Colombia and Perú, to the Institutes of Nutrition of Colombia, Ecuador, and Perú, and to the health authorities in Ecuador and Perú on the problem of salt iodization. He also took part in the International Course on Applied Nutrition for agronomists, which was held at the Agrarian University of La Molina, Perú, with the assistance of the Organization; in the Course on Social Pediatrics, which was organized in Lima by the International Children's Center of Paris, and in the Nutrition Seminar in Trujillo, Perú.

WHO/R

AMRO-263, Leprosy Control (Zone IV)

Objective: To assist the Governments of Bolivia, Colombia, Ecuador, and Perú in the study, organization, conduct, and evaluation of leprosy control programs; the training of medical and paramedical personnel; and the integration of leprosy control services into the general health services.

Probable duration: 1960-1965.

Assistance provided: One medical officer and the advisory services of the technical staff of Zone IV Office and of the country projects.

Work done: With the participation of the Organization and UNICEF a leprosy control program was initiated in Ecuador during the second half of 1963. The program is being carried out in the Manabí area as a regular activity of the health services; it is a separate activity in the other areas, but it will be incorporated into the general health services as soon as these are organized.

From June to December 1963, seven general practitioners followed a four-month leprosy training course; five nurses and 28 health auxiliaries attended a three-month training course.

The necessary forms were designed and printed, and a manual of standards and procedures for leprosy control programs was published and distributed.

During the first six months of the program a total of 67,736 persons was examined and 199 new leprosy cases were detected—of these 98 were lepromatous, 38 tuberculoid, and 63 indeterminate.

The project consultant together with the Bolivian authorities reviewed the leprosy problem in the country and formulated recommendations for a control program.

A leprosy consultant was appointed to collaborate with the Governments in the preparation and execution of programs of this kind.

WHO/R

AMRO-266, Regional Development of Epidemiological Studies

Objective: To obtain accurate and comparable data, through special investigations, on causes of death of adults in selected cities of the Americas.

Probable duration: 1961-

Assistance provided: Advisory services by Headquarters staff, including those of an epidemiologist; and support for field investigations in the cooperating cities.

Work done: Field operations in 12 collaborating cities proceeded throughout 1963 and at the end of the year 26,760 completed questionnaires had been received at Headquarters. Processing of the material, in preparation for its analysis, was completed for approximately one third of this total. Preliminary studies were made of cancer deaths in five cities and of cardiovascular mortality in one city.

PAHO

NIH

AMRO-268, Pediatric Education Course

Objective: To assist in organizing courses on social pediatrics in order to provide physicians interested in pediatrics, or pediatricians in charge of maternal and child health services in Latin America, with opportunities to enlarge their experience.

Probable duration: 1961-

Assistance provided: Teaching material and equipment was supplied to the School of Medicine, in Santiago, of the University of Chile.

Work done: The School of Medicine of the University of Chile organized a 3-month course on social pediatrics which was attended by pediatricians and physicians in charge of maternal and child health services.

WHO/R **International Children's Center**

AMRO-269, Nutrition Advisory Services (Zone I)

Objective: To assist the countries and territories of Zone I to collect information on nutritional problems and assess current needs; to plan national nutrition programs in close cooperation with international agencies and integrate them into public health services at all levels; to collaborate with FAO and UNICEF in the production of protein-rich foods other than milk; to organize courses, seminars and other training activities.

Probable duration: 1961-

Assistance provided: A medical officer specialized in nutrition.

Work done: The consultant collaborated with health authorities of British Guiana, St. Lucia, St. Kitts, Nevis and Anguilla, and Trinidad and Tobago, in the preparation of plans of operations for the applied nutrition programs. Planning and training activities increased in 1963 in the countries and territories of the Zone.

Nutrition activities as a part of maternal and child health programs were planned for British Guiana, Dominica, Grenada, St. Vincent and Montserrat. Assistance was provided to Barbados with the school meals program and with the planning of nutrition education activities through the schools. A nutrition center for training, research and providing nutrition services to the community was established in Trinidad, and a unit mainly responsible for nutrition education activities was organized in St. Lucia.

The Zone Nutrition Adviser worked also as principal investigator in the NIH-sponsored research project to study the pathogenesis of anemia in Trinidad; thus far, pregnant and lactating women and infants with protein-

calorie malnutrition have been studied with regard to prevalence and types of anemias.

The nutrition surveys and studies performed in the Caribbean Area have shown serious nutrition problems. The findings, as well as the need for trained personnel to establish permanent technical guidance and assistance, show the need to coordinate all existing resources into a single unit for training and research in applied nutrition. A Caribbean Committee on Food and Nutrition (SACFAN) was organized and a proposal to study the needs for establishment of a Caribbean Nutrition Institute was made. Services of a short-term consultant jointly sponsored by PAHO/WHO and FAO were provided to study existing facilities and programs of institutions and agencies in the Area; the report of this survey will shortly be made available to the Governments.

WHO/R

UNICEF

AMRO-270, Courses on the Planning of Water Supply Systems

Objective: To help the countries to organize and conduct short courses on problems of local interest connected with the water supply program.

Probable duration: 1961-

Assistance provided: 4 short-term consultants and Headquarters, Zone and project staff; supplies and equipment.

Work done: 4 short courses were organized and held: (1) Course on the use of plastic pipes in water supplies; held in Caracas, Venezuela, with the collaboration of the National Institute of Sanitary Works, the Ministry of Public Health, and the Central University of Venezuela, and attended by 75 persons. (2) Course on the design of water supplies; held in São Paulo, Brazil, with the assistance of the School of Public Health and the Department of Engineering of the University of São Paulo, and attended by 35 persons from Argentina, Brazil, Colombia, and Perú. (3) Course on geophysical investigations of ground water; held in Trinidad in collaboration with the University of the West Indies and the Ministry of Public Works, and attended by 17 officials from English-speaking countries and territories in the Caribbean Area. (4) Course on water pumping equipment; held in México, D. F. with the collaboration of the School of Sanitary Engineering, Faculty of Engineering of the National Autonomous University of México, and attended by 25 students.

PAHO/CWSF

AMRO-272, Group Study of Medical School**Organization**

Objective: To provide deans or faculty members who have administrative responsibilities in medical schools in Latin America with an opportunity to visit similar institutions to study their teaching organizations and administration.

Duration: 28 October-15 November 1963.

Assistance provided: A coordinator and publications relating to medical education.

Work done: 12 deans of medical schools from Argentina, Brazil, Colombia, Chile, El Salvador, Guatemala, México, Perú, and Venezuela, accompanied by a coordinator, visited the School of Medicine of the University of Antioquia, in Medellín, Colombia; the School of Medicine of the Autonomous University of El Salvador, in San Salvador; and the School of Medicine of the University of Nuevo León, in Monterrey, México.

PAHO**AMRO-273, Seminar on Mental Health**

Objective: To introduce uniformity into the concepts of integrating mental health activities into public health practice.

Place and duration: Buenos Aires, Argentina, from 8 to 15 September 1963.

Assistance provided: Temporary advisers; the local costs of the seminar, travel and per diem of the participants, and cost of publishing the report.

Work done: Participants and observers from Argentina, Bolivia, Brazil, Ecuador, Colombia, Chile, México, Paraguay, Perú, Uruguay, the United States of America, and Venezuela discussed the care and rehabilitation of patients, training, research, and international collaboration in the integration of mental health programs. It was decided to publish the recommendations made in this regard.

PAHO**AMRO-274, Salt Fluoridation**

Objective: To study the possibility of using kitchen salt as a new vehicle for fluorine in the prevention of dental caries.

Probable duration: 1963-1967.

Assistance provided: Advisory services by Headquarters staff.

Work done: With the cooperation of the Faculty of

Dentistry of the University of Antioquia in Medellín, Colombia, the areas in which the investigation will be carried out were selected and studied; a plan of action was drawn up; nutrition surveys were carried out in the four communities in which this investigation will be made, and dental surveys were begun.

NIH**AMRO-275, Chagas' Disease**

Objective: To assist Governments in obtaining a better knowledge of the epidemiological characteristics of Chagas' disease, of its extent, and of practical measures to control this disease.

Probable duration: 1960-

Assistance provided: Advisory services by Headquarters staff.

Work done: The Organization established a Chagas' Disease Chemotherapy Research Group that held a one-day meeting on 5 September 1963 in Rio de Janeiro, Brazil. Work on studies for the preparation of a standard antigen for the diagnosis of Chagas' disease was continued (see Parasitic Diseases, Chapter II, Control or Eradication of Diseases).

PAHO**AMRO-277, Manual of School Sanitation**

Objective: To advise the Governments on the planning and design of sanitary installations in schools and to prepare a manual on this subject.

Probable duration: 1962-1965.

Assistance provided: A short-term consultant.

Work done: The first draft of a manual on school sanitation was prepared by the consultant. A considerable number of copies were distributed in order to obtain suggestions and comments for the preparation of the second draft in 1964. The WHO short-term consultant in Geneva revised the draft with a view to its being used in other regions of the world.

PAHO**AMRO-280, Program of Training in Virological Research (University of Minnesota)**

Objective: To study the ecology of arboviruses, especially the role of migratory birds in the spread of arboviruses in temperate and tropical areas in the northern

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part of the Hemisphere and to provide research training in this field.

Probable duration: 1961-1966.

Assistance provided: Advisory services by Headquarters personnel.

Work done: In selected areas which have a special ecology, 13 genera and 52 species of mosquito were identified; about 500 forest birds and a similar number of mammals were tracked; mice and chicks were used as sentries for isolating virus and studying serological conversion. Six students took part in this activity and received training.

PAHO

AMRO-281, Planning

Objective: To assist the countries of the Americas in the formulation of national health plans and the training of planners.

Probable duration: 1961-

Assistance provided: 2 short-term consultants, staff travel in connection with planning courses, supplies and miscellaneous costs, the cost of the meeting of the Task Force on Health, and fellowships to study public health administration (health planning) as follows:

<i>Awards</i>	<i>Place of origin</i>	<i>Country of study</i>	<i>Months</i>
2	Argentina	Chile	3
1	Bolivia	Ditto	3
2	Brazil	Ditto	3
1	British Honduras	Ditto	3
2	Colombia	Ditto	3
1	Costa Rica	United States of America	2
2	El Salvador	Chile	3
1	Guatemala	Ditto	3
1	Honduras	Ditto	3
1	Jamaica	United States of America	1
2	México	Chile	3
1	Nicaragua	Ditto	3
1	Panamá	Ditto	3
1	Paraguay	Ditto	3
1	Perú	Ditto	3
1	Uruguay	United States of America	2
1	Ditto	Chile	3
2	Venezuela	Ditto	3

Work done: Short-term consultant services were provided to El Salvador and Nicaragua in connection with the formulation of national health plans. The second international Spanish-language course in health planning was given at the Latin American Institute of Economic and Social Planning, in Santiago, Chile. The first international English-language course in planning was given at the Johns Hopkins University. The Task Force on

Health met in Washington, D.C., from 15 to 20 April 1963 (see Planning, Chapter I).

PAHO, OAS (Alliance for Progress)

AMRO-283, Coordination of International Research

See Research, Chapter I.

PAHO, NIH

AMRO-284, Teaching of Dentistry

Objective: To improve the teaching given by schools of dentistry in Latin America.

Probable duration: 1963-

Assistance provided: A short-term consultant and the Regional Adviser.

Work done: Advisory services were provided to the Latin American Association of Schools of Dentistry (ALAFD) in connection with the holding of an international course on dental education in México in October 1964. Assistance was given in the organization of a seminar on dental education held in El Salvador by the Dental Federation of Central America and Panamá (FOCAP); that seminar was assisted by the Regional Adviser and a short-term consultant. Technical assistance was provided by correspondence to several dental schools and personally by the Regional Adviser to schools in Brazil, Chile, Colombia, El Salvador, Guatemala, and México. Literature on the teaching of dentistry was sent to all schools of dentistry.

WHO

AMRO-289, Nursing (Zone I)

Objective: To assist the Governments of Zone I with their nursing and midwifery programs, in particular research, planning of activities, organization of services and education of professional and auxiliary personnel.

Probable duration: 1959-

Assistance provided: An adviser in nursing.

Work done: In Venezuela a committee was set up to study the functions and qualifications of all nursing personnel. In Grenada assistance was given in formulating a general health plan. In Barbados assistance was given in planning the administration of the new General Hospital and in organizing practice for student nurses. At meetings held in the Leeward Islands and Windward

Islands by representatives of the Organization, the University of the West Indies (UWI), and AID, programs for the prevention and treatment of gastroenteritis and malnutrition in children were discussed. In Jamaica a report on the functions of public health nurses and sanitary inspectors, intended for the Government, was prepared. A committee in which the UWI, the Ministry of Health of Jamaica and PASB were represented, was set up to draw up long-term plans for the development of post-basic nursing education programs.

PAHO

AMRO-290, Nursing (Zone II)

Objective: To assist the Governments of Zone II with their nursing and midwifery programs, in particular research, planning of activities, organization of services, and education of professional and auxiliary personnel.

Probable duration: 1962-

Assistance provided: An adviser in nursing; supplies and equipment.

Work done: All the countries in the Zone were periodically visited by the consultant. Assistance was provided to Haiti and the Dominican Republic in connection with the planning of their Nursing Departments. In addition, advisory services were given to the Dominican Republic in connection with a poliomyelitis outbreak.

Assistance was given with the planning and holding of a seminar on the training of nursing auxiliaries. Preparations were made for a meeting of all nurses assigned to Zone II projects to discuss the nursing programs being carried out in the Zone. Periodical discussions were held with health authorities on nursing needs, and assistance was given in drawing appropriate plans.

PAHO

AMRO-291, Nursing (Zone III)

Objective: To assist the Governments of Zone III with their nursing and midwifery programs, in particular research, planning of activities, organization services, and education of professional and auxiliary personnel.

Probable duration: 1963-

Assistance provided: An adviser in nursing.

Work done: The number of nurses and nursing auxiliaries in the Zone III countries, excluding British Honduras, is 2,475 and 6,511 respectively, the total population being 12,866,648. Project activities included advisory services to all the countries in the Zone including peri-

odical visits to each country and technical assistance to health projects and in connection with the professional education and training.

Special attention was devoted to planning initiated in El Salvador and Nicaragua in which 40 nurses and other sanitary personnel are participating. Assistance was given with the drawing up of nursing regulations. Advisory services were given in connection with the improvement of work standards and techniques, the systems of supervision, and the strengthening of the organization and administration of nursing services at different levels in countries which have nursing projects, especially for the organization of technical units responsible for issuing policy directives at the national level.

Further assistance was given to the authorities of the pilot areas to integrate and coordinate preventive and curative services. In-service training programs were carried out and local courses were held and were attended by 324 nurses, 1,047 nursing auxiliaries and 425 lay midwives.

Steps were taken to obtain a full-time nurse educator for project Costa Rica-18 so as to renew direct advisory services to the Costa Rican School of Nursing for advanced studies in nursing which had been interrupted for more than one year. Costa Rica and Panamá were provided with the services of a maternity nursing consultant who will make a study of post-basic courses in this speciality, which were being held annually. A consultant specialized in psychiatric nursing was obtained for Guatemala so as to hold the first post-basic course. Fellowships were obtained for the nurses from Central America and Panamá who attended the Third Course on the Supervision and Administration of Nursing Services at the National Nursing School of Guatemala.

In the matter of post-basic training, assistance was given in the reorganization of the Nursing School of British Honduras and in the preparation of an agreement between the Government and in negotiations to obtain a full time nurse educator for project British Honduras-9.

Assistance was continued through project Guatemala-6 to the National School of Nursing of Guatemala in order to complete the review of the curriculum and to draw up a plan of advisory services to the Nursing School of Quetzaltenango. Assistance to the National School of Nursing of Nicaragua was ended in June after 8 years of joint work. Assistance was given to INCAP in the preparation and organization of a meeting of the Advisory Committee on a Nutrition Text for Latin American Nurses.

PAHO

AMRO-292, Nursing (Zone IV)

Objective: To assist the Governments of Zone IV with their nursing and midwifery programs, in particular research, planning of activities, organization services and education of professional and auxiliary personnel.

Probable duration: 1952.

Assistance provided: An adviser in nursing.

Work done: Technical advice was furnished to all the countries in the Zone, and assistance was provided for completion of national surveys of nursing needs and resources being carried out in Colombia, Ecuador, and Perú. Assistance was given in the organization and holding of national seminars for graduate nurses, the development of in-service training programs, and courses for nursing auxiliary personnel in all the countries. Other work included collaboration in the establishment of regulations for nursing services and assistance to the staff of the Joint Mission for Indigenous Populations (Bolivia and Ecuador) for the development of nursing services.

PAHO

AMRO-293, Nursing (Zone V)

Objective: To assist the Government of Brazil with its nursing and midwifery programs, in particular research, planning of activities, organization of services, and education of professional and auxiliary personnel.

Probable duration: 1963.

Assistance provided: An adviser in nursing.

Work done: Assistance was given to the national nursing authorities in the improvement of existing nursing education programs and the promotion of nursing activities within the framework of general health development activities. Assistance was also given with a survey of needs and requirements in connection with the training of nursing auxiliaries and the promotion of cooperative working relations between the nurses of different state departments of health so as to formulate a plan for cooperating in nursing training and in the strengthening of nursing services in the north and northeast of the country. In 1963 two new projects began, one of which concerns basic nursing education (Brasil-60, Recife) and the other the training of nursing auxiliaries (Brazil-63).

PAHO

AMRO-294, Nursing (Zone VI)

Objective: To assist the Governments of Zone VI with their nursing and midwifery programs, in particular re-

search, planning of activities, organization of services, and education of professional and auxiliary personnel.

Probable duration: 1963.

Assistance provided: An adviser in nursing; reference books and materials for the libraries of schools and nursing courses.

Work done: Advisory services in nursing and midwifery were given to 7 health programs. Assistance was given in studies on the resources and needs for nurses and midwives in Chile and Uruguay; the planning at the national and local level in Argentina, Paraguay, and Uruguay; and the evaluation of nursing programs in Argentina and Chile.

Advisory nursing services were given to 17 nursing schools with a total of 1,285 students, and the following courses were held: one for maternity nurses attended by 6 students; 3 advanced and post-basic courses in the administration and supervision of nursing services attended by 59 persons; 3 refresher courses, each of 3 months duration, for nurses, midwives, and social workers, attended by 44 persons; 2 short courses on administration attended by 86 nurses; 21 courses for nursing auxiliaries attended by 1,253 persons, and 7 seminars for nurses and midwives attended by 208 participants. In addition, an international congress on neurosurgical nursing was attended by 300 persons, and various in-service training programs were held and attended by 428 persons from the countries of the Zone as well as 24 PAHO/WHO fellows. The total number of persons who benefited from these educational activities was 3,685.

PAHO

AMRO-302, Information Center on Mental Health in Latin America

Objective: To establish an agency to coordinate mental health activities in Latin America.

Probable duration: 1963.

Assistance provided: Two professional staff members and one administrative assistant; also supplies and equipment.

Work done: The Information Center on Mental Health in Latin America, which was established in January 1963, laid the bases for the systematic collection, analysis and distribution of data relating to mental health in the countries of Latin America. It is at present engaged in setting up a permanent system of information and coordination that will facilitate communication among professional workers in the field of mental health and promote research.

PAHO, NIH

AMRO-303, Medical Care (Zone III)

Objective: To collaborate with each of the Governments of the countries of Central America on the integration of medical care services within the general health services, and in formulating suitable standards for health care.

Probable duration: 1962-

Assistance provided: One medical officer specialized in medical care, and the funds required for the acquisition of bibliographical material.

Work done: The collection of basic information on medical care establishments for each country of the Zone was completed; this information was used in preparing the document entitled "Considerations on Medical Care in the countries of Zone III."

Advisory services were given to several countries on general aspects of medical care problems, among them on the organization of outpatient clinics and their role in integrated health services, as well as the functional planning of medical care establishments as the basis for the architectural design of new constructions and the modernization of existing ones.

A study of the Belice Hospital in British Honduras was begun and collaboration was given in the selection of a site; also in the preparation of plans for the construction of a new health center in San Luis.

In Honduras advice was given in the preparation of a set of general regulations for hospitals.

The advisory services given to Nicaragua included such diverse services of medical care as hospital budgets, organization of nursing services, outpatient clinics, training of interns and residents at the new General Hospital of Managua.

PAHO**AMRO-304, Medical Care (Zone VI)**

Objective: To collaborate with the Governments of Argentina, Chile, Paraguay, and Uruguay in medical care programs and especially in hospital planning and administration.

Probable duration: 1961-

Assistance provided: One specialized consultant, books, pamphlets, and informational material.

Work done: Advisory services were given to the integrated health programs in the Provinces of El Chaco and San Juan, and collaboration was given to the Provinces of Tucumán and Mendoza, Argentina. In the matter of hospital architecture, 8 draft plans for the new building were prepared and assistance was given to 8 plans of either completion, expansion, or remodeling. Participa-

tion was also given in the plan of hospital reorganization of the municipality of Buenos Aires, which has jurisdiction over 23 hospitals with 14,000 beds. An intensive four-month course attended by 25 physicians was given on hospital administration at the University of Buenos Aires; two short courses were given on hospital administration and architecture, one of three months for 14 architects of the Hospital Architecture Department of the municipality of Buenos Aires, and the other consisting of 9 sessions of 2 hours each for 12 students of the School of Architecture of the University of Buenos Aires. An 8-day seminar on hospital administration in Tucumán was attended by 354 persons.

Collaboration was given to Uruguay in a census on medical care services and establishment through a survey conducted in early 1963, which gathered data for the preparation of a national Health plan.

PAHO, KF**AMRO-305, Leprosy Control (Zone VI)**

Objective: To assist the Governments of the countries of Zone VI in the study, organization, conduct, and evaluation of leprosy control programs; the training of medical and paramedical personnel; and the integration of leprosy control services into the general health services.

Probable duration: 1962-

Assistance provided: One specialized medical consultant; advisory services by technical personnel of Zone VI Office and of country projects; and fellowships as follows:

Awards	Country of origin	Field of study	Country of study	Months
1	Paraguay	Public health administration (leprosy)	México	10½
5	Ditto	Leprosy control	Argentina	1
7	Uruguay	Leprosy control	Ditto	1

Work done: Leprosy occurs with varying prevalence in Argentina, Chile (Christmas Island), Paraguay, and Uruguay. Control programs are being conducted in both Argentina and Paraguay with the advice of the Organization and the cooperation of UNICEF.

At the request of the Government of Uruguay, a study was made in that country to determine the extent of the leprosy problem and recommendations were made for the preparation of a national control program. A similar study was made on Christmas Island at the request of the Government of Chile.

An international course on public health leprology was given in Buenos Aires, Argentina, from 1 to 29 October for physicians and social workers. The course was organ-

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ized by the Government in collaboration with the Organization and UNICEF, and was attended by 24 physicians (21 from Argentina, 2 from Paraguay, and 1 from Uruguay), and 18 social workers (12 from Argentina, 3 from Paraguay, and 3 from Uruguay). Theoretical and practical instruction was given in the Federal Capital and in General Rodríguez, Buenos Aires Province, and the field work in the pilot area of Entre Ríos Province. Discussions were held with the National University of the Litoral at Rosario with a view to organizing an international personnel training program.

WHO/R

AMRO-307, Field Office (El Paso, Texas)

See Zone and Field Offices, Chapter VI.

PAHO

AMRO-308, Survey of Water Resources (Central America and Panamá)

Objective: To explore the possibility of using ground water as a source of water supplies.

Probable duration: 1962-

Assistance provided: A short-term consultant and Zone III and project staff.

Work done: In the course of the year several of the countries continued to prepare requests for assistance from the United Nations Special Fund based on the reports prepared in 1962 by the PAHO consultant. The Government of Costa Rica officially submitted a request for aid to the United Nations in the amount of \$500,000. The National University, the National Water Supply and Sewage Disposal Service, and the Institute of Electrification and the Ministry of Public Health collaborated in this project.

PAHO, WHO

AMRO-316, Tuberculosis Control (Zone IV)

Objective: To assist the countries in Zone IV in orienting their tuberculosis control activities.

Probable duration: 1962-1966.

Assistance provided: Technical advisory services by a tuberculosis consultant and a nurse; a 15-day grant to a fellow from Bolivia for studies in tuberculosis in Perú.

Work done: The Tripartite Plan of Operations for the project Bolivia-7 was prepared and the work was begun.

Assistance was given in the preparation of the Tripartite Plan of Operations for the Manabí integrated health area in Ecuador. Considerable work was done on the training of nurses and nursing auxiliaries, especially in Colombia and Perú. Reports corresponding to 16 centers and 16 mobile units under integrated health districts in Colombia show that, during 1963, photofluorograms performed totaled 682,420 with 23,182 suspected cases (3.4 percent). The total number of diagnosed tuberculosis cases was 14,975. In Perú, as soon as the survey in the Tacna health area was completed, assistance was given in organizing and operating the demonstration area (see Perú-29); and in the health area of the Department of Junín, a field trial was carried out based on the diagnosis of infectious cases of tuberculosis by sputum examinations made by specially trained auxiliary personnel.

In all the countries in the Zone considerable attention was paid to the reorientation of the national tuberculosis services, with a view to increasing the population covered and making better use of the resources available.

PAHO, WHO/R

UNICEF

AMRO-317, Medical Care (Zone IV)

Objective: To advise the Governments of Bolivia, Colombia, Ecuador, and Perú in the organization of medical care in the communities, and in the integration of the hospitals into the general health services.

Probable duration: 1963-1972.

Assistance provided: 1 medical adviser and 1 short-term consultant.

Work done: A course for medical hospital directors was given at the Personnel Training Center of the Ministry of Public Health and Social Welfare of Perú. The consultant visited La Paz, Bolivia, to advise on installing equipment at the Pediatrics Hospital. The permanent adviser to the project, who took up his duties in December, began a study of the needs of the countries in Zone IV.

PAHO

AMRO-318, Planning (Zone IV)

Objective: To assist the countries of Zone IV in the formulation of national health plans and in the training of planners.

Probable duration: 1963-

Assistance provided: A medical officer specialized in planning.

Work done: Consultant services were provided to the

Governments of Ecuador and Perú. The consultant also acted as co-director of the course in health planning given at the Latin American Institute of Economic and Social Planning, in Santiago, Chile.

PAHO

AMRO-319, Administrative Methods and Practices in Public Health (Zone VI)

Objective: To assist the Governments of the countries in Zone VI to improve the administrative methods and practices of their national health services.

Probable duration: 1963-

Assistance provided: A consultant in administrative methods.

Work done: The consultant visited the 4 countries in Zone VI and examined the structure, organization of personnel, and administrative practices in the Ministries of Health of these countries. In Chile work was begun on a complete review of the structure and procedures of the various agencies of the National Health Service. In Paraguay, a start was made on introducing changes into the accounting systems so that this activity may be more effectively related to the program budget for the Ministry.

PAHO

AMRO-322, Planning (Zone VI)

Objective: To assist the countries of Zone VI in the formulation of national health plans and the training of planners.

Probable duration: 1963-

Assistance provided: A medical officer specialized in planning.

Work done: The consultant participated as a member of the faculty in the course on health planning given at the Latin American Institute of Economic and Social Planning, in Santiago, Chile.

PAHO

AMRO-326, Nutrition Courses for Social Workers

Objective: To train and orient directors and teachers of nutrition in schools of social service, in the field of applied nutrition.

Probable duration: 1963-

Assistance provided: A short-term consultant, and advisory services of the Zone VI Office staff.

Work done: A three-month course on basic and applied nutrition was given for 22 participants from 15 countries of Latin America at the Inter-American Children's Institute, in Montevideo, Uruguay. The short-term consultant participated in the preparation and presentation of nutritional education materials, and the Organization staff stationed in Uruguay participated in the teaching of public health principles.

PAHO

FAO, OAS, UN, UNICEF

AMRO-327, Symposium on the Administration of Water Supply Systems

Objective: To set forth in a clear and objective manner the general principles underlining the sound organization and administration of water services and sewage disposal services which have received loans from the IADB.

Probable duration: 1963.

Assistance provided: Temporary consultants and Headquarters, Zone, and project staff.

Work done: The symposium was held in February in Medellín, Colombia, under the auspices of PAHO and the IADB and with the collaboration of the Municipal Enterprises of Medellín and the National University of Antioquia. It was attended by 45 participants from all the countries that had received or were about to receive loans from the IADB for the expansion of their water supply and sewage disposal services.

PAHO/CWSF, IADB

AMRO-331, Epidemiological Research on Cancer in Latin America

Objective: To develop in Latin America cancer control services, morbidity statistics, and epidemiological research on the occurrence and etiology of cancers of different anatomical sites.

Probable duration: 1963-

Assistance provided: Headquarters staff and short-term consultants for a planning conference, costs of meeting, and secretarial services.

Work done: A Planning Conference on Epidemiological Research on Cancer in Latin America was held in Lima, Perú, from 25 February to 1 March 1963. The Conference recommended that the Organization provide consultant services on cancer epidemiology and control and suggested standards for the collection of basic minimum and comparable data on morbidity and mortality. The conference advised the Organization to plan collaborative epidemio-

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logical investigations into the incidence and causes of cancer of the stomach, cervix of the uterus, skin, and lung, for which statistics show high morbidity or mortality; and that similar studies be undertaken on cancer of the esophagus, liver, gall bladder and biliary tract, urinary bladder, and oral cavity because of their special interest or unusual geographical distribution.

PAHO, NIH

AMRO-334, Etiology of Congenital Malformations

Objective: To obtain expert advice regarding the implementation of Resolution XIV of the XVI Pan American Sanitary Conference (Minneapolis, Minnesota, U.S.A., 1962), through a research program on the etiology of congenital malformations.

Probable duration: 1963-

Assistance provided: A short-term consultant and staff services.

Work done: A Planning Conference on the Etiology of Congenital Malformations was held from 3 to 7 January 1963 for a group of experts to advise the Organization on the development and implementation of a collaborative program for the Americas. It was agreed that the proposed research program would make possible the timely recognition of detrimental effects of newly introduced potentially teratogenic agents by revealing unusual groupings of congenital defects. A research proposal was prepared. Although financial support to develop the project was not obtained, a small group was brought together on 22 November 1963 to explore possible methods of implementing the Resolution. Three concrete proposals were made for new projects for which financial support should be sought (see Health Statistics, Chapter III, General Services).

PAHO, NIH

AMRO-336, Schistosomiasis (Zone I)

Objective: To provide technical advisory services to those countries and territories in Zone I where schistosomiasis is a problem.

Probable duration: 1963-

Assistance provided: A short-term consultant.

Work done: The consultant initiated a survey on the extent and nature of the problem in St. Lucia, trained local staff in laboratory and field techniques, and outlined the necessary precontrol program studies. A follow-up visit was made to appraise the progress of the precontrol studies and to advise on activities for certain areas where the

disease is especially dangerous and amenable to control measures. Although the snail survey and the bilharziasis infection survey had not been completed at the end of 1963, the snail survey revealed that snails had been introduced into, and were breeding in, new areas.

PAHO

AMRO-340, Training Course on Applied Nutrition (University of La Molina, Perú)

Objective: To train agronomists from Latin America in the techniques of applied nutrition.

Probable duration: 1963-1965.

Assistance provided: Advisory services by staff of Zone IV Office and of projects AMRO-262 and Perú-22.

Work done: The first course, which lasted for 9 months, was attended by 20 persons from 14 countries.

PAHO

FAO, UNICEF

AMRO-341, Training Center for Nutrition Education (Puerto Rico)

Objective: To assist applied nutrition programs by training project level personnel in coordinated planning of nutrition education on the fields of health, agriculture, and education.

Probable duration: 1963-1964.

Assistance provided: Advisory services by the Regional Adviser in nutrition.

Work done: Assistance was provided in the planning and evaluation of a three-month course in planning of nutrition education for project level directors of applied nutrition programs from services of health, agriculture and education. 20 participants from 5 Latin American countries were selected to attend this course, to be held early in 1964.

PAHO

FAO, UNICEF

AMRO-344, Seminars on the Functions of Local Health Services in Malaria Eradication Programs

Objective: To study the participation of local health services in malaria eradication programs through seminars that will bring together the authorities of the general health services and the directors of malaria eradication campaigns to exchange views and experiences.

Probable duration: 1963-1965.

Assistance provided: 1 short-term consultant.

Work done: The consultant and an officer from Headquarters visited 8 of the South American countries that will participate in a first seminar and discussed its organization with the national health authorities of those countries. Another seminar has been scheduled for the countries of Middle America and the Guianas.

PAHO/SMF

AMRO-346, Public Health Administration (Caribbean)

Objective: To assist the Governments of the Caribbean Area in the analysis of present problems of health, evaluation of resources, and preparation of plans of action to insure maximum results from the economic and social resources available; and to assist in the integration, implementation and evaluation of public health programs within the national development plans.

Probable duration: 1963-1967.

Assistance provided: A public health administrator specialized in planning; and an adviser in administrative methods.

Work done: A general appraisal of present problems and needs was made, and a guide was prepared to collect basic information which will be used as terms of reference for practical evaluation of the impact that the project will make upon health conditions in the area.

Plans for integrated health services in Dominica, Montserrat, St. Lucia and Grenada were prepared and have been approved by UNICEF. In St. Kitts, St. Vincent and Antigua, the first steps to collect basic information were being taken at the end of 1963.

Ten short seminars on gastroenteritis and malnutrition were developed in cooperation with the University of the West Indies, with the participation of 64 physicians, 250 nurses, 51 public health inspectors and 45 auxiliary and lay personnel.

A seminar on the organization and administration of public health services was held in Jamaica, with the participation of 50 top level representatives (chief medical officers and chief administrators) of 17 governments of the English-speaking Caribbean, the Netherlands Antilles and Surinam.

PAHO

AMRO-348, Seminar on the Public Health Aspects of Housing and Urbanization

Objective: To study the health implications of housing and urbanization programs and to determine the part to be played by health authorities in those programs.

Place and duration: Madrid, Spain, 22 April-1 May 1963.

Assistance provided: 6 temporary consultants and the services of Headquarters staff.

Work done: This seminar was held for the Regions of Europe and the Americas. It was attended by 10 participants from various Latin American countries and 6 temporary consultants who prepared the working documents. A final report has been prepared and will be distributed in 1964.

PAHO

WHO

AMRO-349, Seminar on Industrial Hygiene

Objective: To review and study the situation in the industrial hygiene field in Latin American countries.

Probable duration: 1963-1964.

Assistance provided: A Regional Adviser and Zone IV and V personnel.

Work done: The organizing committee for this seminar, which is to be held in 1964, met in March in Lima, Perú.

PAHO

AMRO-350, Resistance of Malaria Plasmodia to Drugs

Objective: To study the plasmodia strains of human malaria which are resistant to the antimalarial drugs at present in use.

Probable duration: 1963-1965.

Assistance provided: Contractual services of a parasitologist; a grant to the University of São Paulo, Brazil, to cover the salaries of part of the local personnel, and to award bonuses to other local staff of the Center for the Identification of Resistant Malaria Parasites, in Ribeirão Preto, and to purchase certain materials.

Work done: A study of blood samples begun during the year led to the identification of a chloroquine-resistant strain of *Plasmodium falciparum* from Colombia; strains that tolerate the drug were identified from the Amazon Valley in Brazil.

PAHO/SMF

AMRO-351, Seminar on Leprosy Control

Objective: To exchange experiences and ideas on the planning, programming, and organization of leprosy control activities in the countries of the Hemisphere.

Place and duration: Cuernavaca, Morelos, México, 12-19 August 1963.

Assistance provided: Organization of the seminar, secretarial, interpretation, and translation services, transportation and per diem allowances of the participants.

Work done: A Seminar was organized by the Bureau in cooperation with the Government of the United States of México and attended by 47 participants from Argentina, Brazil, British Guiana, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Martinique, México, Nicaragua, Panamá, Paraguay, Perú, Surinam, Trinidad and Tobago, United States of America, Uruguay, and Venezuela. Fifteen officers of the Bureau and one from WHO headquarters also attended.

The 4 items on the agenda were: planning of leprosy control activities; programming of these activities; organization of these activities; and preparation and training of professional personnel.

The Final Report containing the conclusions and recommendations of the seminar was approved at the seventh plenary session on 19 August 1963.

Scientific Publication PAHO 85 includes the working papers and the final report which also appeared in the *Boletín de la Oficina Sanitaria Panamericana LV:5*, 471-509.

The recommendations of the seminar to the Bureau are being applied to the activities of project AMRO-149.

PAHO

Government of México

AMRO-352, Studies on Promotion of Rural Health and Agriculture

Objective: To study, in cooperation with IADB, ways and means to foster the development of agriculture, livestock breeding and rural welfare, as part of a common policy to incorporate the protection and promotion of health into the over-all process of socioeconomic development.

Probable duration: 1963-1964.

Assistance provided: A medical officer.

Work done: The medical officer and an agronomist provided by IADB started in November the preliminary study. In the course of visits to several countries, they consulted with the Governments and delineated existing interest in studies on methods to increase agricultural

production, particularly of commercial livestock-raising for food.

IADB

AMRO-359, Caribbean Nutrition Center

Objective: To coordinate existing nutrition activities in the Caribbean in order to realize a comprehensive program for the area, including the training of personnel and scientific research into existing problems.

Probable duration: 1963-

Assistance provided: One short-term consultant.

Work done: An extensive tour of the Caribbean Area was undertaken by the consultant to establish nutrition problems, needs for research and training, and assessment of existing nutrition centers. The report on this survey will be made available early in 1964.

PAHO

FAO

AMRO-365, Health Education (Caribbean)

Objective: To cooperate with the Governments of the West Indies in the development of health education activities and the training of staff in this field, which will support and extend the public health services.

Probable duration: 1963-

Assistance provided: Advice by Zone I Office staff.

Work done: Plans were prepared in 1963 to study the health education problems and resources of the countries and territories in the area, as well as the procedures to insure the integration of educational work in all health programs.

WHO/R

AMRO-372, Maternal and Child Health (Caribbean)

Objective: To hold conferences to focus interest on the relationship between gastroenteritis and malnutrition problems in the Caribbean Area, particularly as they affect children between 6 months and 2 years of age, and to discuss means of combating gastroenteritis and malnutrition through the health programs of the islands.

Place and duration: 10 conferences were held from 23 August-21 September 1963 in Antigua, Dominica, Grenada, St. Kitts, St. Lucia, and St. Vincent.

Assistance provided: Advisory services by a team composed of a Headquarters consultant in public health

administration and a public health nurse from Zone I; 2 pediatricians; a lecturer in preventive medicine and a pediatric nurse from the University of the West Indies, and a health educator from AID; also travel expenses of other participants in the conferences.

Work done: All together, 10 conferences were held with senior staff of each health department and all local physicians. In each conference methods of preventing illness and caring for the sick were presented, and technical aspects of existing problems and future plans for combating them were discussed. A total of 410 persons attended these conferences. In addition, public meetings were held on each island, each meeting having been attended by 40 to 400 persons. Plans were begun to follow up on conclusions arrived at, and recommendations made by, the conferences.

PAHO, Foundation for International Medical Services Inc.

UNICEF

AMRO-373, District Nurses Course

<i>Awards and place of origin</i>	<i>Field of study</i>	<i>Place of study</i>	<i>Months</i>
3 (Antigua)	Public health nursing	Barbados	2¼
4 (Barbados)	Ditto	Ditto	2¼
4 (Dominica)	Ditto	Ditto	2¼
4 (Grenada)	Ditto	Ditto	2¼
3 (Montserrat)	Ditto	Ditto	2¼
4 (St. Kitts)	Ditto	Ditto	2¼
4 (St. Lucia)	Ditto	Ditto	2¼
4 (St. Vincent)	Ditto	Ditto	2¼

PAHO, UNICEF

AMRO-375, Radiation Surveillance

Objective: To assist interested Member States in establishing radiation surveillance stations within their National Health Services for the determination of radioactive nuclide contamination of air, food and water.

Probable duration: 1962-

Assistance provided: Air sampling equipment to 4 countries, and milk collection bottles to one.

Work done: Following an agreement between the Organization and the United States Public Health Service (wherein the latter was to provide air sampling equipment and carry out the requisite laboratory analysis), the National Health Services of 5 countries agreed to establish air sampling stations. Air samples were collected

by drawing air through a proper filter resulting in the daily deposition of radio-particulates. The samples were then sent for analysis to the Radiological Health Laboratory of the USPHS. Monthly results were tabulated and sent to the country concerned by PASB, and published regularly in reports of *Radiological Health Data*, a USPHS publication.

Milk collection was started in one country. Analysis and reporting were similar to those of air collection. The USPHS sent the collection bottles for the station in Latin America and PAHO provided funds for the air shipment of the collected monthly milk sample from the country to the USPHS.

PAHO

USPHS

EURO-210, Inter-Regional Training Course on Medical Rehabilitation

One 8-month fellowship for an Argentinian to study medical rehabilitation in Denmark.

WHO/TA

REG/ME-18, Exchange of Scientific Workers (Malaria Eradication)

<i>Awards</i>	<i>Country of origin</i>	<i>Place of study</i>	<i>Weeks</i>
2	México	Ceylon, India, Indonesia, Jordan, Singapore, Syria, Switzerland, Turkey	7½
1	Nicaragua	Ditto	7½

WHO/MESA

INTER-REGIONAL—104, Course on Radiation for Public Health Administrators

<i>Awards</i>	<i>Country of origin</i>	<i>Country of study</i>	<i>Months</i>
1	Argentina	Chile	3¼
1	Brazil	Ditto	3¼
1	Colombia	Ditto	3¼
1	Costa Rica	Ditto	3¼
1	Guatemala	Ditto	3¼
1	Honduras	Ditto	3¼
1	México	Ditto	3¼
1	Panamá	Ditto	3¼
1	Perú	Ditto	3¼
1	Venezuela	Ditto	3¼

WHO/R

VII. PROJECT ACTIVITIES

INTER-REGIONAL—113.2, Course on Epidemiology and Control of Tuberculosis

<i>Awards</i>	<i>Country of origin</i>	<i>Country of study</i>	<i>Months</i>
1	El Salvador	Italy	4¼
1	Haiti	Ditto	4¼
1	Venezuela	Ditto	4¼

WHO/TA

INTER-REGIONAL—135, Travelling Seminar on Public Health Administration

<i>Awards</i>	<i>Country of origin</i>	<i>Country of study</i>	<i>Months</i>
1	Bolivia	Soviet Union	1
1	Colombia	Ditto	1
1	México	Ditto	1

WHO/TA

INTER-REGIONAL—191, Travelling Seminar on Training and Utilization of Health Personnel

<i>Awards</i>	<i>Country of origin</i>	<i>Country of study</i>	<i>Months</i>
1	Argentina	Soviet Union	1
1	Bolivia	Ditto	1
1	Venezuela	Ditto	1

WHO/TA

INTER-REGIONAL—198, WHO Travelling Seminar on the Organization of Epidemiological Services

<i>Awards</i>	<i>Country of origin</i>	<i>Country of study</i>	<i>Months</i>
1	Brazil	Soviet Union	¾
1	Chile	Ditto	¾
1	Venezuela	Ditto	¾

WHO/TA

INTER-REGIONAL—221, Seminar on Respiratory Virus Diseases

<i>Awards</i>	<i>Country of origin</i>	<i>Country of study</i>	<i>Months</i>
1	Brazil	Soviet Union	¼
1	Jamaica	Ditto	¼
1	Perú	Ditto	¼

WHO/TA

INTER-REGIONAL—222, Seminar on Environmental Health Aspects of Housing and Urbanization

<i>Awards</i>	<i>Country of origin</i>	<i>Country of study</i>	<i>Months</i>
1	Chile	Soviet Union	¾
1	Perú	Ditto	¾
1	Venezuela	Ditto	¾

WHO/TA

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“ . . . man is the sum of all the efforts of a society, the object, the end, and the measure of all things . . .

“Health has come to be regarded as a “right,” on a par with the other basic human rights.”

Task Force on Health at the Ministerial Level