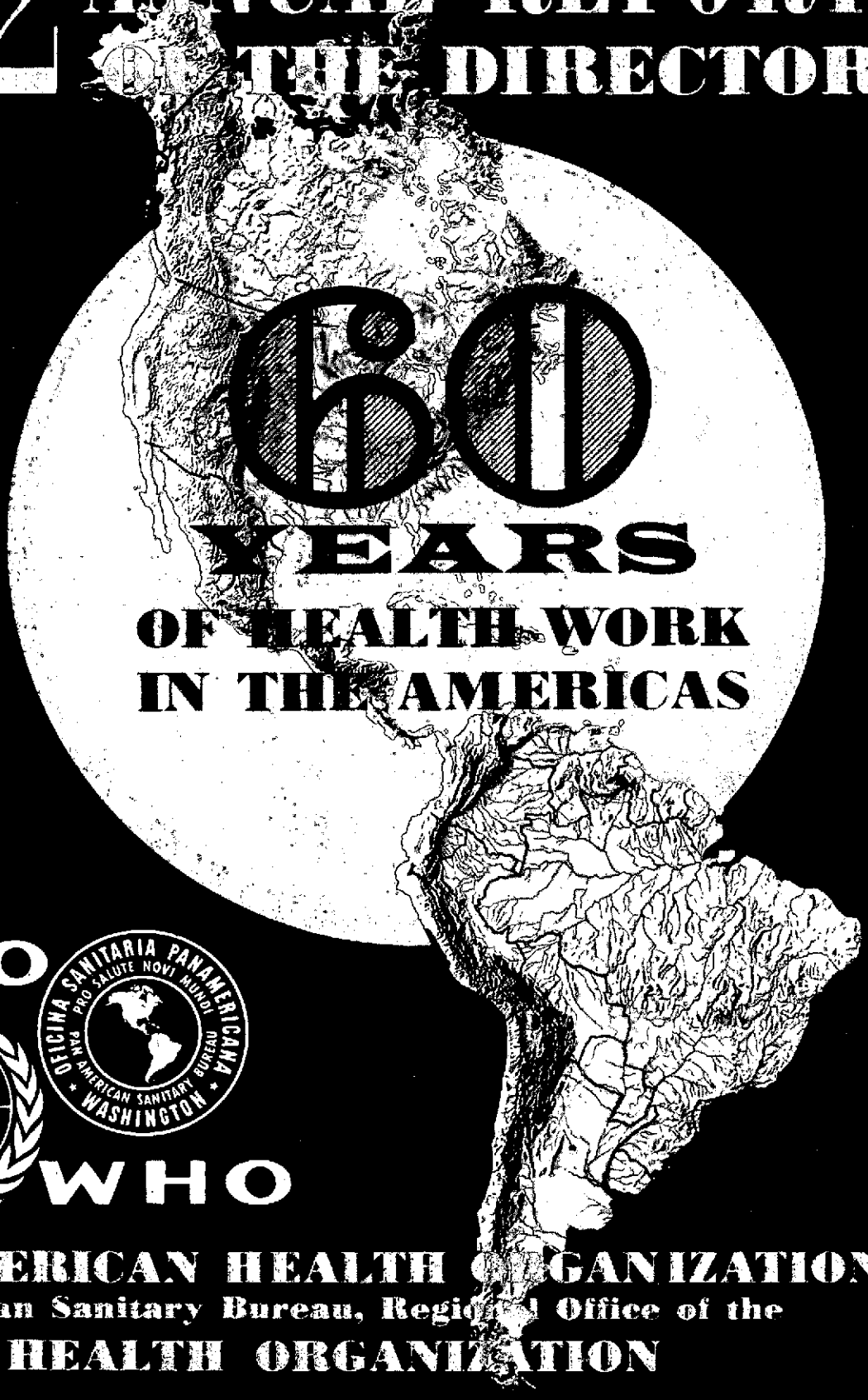
1962 ANNUAL REPORT OF THE DIRECTOR



60 YEARS OF HEALTH WORK IN THE AMERICAS

PAHO

OFICINA SANITARIA PANAMERICANA
PRO SALUTE NOVI MUNDI
PAN AMERICAN SANITARY BUREAU
WASHINGTON

WHO

PAN AMERICAN HEALTH ORGANIZATION
Pan American Sanitary Bureau, Regional Office of the
WORLD HEALTH ORGANIZATION

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

ANNUAL REPORT OF THE DIRECTOR

of the

PAN AMERICAN SANITARY BUREAU

REGIONAL OFFICE FOR THE AMERICAS

of the

WORLD HEALTH ORGANIZATION

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PAN AMERICAN HEALTH ORGANIZATION
Pan American Sanitary Bureau, Regional Office of the
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1501 New Hampshire Avenue, N.W.
Washington 6, D. C.

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 1962. 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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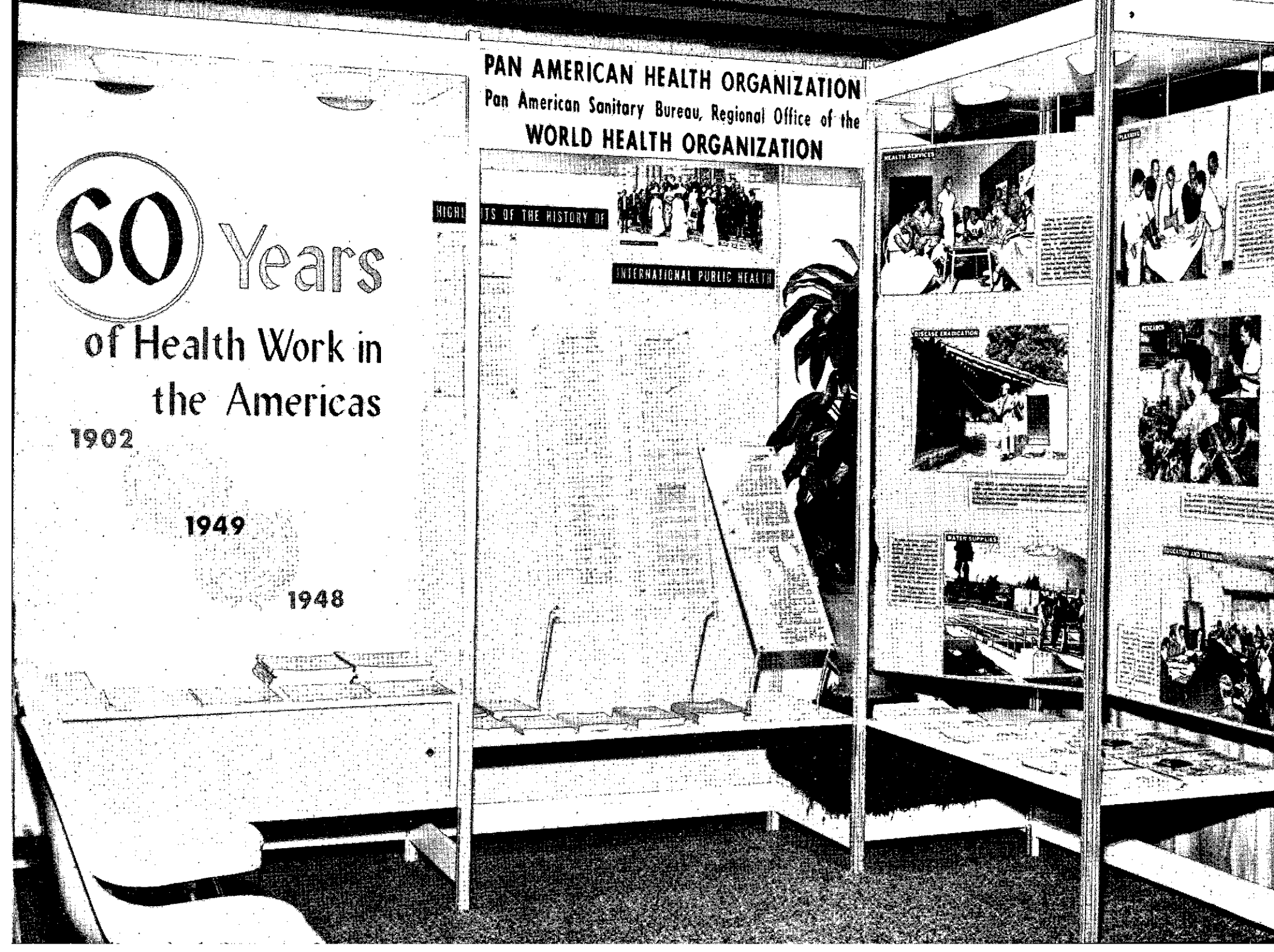
ACRONYMS AND CORRESPONDING AGENCIES

AID	Agency for International Development
AIDIS	Inter-American Association of Sanitary Engineering
APHA	American Public Health Association
CENDES	Center of Development Studies
CREFAL	Latin American Regional Fundamental Education Training Center
ECLA	Economic Commission for Latin America (United Nations)
EPTA	Expanded Program of Technical Assistance (United Nations)
FAO	Food and Agriculture Organization of the United Nations
IADB	Inter-American Development Bank
INCAP	Institute of Nutrition of Central America and Panama
MEIC	Medical Education Information Center
NIH	National Institutes of Health of the United States Public Health Service
OAS	Organization of American States
OAS/PTC	Organization of American States, Program of Technical Cooperation
OIE	International Office of Epizootics
OIRSA	International Regional Organization for Health in Agriculture and Livestock
PAHO	Pan American Health Organization
PASB	Pan American Sanitary Bureau
UN	United Nations
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations Children's Fund
UNTAB	United Nations Technical Assistance Board
USPHS	United States Public Health Service
WHO	World Health Organization
WHO/TA	World Health Organization, Technical Assistance Program


60 Years
of Health Work in
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PAN AMERICAN HEALTH ORGANIZATION
Pan American Sanitary Bureau, Regional Office of the
WORLD HEALTH ORGANIZATION
INTERNATIONAL PUBLIC HEALTH

INTRODUCTION

AN EVENT deserving of mention in the annals of international cooperation occurred in 1962: the 60th Anniversary of the Pan American Sanitary Bureau. The ideas and doctrine that give form to its activities, and the activities themselves, have a tradition in the Americas. Its record of deeds well done shows that the stronger the ethical and aesthetic groundwork of an idea, the greater its chances of enduring. When, aloof to interests and conventions alike, it aims at the public good, there arises a ripple of opinions, of ways of acting, and of activities, ever widening in the course of time.

The humanitarian ideals that gave rise to the Bureau have not changed. Nor has the need for joint efforts on behalf of health; disease is no respecter of frontiers or political systems. The public spiritedness and the economic considerations that moved the Governments to create an agency to advise them in their efforts to solve prevalent health problems—the International Sanitary Bureau, now the Pan American Sanitary Bureau—remain unchanged. Its mission is now what it always was, and its life, both in form and content, is but a reflection of the tendencies that mark the societies of the Continent, their attitude towards health and disease, their possibilities of applying the latest advances in medicine and its sister sciences, and their stage of economic and social development.

Sixty years of continuous efforts in a Continent which, despite great vicissitudes, has been tracing out its destiny, should not go unmentioned. During those 60 years, the Pan American Sanitary Bureau has become the trustee of the progress achieved by the Governments that constitute it, in their endeavors to improve the health of their people. It has collaborated with them in accordance with their wishes. It has kept them informed of the nature of the problems that beset the Americas, what science and experience recommends for their solution, the success and setbacks that occurred in other parts of the world, and the dominant ideas for promoting health and welfare. In short, because it belongs to the Governments, it represents continuity in the evolution of health in the Americas.

In 1949 its possibilities were enlarged and its activities enriched when it joined, in a communion of ideals, goals, and operational methods, with the World Health Organization. Since then the Pan American Sanitary Bureau has served as the Regional Office for the Americas of the World Health Organization.

In recent years a sharper definition of mediate and immediate consequences of the prevention and treatment of diseases and of health promotion has been in the making.

The humanitarian purpose remains unchanged, since human beings are the be-all and end-all of community action. But man is not merely a healthy being—health is not an end in itself—he is an active member of the society, capable of growing and developing, if he is a child, and of creating, producing, investing and consuming, if he is an adult. A full life, harmonious adaptation to the environment—these are the measure of progress and the spur to creative action.

In becoming a social function health care has acquired a significance that reaches beyond its biological content, yet without losing its spiritual value for all that. The techniques and procedures habitually employed include all those that promote social welfare. Where resources grow more slowly than needs, they must be so distributed as first of all to solve the problems affecting the greatest number of persons and to stimulate economic growth. Health activities are no exception to this thesis, for when directly intended to improve the environment, they increase natural resources. Such are water projects and the eradication of diseases like malaria which jeopardize vast agricultural areas. When living conditions improve, either as a result of preventive or curative activities, they promote well-being and, consequently, productivity. In either case the funds assigned to health are an investment; the more prevalent the problem the greater the return it gives.

Health, an essential component of development, is the thesis that best expresses the modern conception of this social function. It has been accepted by the Governments and is the fundamental policy guiding the activities of the World Health Organization and the Pan American Health Organization. In the Americas it has been signally emphasized in the Act of Bogota and the Charter of Punta del Este.

This thesis is an authentic adaptation of our guiding ideals to the realities of our time. For basically, what it proposes is to find, within the social structure, the most promising ways of using health care techniques to benefit the greatest number of people. It attempts to show the absolute necessity of setting aside a certain proportion of the income and resources of each country for the solution of problems that are of concern to the people, that weigh heavily on the economy and hamper its growth. It reflects

a conscious attitude, deliberate, yet humanitarian to the core. It expresses a way of thinking and of acting, namely the adaptation of a discipline, fundamental by the very nature of its aims, to the requirements of society and to the public good.

It is for that reason that we speak of a new dimension of health, of a union of theory and practice within the strategy of national development. The thesis embodies the aspirations of men, and recognizes that in a given society productivity is directly related to the health of its members, as affirmed, in a different context, by Petty and Virchow and the English public health reformers. They, it is true, saw it primarily from a humanitarian and sociological stand-point; today we see it in economic terms, because we acknowledge that development is crucial for the promotion of health, and health for the promotion of development. The hallmark of the relationship is reciprocity, not causality.

This approach clearly involves difficulties, and these spring from the need for new activities and new ideas and for a sense of national purpose. Basically, the difficulties are not new; they have been enunciated in one form or another in the past 300 years. What is new is the possibility of attaining the aims of health as a social function, in the shortest period of time, through an accepted system—planning—within which we can order our efforts and unite them with those of technicians in other fields that promote well-being. We view these difficulties as a genuine challenge because we have aspirations. It is they that spur us on to apply our knowledge so as to break the bounds of illness and contribute to the fullness of life.

The International Sanitary Convention of 1902, by which the Pan American Sanitary Bureau was established, was aimed at putting an end to the great epidemic diseases that were wont to assail the Americas, the so-called quarantinable diseases. Today the World Health Organization and the Pan American Health Organization, in compliance with the wishes of the Governments, are striving to create health and wealth and thus to speed economic and social development.

The XVI Pan American Sanitary Conference, XIV Meeting of the Regional Committee, of the World Health Organization, which was held from 21 August to 3 September in Minneapolis, Minnesota, and was attended by the representatives of 24 Governments was another event worth noting in 1962. As the most important Governing Body its sessions are a true forum for the exchange of ideas and experience about health problems in the Americas and about the basic activities of the Organization, its policy, and its method of work.

The Conference approved the application for membership in the Pan American Health Organization presented by the Government of Jamaica, which thus became its twenty-fifth member. This decision, which is of historic importance, makes it possible for a country and its people to join in the struggle for a better life in the Americas. Jamaica also joined the World Health Organization.

Having discharged its constitutional responsibility of electing the Director of the Pan American Sanitary Bureau, the Conference went on to examine, in the light of the reports of the representatives of each Government, the most important problems during the period 1958–1962 and the results obtained. As a whole, the information showed the weight and importance given to the prevention and cure of diseases in the complex social panorama of our time. It also showed how it is planned to gear these activities to the general process of development in each country.

The various reports show that the organization of health services has improved; that the number of professional and auxiliary workers has increased; and that favorable results have been achieved in dealing with specific health problems. Nevertheless, they are far from having the social impact expected. Because the targets of each program were not defined, we do not, of course, have a basis for comparison. Although the diseases whose eradication has been proposed is an exception to this statement, it is to be hoped that the Governments will frame national health plans that assign a concrete objective and a priority to each problem. If that were done, the effects obtained could be better assessed. That does not mean, however, that the results achieved up to now should be underestimated, for they have in fact been substantial. It is clear, however, that health plan will make comparison possible and facilitate the justification of further resources.

In accordance with the instructions of the XV Pan American Sanitary Conference, the Organization submitted the *Summary of the Four-Year Reports on Health Conditions in the Americas, 1957-1960.*[1] The wealth of data submitted by the Governments, and analyzed by the Bureau, complements the reports of the representatives. If this summary is compared with that for the previous four years (1954–1957),[2] it will be seen that both the quality and quantity of data have improved. Nevertheless, there is still much room for improvement, especially in the matter of quality. But for that there must be well-organized statistical departments; a sufficient number of professional and auxiliary workers; and the full participation of health officers aware of the importance of data

[1] *Scientific Publication PAHO* **64,** 1962.

[2] *Quadrennial Report of the Director, 1958-1961. Official Document PAHO* **25,** 1958.

for programming activities, assessing results, justifying further funds, and improving services.

The *Summary of the Four-Year Reports on Health Conditions in the Americas, 1957-1960,* is a document worthy of careful examination and a work of reference for all interested in the economic and social problems of the Continent. The magnitude of the task undertaken by health workers and the possibilities of success are to be inferred from the fact that diseases for which effective preventive measures are known still stand among the first five causes of death in most of the countries of Latin America.

The plenary sessions of the Conference and those of the two main committees were devoted to a thorough examination of the major health problems from various points of view. We shall refer to some of them and relate our comments to the work of the Pan American Sanitary Bureau in 1962, which is the subject matter of this Report.

ACTIVITIES for the **protection, promotion and restoration of health** in the signatory countries of the Charter of Punta del Este were clearly and strongly affected by the spirit and letter of that document. In theory, the health of the individual and of the community reflects the life of the society in which he lives; in each person it is testimony of the scars of his experience of life and the history of his species. In practice, development and welfare must be promoted within the framework of economic growth. Since needs are much greater than resources, an order of priority must be established among the problems and funds must be assigned to deal with those whose solution will benefit the greatest number and help to swell the national income. First general plans must be drawn up and then translated into programs for each sector, geographical area, and type of activity.

This proposition assumes a close dependence among all the factors conditioning development, including health.

In Latin America the prevalent problems continue to be infectious diseases, deficiency or lack of sanitation, malnutrition, an unnecessary high morbidity rate, ignorance that goes beyond illiteracy, insanitary housing, and an average per capita income that is increasing very slowly compared with the rate of growth of the population. "It may be estimated that about half of the existing population has a tiny average personal income of $120 a year." [3] The very statement of these problems shows that what is needed to solve them is for modern science and technology to join forces in a harmonious program that depends yet has a positive influence on the growth of the economy. This is the guideline that the Governments have decided to follow in the matter of health.

It is in our interest as health workers that the reforms mentioned in the Charter of Punta del Este are put into practice; they will ensure that the savings potential is fully used, that the land is worked more intensively, and that social mobility is quickened and opportunities thus afforded for men of drive and initiative. For it has become tragically obvious that as long as agricultural and industrial production continues to move at a pace far below that of the natural growth of the population; as long as exports decline and products cannot compete on the world market; as long as the social tensions due to the great disparities in the distribution of income and in the quality of consumption persist, it will be difficult to reduce the risks of falling sick and dying in Latin America. Nor will it be possible for the economy to grow as quickly as it should in each country, if its people are sick, if the death rate is high, if productive capacity is low because of debility and ignorance, if a sense of national purpose is lacking in a population which in large measure lives untouched by the main stream of development.

It follows from these considerations that, to ensure both that the economy will grow and well-being will increase, the pattern of investment must be balanced. And for that the method proposed in the Charter of Punta del Este is planning.

IN 1962 the Organization furnished the Governments with assistance in the **drafting of health plans.** These activities took various forms: training of national and international technicians; preparation of a handbook on planning methods; cooperation with bodies responsible for scrutinizing development plans; and utilization of specialists and advisory groups to establish methods and procedures. A summary of the work done appears in the pertinent chapter in the Report.

In view of the great dearth of planning technicians the emphasis was and will continue to be on training activities. The courses begun at the Center for Economic and Social Development Studies at the University of Caracas, in collaboration with the School of Public Health, as well as those at the Latin American Institute for Economic and Social Planning, in which we are cooperating, will, we are sure, continue in the future to enjoy the success they have known in the past. Similar courses should be organized in other countries, through the joint efforts of the universities and the ministries of health, and with international cooperation where necessary.

[3] *Toward a Dynamic Development Policy for Latin America.* Economic Commission for Latin America (ECLA), E/CN.12/659/Add.1.

For the benefit of the new generations, the schools of public health should revise their curricula so as to incorporate the methods in use in the teaching of epidemiology and administration.

Within each country the most senior officials at both the national and the local level, must become seeped in the various phases of the method. It will be up to them to see that the goals proposed for each problem are reached, to measure the results, and especially to induce communities to contribute by their own efforts to their own welfare. Because of this they should not draft a plan until they have undergone the training we have referred to. If each year the results obtained are compared with the objectives originally proposed, that is to say if an evaluation is made, there will be new opportunities for them to reinforce their knowledge on the basis of the experience acquired.

The implementation of programs will bring to the fore the importance of public administration and the value of the systems in use. Hence it will be essential to include administrators into the planning process from the very beginning so as to ensure that the structures and procedures are imposed and the attainment of targets made possible.

In 1962 several Governments of Latin America began to organize planning units in their ministries of health. They had agreed to do so in Resolution III of the XIII Meeting of the Directing Council in 1961 and in Resolution XXIX of the XVI Pan American Sanitary Conference of 1962. Some Governments also drew up a first long or short-term plan. These are valuable documents that show in an orderly way resources, the problems and the methods for solving them, and financing. They are an expression of a health policy, that is to say, of possible ways of solving the problems deemed to be of the greatest social and economic importance. As we said, they must be complemented by programs for each functional sector and geographic area. While the plan is being drawn up, activities underway for the protection, promotion and restoration of health must not be interrupted. Those with the highest priority will undoubtedly be included in the specific programs, to the extent the balanced investment of resources makes this possible. A plan is not an end in itself; it is a tool for expediting development.

AN OVER-ALL VIEW of the activities of the Organization in 1962 shows that they follow the lines of the general program of work approved by the Governing Bodies.[4] They are also in consonance with the **health objectives** enunciated in the Act of Bogota and the Charter of Punta del Este. In the course of the century the Governments, with the cooperation of international agencies, have been pinpointing the most important problem and investing proportionally in solutions to them. The Pan American Health Organization and the World Health Organization are the guardians of the "natural history" of this process. They have been enriching the store of knowledge gained of successes as well as of setbacks and have made available that valuable experience which has contributed to the present situation in the Americas. For this reason an account of what was done in 1962—which is the subject matter of this Report—must be interpreted with an eye to the past and in the light of a vision of the future, based on the dominant opinions and tendencies in Latin America that is striving for a better future for its peoples. Those who assert that economic development must be preceded by political development should bear in mind that both cannot occur without human development, in other words without health and education.

To judge by its health problems and the organizations and services for solving them the Americas are a Continent in transition. The quarantinable diseases, those that engendered the great epidemics of the past, are in the process of disappearing. In 1962, only 52 cases of jungle yellow fever, 527 of plague, 556 of louse-borne typhus and 3,082 of smallpox were notified. That does not mean that infectious diseases—understood in the broadest sense of the word—do not continue to be fundamental, seeing that they contribute directly or indirectly to the rather high rates of morbidity and mortality. Their incidence has more in common with that of endemic diseases, the control of which calls for the continued action of organized services. Also necessary concurrently are the efforts of other disciplines and organizations that directly or indirectly influence individual and collective health.

Latin America, we said is in a period of transition; it has not yet taken on the characteristics of the technologically advanced societies; and the dominant diseases are of the acute or chronic type and are governed by environmental factors that are susceptible to preventive measures. The *Summary of Four-Year Reports on Health Conditions in the Americas, 1957-1960*,[5] contains the morbidity and mortality statistics that are the justification of the funds allotted to preventive and curative activities. It is equally important to apply proven knowledge, to practise integrated medicine, to improve the administration of services, to increase the number of trained professional and auxiliary workers, to plan and to undertake research.

[4] *Official Document PAHO* **41**:30-31 (Resolution XXVIII).

[5] *Scientific Publication PAHO* **64**, 1962.

The Report on the activities of the Pan American Sanitary Bureau in 1962 has been prepared in accordance with the ideas expressed. The chapters of the document correspond to the fundamental aspects of the general program of work of the Pan American Health Organization and of the World Health Organization. Projects have been selected in accordance with the proposals of the Governments, the international character of the problems, and their relative importance for each country and the Continent. The whole is embodied in the Budget of the Organization which is approved definitively by the Governing Bodies in the year that precedes its implementation. Activities are diversified as befits the social function of health in the Americas today, yet they are closely related to what is of major importance for welfare.

We have already referred to planning. We shall now examine the other aspects of the work of the Pan American Sanitary Bureau in the light of the details contained in the Report.

HOW IMPORTANT is the **organization and good administration** of health services was already mentioned. As a continuation of past efforts, assistance was given in 1962 to 21 demonstration projects in 19 countries. The purpose of these projects both at the national and at the local level was to apply approved standards for preventive and curative activities and for health promotion. By the end of the year, 78 consultants had been assigned, including 20 physicians, 15 sanitary engineers, and 17 nurses. Through collaboration with their colleagues in 10 of those countries they were able to establish or expand the program and activities of 260 health centers of various types. An important part of their work was the organization of local centers for the training of personnel. During the year 3,715 persons were trained, including 2,290 auxiliary nurses, 262 nurses, 672 sanitarians, and 115 physicians, the last-mentioned being trained in various aspects of medicine.

These results are merely an example of the much greater effort made by the Governments. However, although we do not have full information, we do know that the health services do not reach all the inhabitants of the countries. The proportion reached varies, and in large sectors the care given is minimal. It is not merely a matter of lack of trained technicians but of their distribution throughout the territory. Their concentration in the urban centers is as conspicuous as their absence in the countryside. Means of communication and transportation, although they are being progressively increased or improved, are not sufficient to solve this situation. What is more, the work of the various state agencies is not always coordinated, so that hospitals and health centers are often constructed in neighboring localities whereas with a good road and ambulances one of the establishments could service all the population of the area concerned.

In addition to this problem of coverage, there is the problem of the doctrine that is to guide the organization and administration of services. The family has been proclaimed to be the working unit, and its needs in sickness and in health are the basis for organizing preventive and curative activities. These must be integrated at the various levels at which the health activities of a country are carried on. However, a true integration of medical care, disease prevention, and health promotion in local agencies is exceptional. Disassociation is much more common. Nor is "regionalization" practised, that is to say, the coordination of all the health services in a given geographical area under a single system. According to Grant,[6] this idea connotes the continuing education of the health care professionals and the development of a technical conscienciousness of the consumer public.

In 1962 this problem was carefully examined by the Advisory Group on Medical Care of the Pan American Sanitary Bureau and at the Technical Discussions during the XVI Pan American Sanitary Conference, whose topic was "The Present Status of Medical Care in the Americas in Relation to Its Incorporation as a Basic Service in Integrated Health Programs."[7] The ideas expressed, together with the information supporting them, and the proposals for improving both the quantity and the quality of services, have been assembled in a document called *Medical Care—Bases for the Formulation of a Continental Policy*.[8] In our opinion the mere publication of this compilation is a valuable contribution towards the solution of this problem whose importance for the economy and the welfare of Latin America is increasing daily. In the matter of regionalization and the integration of preventive and curative services, hospital construction and their equipment, training of professional and auxiliary workers, coverage and quality of care, some progress has been made but much remains to be done. One of the first steps to be taken is to increase the yield from the existing resources; it could be done and it would avert huge investments.

As related in the Report, our Organization provided advisory services on medical care to 9 countries in 1962.

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[6] Grant, John B. *Health Care for the Community*. Selected papers of Dr. John B. Grant, edited by Conrad Seipp. *AJH Monogr Ser.* 21, 1963, p. 78.

[7] Technical Discussions, XVI Pan American Sanitary Conference, Minneapolis, Minnesota, August-September 1962.

[8] *Scientific Publication PAHO* **70**, 1962.

DEATHS IN CHILDREN under 5 years of age account for 40% of the total mortality in all age groups in most of the countries of Latin America. Deficient sanitation, malnutrition, ignorance and infectious diseases are the cause of this situation, which calls for a concerted action to root out the above-mentioned factors from the communities. Possibly no other health problem illustrates more clearly the lack of coverage. Methods of diagnosing and treating the **childhood diseases** that contribute most to this mortality are well known, yet they are not applied, or are applied too late, because there is a shortage or dearth of facilities for caring for the children in good time. Maternal and child health activities should be part of the work of every national or local health agency.

In 1962 the Organization continued to furnish the Governments of the Continent, sometimes directly to the department concerned, assistance in the training of technicians, and in scientific research. The details which are to be found in the report, show a considerable expansion of these activities over earlier years in all the fields mentioned. The problem is so serious that we must increase our efforts and find ways of using our scanty resources to benefit more children. Ways and means more in keeping with the real facts of life in Latin America must be found so as to ensure that the work of professional and auxiliary workers will have a greater social impact. As has been said before, the techniques of medicine have a limited effect, but it will be multiplied as nutrition, sanitation, and the education of mothers are improved. One of the objectives of Resolution A.2 of the Charter of Punta del Este is to reduce the present mortality rate in children under five years of age by one-half.

ACCORDING TO the Economic Commission for Latin America,[9] in the last years, the agricultural production in Latin America expanded by 80 per cent (2.6 per cent 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 increment in production barely amounted to 0.2 per cent annually, a negligible proportion exceeded by the other regions of the world where demographic growth is much slower than in Latin America. To meet the resultant demand it has been necessary to step up agricultural imports and that has jeopardized the balance of payment position of some Governments. These, moreover, are emphasizing crops which have little or no nutritive value but which are economically important such as coffee, tobacco and sugar.

Many complex factors enter into the whole process spanning the production and consumption of food. It is up to us to ascertain their effects, because of the direct or indirect influence they have on the health of the individual and the community. This problem is one that perhaps best illustrates the advantages of the coordination of the work of different state agencies, especially those concerned with agriculture, education, and health.

The Governing Bodies of the Organization have emphasized the desirability of revising the agricultural policies of the Governments so as to harmonize the biological requirements of the population and the requirements of the national economy. The need to find new sources of proteins and to encourage the consumption of those that are traditional and so prevent protein malnutrition in children has been pointed out. The value of salt iodization for the control of endemic goiter has been demonstrated, and the advisability of intensifying studies on the anemias and on vitamin deficiencies, which constitute the most prevalent **nutritional problems** in Latin America, has been stressed. From the practical point of view, the training of specialized personnel must have priority. That will allow preventive and curative activities, as well as normal nutrition activities, to be incorporated into the routine work of health centers, an arrangement which is still infrequent in the Americas.

These matters were examined by the Advisory Committee on Nutrition, which met in January 1962,[10] for the purpose of proposing guide-lines for work in that field. Its report contains an analysis of the scope and characteristics of the problem on which the recommendations of the experts were based.

The nutrition activities of the Bureau were carried out by five advisers and by the experts of INCAP and covered almost all the countries of the Continent. They included 19 expanded nutrition programs in 17 countries, of which five were initiated during the year and assisted by UNICEF. In addition, training courses were held by INCAP for physicians, dietitians and researchers. Mention must also be made of the course on planning for education in nutrition for teachers in schools of social service, agricultural extension workers, and other persons responsible for organizing, supervising, and evaluating nutrition education programs, the details of which appear in the Report.

[9] *ECLA* E/CN.12/680, April 1963.

[10] "Nutrition in National Health Plans," Working document prepared by the Secretariat of the Pan American Sanitary Bureau for the Meeting of the Advisory Committee on Nutrition, Washington, D. C., 10-13 January 1962.

With regard to the development of new sources of proteins the production of INCAPARINA in Guatemala tripled; production continued in El Salvador and Nicaragua; and companies in Colombia, Honduras, and Mexico prepared to launch the product on the market in 1963. At INCAP, studies are continuing with a view to enriching the vegetable mixture in order to improve its acceptability and facilitate its preparation.

There is an awareness of the seriousness of the malnutrition problem in Latin America and, from the point of view of health, of the urgent need to intensify efforts of local health agencies with a view to reducing the risks of vulnerable groups of the population by providing them with an adequate diet. Without understanding the difficulties in connection with the insufficient production of food, both as regards quantity and quality, their hygienic conservation and distribution, we are of the opinion that with the facilities at the disposal of countries larger groups of the population could be benefited through the expanded nutrition programs.

THE FIRST Latin American **Seminar on Mental Health,**[11] which will be followed by others for experts from South America and the Caribbean Area, was held in Mexico in 1962 and attended by specialists from 10 countries. The Seminar emphasized the dichotomy between physical and mental health, that had come about on the Continent, a separation incompatible with the definition of health we proclaim. It is a new expression of modern times, in which economic and material values predominate over the spiritual. As industrialization increases and the drift to the cities mount, the greater the probabilities of conflicts and tensions and therefore of mental illnesses. Some progress has been made in treatment of those diseases but little or none in their prevention.

The Seminar recommended the inclusion of mental health activities in health programs so that larger groups of the population could be reached. For this purpose, the training of specialists must be increased and the habitual attitude of health offices to this discipline must be changed.

The Report describes the work of the Organization in other basic aspects of health promotion such as nursing, dental health, radiation and isotopes, and health education. In each specific field, the projects describe the importance the Governments have accorded them.

[11] *Scientific Publication PAHO* **81**, July 1963.

IN COMPLIANCE WITH the resolutions of the Governing Bodies of the Organization, **sanitation** activities were stepped up in 1962. The environment plays a fundamental role in health so that much human effort is devoted to offsetting the negative factors in order to facilitate the life of the individual and the community.

Among these activities water supply stands out because of its biological, economic, and social importance. Governments, communities, individuals, international banks are agreed about the seriousness of the problem in Latin America and about the need for joint efforts to solve it. It is profoundly satisfying to be able to point to the results achieved in 1962, the detail of which appears in this Report. Up to December the Inter-American Development Bank had approved loans for the construction and expansion of water supply and sewerage systems to the value of $157,541,000; together with the $152,157,000 contributed by Governments, their investment will benefit 11 million persons. Other international credit organizations, such as the International Development Association of the World Bank, the Export-Import Bank and the United States Agency for International Development approved loans in the amount of $13,000,000 for the same purpose. If this amount is added to the investments of Governments and the contributions of UNICEF and other sources, we arrive at a total of more than $320,000,000 for the water and sewerage program in 1962. But more important than money is the determination of the Governments and the people to solve this vital program. The Charter of Punta del Este, it will be recalled, laid it down that by the end of the decade water and sewerage facilities should be supplied to not less than 70 per cent of the urban population, a target that our sanitation experts believe to be possible, bearing in mind the proportion of services already existing in Latin America.

The work of the Inter-American Development Bank in this and in other fields of social progress is worthy of the highest praise. In the short lapse of two years it has gone a long way to helping the countries of the Continent transform their long held and deeply felt desires into reality. If it had not been for its decision to incorporate water loans into its policy, the success to which we have referred would not have been possible. An agreement between the Bank and the Organization governing the technical assistance activities of both institutions, was brought to the attention of the XVI Pan American Sanitary Conference.

During the year, 45 consultants specialized in various aspects of water supply gave advisory services to 19 countries and territories of the Continent. In four of them, these services were in connection with the drafting of legislation, for the establishment of national water and sewerage authorities, and their organization and administration. Assistance was also given on the design of

installations in seven countries, and arrangements were made to provide similar services in 1963 to six others.

As to education and training, a course on water supply design was attended by 33 engineers and a seminar on the same subject by 65. Twenty professionals attended a course on well drilling.

Because of the magnitude of the water problem it had to be given priority; accordingly, work in the field of sewerage and waste water disposal was given less attention. The Inter-American Development Bank granted eleven loans to cities for the construction or expansion of sewerage systems. In most cases, the loans were for combined water supply and sewerage projects, and almost without exception the Bank requested the city to solve its water problem first.

During the year the Organization collected statistical information from 20 countries on water and sewage treatment plants. This information was used as the basis for a Symposium held at the Robert A. Taft Sanitary Engineering Center of the United States Public Health Service, in collaboration with the Agency for International Development, and the University of Cincinnati. It was attended by 99 engineers from all the countries in Latin America, and some from other regions, and by international consultants. Advisory services were given to five countries on specific problems of sewage disposal.

The Report contains details of the considerable work done in rural areas. Nevertheless, it is not an effective contribution towards achievement of the objective set forth in the Charter, namely to provide water supply and sewage disposal to 50 per cent of the rural population in the decade. The time has come, we believe, for passing from the stage of demonstration to that of social impact. Activities must be so programmed as to benefit an increasing number of the population—56 million approximately—that are today without water and latrine facilities. With this end in view, what is needed is a concerted effort of the state and of the organized communities which must be deeply motivated and ready to contribute with work and money. External capital will also be necessary to begin with and until such time as undertakings become self-sustaining.

The Report includes an account of the advisory services given in the fields of industrial hygiene, waste and refuse disposal, education and training of professional and auxiliary workers and in other collateral but very relevant functions in environmental sanitation. As a whole, these activities show that environmental sanitation has received the importance assigned to it by the Governing Bodies of the Organization. Within the framework of the policy laid down it will be appropriate to continue to expand these activities, which will have an increasing impact as the international capital market expands its investments in this field in Latin America.

WE SAID that in the Americas the **quarantinable diseases** were in the process of disappearing, and we mentioned the relatively small—in relation to the total population—number of cases of those diseases registered in 1962. We do not wish to suggest that the Governments should not continue their efforts with international collaboration when they so wish to complete this undertaking. The situation in Latin America, which might be called favorable, compared with other regions of the world, is not matched by those acute and chronic infectious diseases which are still one of the main causes of morbidity and mortality in the Hemisphere. Research has made remarkable progress in the last 30 years in preventing some of them or limiting their spread and in reducing the risks of death. There is a large body of tried and tested knowledge in the world; there is also a great gap between what is known and what is done about applying that knowledge for the benefit of the people of Latin America. Hence, the priority the Governments give to these diseases in the health programs and, consequently, in the policy and activities of international organizations.

Directly or indirectly, communicable diseases are among the 5 principal causes of death in all the countries in Latin America except two.[12] Their high incidence, especially in children under five years of age, reflects severe malnutrition and deficient environmental sanitation. This fact must be stressed because it shows that the application of preventive or curative techniques alone may not be enough and that activities involving all the factors conditioning these diseases are required. Hence the importance of the total programming of health for this as for other priority problems.

BY A MANDATE of the Member Governments of the World Health Organization and the Pan American Health Organization these agencies must cooperate in the eradication of malaria and smallpox.

In 1962 new progress was made towards the eradication of **malaria** in the Americas. Jamaica, Trinidad and Tobago and British Guiana entered the consolidation phase, as did new areas of Argentina, Bolivia, Brazil, Colombia, Costa Rica, Guatemala, Honduras, Mexico, Nicaragua, Peru, Venezuela, Dominica, Guadaloupe, Surinam, and the Canal Zone of Panama. In 1961 the population living in the areas in which malaria had been eradicated or which were in the consolidation phase was 17,879,000; in 1962 the transfer of more areas into those categories raised the population to 30,410,000; in other words, a 70 per cent increase in the number of inhabitants and a 40.6 per cent increase in area.

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[12] *Op. cit.*, pp. 20-21.

In 1962 the islands of Grenada, Carriacou and St. Lucia were registered by the Pan American Sanitary Bureau as territories where malaria had been eradicated, and Venezuela and Guadaloupe reported that the disease had been eliminated in new zones in their territory.

Of all the population of 153,742,000 in the originally malarious area, 89,723,000 are living in areas that have passed out the consolidation phase, 49,276,000 are in areas in the consolidation phase and 14,743,000 are in areas in the preparatory phase.

This progress has had its reverse side, as in previous years, in technical and administrative problems. If one thinks of the complex ecology of malaria which involves living beings with very different characteristics and very different mechanisms of adaptation to the environment, such problems were to be expected. In addition, there are the variations introduced into the natural cycle of transmission as a result of techniques available for interrupting it and for eradicating the disease.

If one considers the magnitude of the undertaking on the Continent, as indicated by the figures above, the number of officials of different types participating in it, the necessary funds and organization and the exact scheduling of operations, it is not surprising that there have been administrative difficulties. In large measure they are the reflection of human frailties, which show themselves in very different kinds of behavior in both the public and the private sector of our society.

The evolution of the attack phase and epidemiological studies have made it possible to delimit the areas of persistent malaria with greater accuracy. In Mexico, Guatemala, El Salvador, Honduras, Nicaragua, and Costa Rica the vectors have shown resistance to insecticides and irritability in their presence, habits of biting in the open air; all these are problems that hamper the interruption of transmission. Other problems are the sorption of insecticides by mud walls, and in Venezuela, Colombia, and certain places in Brazil mosquitoes that bite and rest outside houses, the construction of new houses with defective or no walls, and the movement of population. Another technical problem is the discovery of strains of *Plasmodium falciparum* tolerant to chloroquine in Brazil, Colombia, and British Guiana.

These developments justify the need for accentuating precautions by applying the classic methods and for intensifying the search for more effective drugs and insecticides.

The progress achieved has made it possible to define the object of research better. In 1962, as explained in the Report, research was concentrated on ascertaining the factors that interfere with the residual action of DDT. It consisted of epidemiological studies and will lead to a better knowledge of the transmission process and the relative value of eradication methods. Research was also continued on the problem of insecticide sorption by certain types of mud walls, larviciding, and drug administration.

The investments of governments were supplemented by those of international organizations. In 1962 the Agency for International Development made a direct contribution of 478 million dollars to the malaria programs in the Americas; it also contributed 2 million to the Special Malaria Fund of the Pan American Sanitary Bureau. UNICEF supplied insecticides, vehicles, parts and accessories, and laboratory material to the value of 3.45 million dollars. The Pan American Sanitary Bureau contributed 2.84 million dollars in technical services to the same end.

Yet despite these efforts, which are considerable, there still remains the suffering of the sick, their indifference or pessimism and their apathetic attitude towards progress, the poor scholastic performance of children, and the impossibility of developing vast natural resources. What has been done in the eradication of malaria in the Americas is more than what remains to be done. What remains is to reach the goal of the undertaking.

CASES OF **smallpox** reported in the Americas in 1962 totaled 3,082, most of them having occurred in Brazil and Ecuador. Even though notification is incomplete, it appears that the decline that started 10 years ago has continued. The Governments of the world are agreed about the urgent need to eradicate this disease. The Report describes the activities carried out in the Continent in 1962, with the assistance of the Organization. Satisfactory progress was made in Ecuador where there was a considerable fall in the number of cases notified. In Brazil, the production of dried and glycerinated vaccine was sufficiently increased to be able to supply the needs of a systematic program that was initiated in the states of Guanabara, Sergipe and Alagoas. It is to be hoped that it will be extended to the whole of the natural territory and will confer immunity on 80 per cent of the population. If this is done, the prospects of eliminating smallpox from the Americas, or at least of reducing it to an occasional occurrence, will be good.

It is gratifying to be able to report that the countries of Central America, Panama, Haiti and the Dominican Republic have intensified smallpox vaccination in order to raise the level of immunity of their populations, which is very low. The Governments of Brazil, Mexico and Venezuela are supplying vaccines free of charge for these programs.

The smallpox virus moves with human beings, and today they are moving more and more frequently and more and more rapidly. Given an acceptable level of

immunity the inhabitants of the Americas can prevent their autochthonous viruses from causing this disease and prevent those coming from other regions from settling in.

AS STATED in the Report, ***Aëdes aegypti*** has shown large-scale resistance to chlorinated insecticides in the Caribbean area, a development that should incite the countries to new efforts, especially those in which the vector has not yet been eliminated or in which systematic campaigns have not yet been started. An entomologist was sent to Jamaica to study the problem of vector resistance and is carrying out a series of susceptibility tests with various insecticides. If the results are favorable, it will be easier to eradicate *A. aegypti* from the Caribbean; but in so doing special attention will have to be paid to the administrative and economic difficulties now current in that region. In any case it should be borne in mind that the vector was eradicated in certain countries before the discovery of DDT and its derivatives. The procedure is slower and more costly, but effective.

In Argentina and Mexico programs are in the final stages, and in Colombia the reinfestation of Cúcuta has been brought under control. It is to be hoped that in 1963 these countries may be added to the 13 countries and 2 political units which the Governing Bodies of the Organization have declared free from *A. aegypti.*

The Report contains full details of the present status of the problem in all the countries and territories in which the vector is present. The Continental program, which began in 1947, is beginning to draw to a close.

THE RATES ON **tuberculosis** morbidity and mortality given in this Report, although not accurate, show the magnitude of this disease as a health problem, its bearing on the economy, and the high proportion of the health budget which has to be devoted to it. Its incidence could be considerably reduced by control procedures known that have already been widely tested. We do not in any way wish to depreciate the progress made in the Americas since the advent of antibiotics, of drugs, of a more rational use of hospitalization, of chest surgery and, in some countries, of large-scale BCG vaccination. Whereas 20 years ago the mortality rate was about 200 per 100,000 of the population, today it is between 30 and 100. The character of the morbidity has changed, and advanced forms of the disease are much less common. The possibilities of ambulatory treatment and of chemoprophylaxis have improved, and there is a clearer definition of the responsibilities of the specialist, the general practitioner, the epidemiologist and other technicians attached to health centers. Equally important is the more objective attitude of communities. Gone is the frightened or romantic attitudes of the past; the disease is now seen in true perspective and the effectiveness of current techniques is recognized.

With these comments we do not wish to suggest that the control of this disease is a simple matter; on the contrary, it is a complex undertaking, but now it is much more practicable.

Latin America has, in our opinion, already passed beyond the stage of demonstration projects and the Governments should deal with the problem progressively within the framework of their natural health plans. As an expression of the magnitude of the problem in the Continent, our Organization submitted to the XIII Meeting of the Directing Council,[18] a program intended to detect and treat 1,900,000 active cases. That is what has to be done in the decade if the present mortality rates are to be reduced by 50 per cent.

At the present time 11 pilot projects are either operating or about to begin. The purpose of these centers is to set up and improve work methods and to train various types of health workers. The theory is that the standards established in these services will spread throughout the country and will at once increase the yield from the resources being used. In all of them the Organization has collaborated, and continues to do so in accordance with the proposals of the Governments.

The conditions are ripe for a new assault on the tuberculosis incidence and mortality on a Continental scale. Natural health plans will, we believe, give this disease the priority it deserves and, as a result, the possibilities of applying and extending the valuable experience acquired will be increased.

IN 16 COUNTRIES assistance for the control of **leprosy** was given in 1962. The work done is described in the pertinent chapter of the Report. Although it appears paradoxical, success was measured by the discovery of new cases and an increase—not a reduction, as would be expected—in the prevalence of the disease. However, the new patients have the less advanced forms of the disease and can be treated with sulfones, and the like. In view of the epidemiological characteristics of leprosy, the disease must be approached as a public health problem, the more so because there is no known method of immunization and the possibilities of controlling the disease are reduced to discovery and early treatment of cases and their contacts. This means that the activities must be systematized, and

[18] *Op. cit.*, 359-362.

the techniques and equipment used in the most effective way possible. In practice the general practitioner must be first traced and then incorporated into the control program. Specialists have an essential part to play in formulating programs, in teaching, in providing technical advice for the solution of diagnostic and treatment problems, in the evaluation of the work done and the results obtained and the periodical revision of activities.

This approach to leprosy was intensified in 1962, and the administrative procedures of the work done in the countries was improved. As a reflection of their interest some Governments asked for assistance for the physical and social rehabilitation of leprosy patients.

The obscurantism that has surrounded leprosy is beginning to disappear. Today we speak of hospitals, not of leprosaria; of patients, not of lepers. Leprosy patients are admitted into the community and their progressive improvement is commented on; there is an awakening of compassion and understanding and attempts are being made to help them. These are all initial steps in a long processes in which beliefs, superstitions, and negative-value judgments must be overcome and constructive motivations created. This educational task, which must be carried out by health officers, is absolutely essential if full benefits are to be obtained from the findings of research and experience in leprosy.

Yaws persists in Haiti, but its incidence is only 0.8 per 100,000, half of what it was at the end of 1961. This means that there are 12 infected patients out of a total of 1,533,500 persons.

In the Dominican Republic 45 additional cases were discovered among the 402,517 persons examined. In addition to this work, the Organization also gave assistance in the Caribbean region, the results of which are described in the Report.

In many countries of the world there are indications that venereal disease is on the increase as it is in the western hemisphere. At the request of some Governments assistance has been given on the organization of control programs. Wide distribution was given to the Spanish translation of the United States Public Health Service publication *Notes on Modern Management of VD.*[14]

With regard to **other viral diseases,** mention must be made of the trials of attenuated, live measles virus (Edmonston B and Ender strains) that were begun in Rio de Janeiro and Santiago, Chile, in 1962. In some countries this disease is an important cause of death because of its respiratory and nervous complications.

During the year, large-scale programs of poliomyelitis immunization with the modified Sabin-type vaccine were carried out.

A series of encephalitis epidemics occurred during the second half of 1960 in the Caribbean Area, in Southeastern United States, in the central region of Panama, in the State of Zulia in Venezuela and the Guajira Peninsula in Colombia, and in the southeastern part of Jamaica. These epidemics clearly show that there is an increasing transmission of encephalitis virus from the Caribbean region towards the north and south of the Americas and the United States of America. Three different species of arbovirus (arthropod-borne diseases) have been identified. The human infection is only a side manifestation of its transmission by undetermined mosquitoes to various mammals and birds (still unknown for the most part) which act as reservoirs of the infection and to the equine species which are the visible indicators of this activity. To determine the epidemiological phenomena the complex ecology must be carefully studied in each area affected.

The Arbovirus Reference Center for the Americas of the World Health Organization, which is part of the Communicable Diseases Center of the United States Public Health Service in Atlanta, Georgia, has been responsible for the coordination of research and assistance.

The Organization gave assistance to efforts to obtain a better knowledge of the epidemiology, ecology, and possible means of control of the so-called Argentine hemorrhagic fever. Since 1958 epidemic outbreaks have occurred every autumn or winter, with a 6 per cent to 20 per cent mortality in certain areas of Argentina.

A clinically similar disease appeared in the Department of Beni, in northeastern Bolivia, and is being studied by the Middle America Research Unit of the National Institutes of Health of the United States Public Health Service. The foci in Argentina and Bolivia may constitute a potential hazard to Paraguay and Brazil. The problem deserves thorough examination.

According to reports received, there is no decline in the incidence of rabies in 1962. Systematic control programs are exceptional, but should be organized wherever the disease is prevalent. With that end in view the production of vaccines for human and animal use should be increased and their quality improved.

In 1962 plague did not appear in any new area in the Americas, but remained latent in Brazil, Ecuador, Peru, and Venezuela. The zoonotic aspect increased in impor-

[14] *Las enfermedades venéreas. Apuntes sobre tratamiento moderno. Scientific Publication PAHO* **71**, 1962.

tance because the number of human cases reported continued to mount and reached 527 by the end of the year. The increase in the number of cases was principally due to the foci in Ecuador and Peru. In view of its nature, ecological research is essential if the known enzootic zones in the Americas today are to be attacked.

AN ADVISORY GROUP on research on **Chagas' disease** met in Rio de Janeiro, Brazil, in June 1962. It recommended the following priorities: standardization of diagnostic procedures; evaluation of the true extent and magnitude of the problem; ecology of vectors; chemotherapy; prophylaxis; basic research on the identification of trypanosomes similar to *Trypanosoma cruzi* and on the nutrition, metabolism, and immunological behaviour of the parasite; and pathogenesis of the disease.

During the year, a start was made on the preparation of a standard antigen for use in the complement fixation test, at the Department of Parasitology of the University of Chile. Negotiations have begun with another institution to serve as a reference and training center for the serological diagnosis of Chagas' disease.

Mention is also made in the Report of the work done in onchocerciasis, bilharziasis, and brucellosis, as well as that of the Pan American Zoonoses Center.

Foot-and-mouth disease is of particular importance in South America, both for the economy and for health. The losses it causes in agriculture and in food supply, although not accurately known, are immense and seriously affect the development of the country in which the disease is a problem.

The work of the Pan American Foot-and-Mouth Disease Center, which is administered by the Organization and financed by funds from the Technical Cooperation Program of the Organization of American States, is dealt with at length in the Report. The concern of the Governments and the efforts they have made to carry out more effective control programs with the known resources are described. There is a clear need of a vaccine that confers immunity for a longer period than that obtained from inactivated viruses. Hence, the research of the Center aimed at adapting and modifying two strains of each of the three immunogenic types frequent in South America. Appreciable progress was made in this field in 1962, as well as in the training of personnel, direct assistance to Governments, and reference and diagnostic services.

THE PUBLICATION of the *Summary of Four Year Reports on Health Conditions in the Americas, 1957-1960,* to which we have referred, was one of the most important activities of the Organization in 1962.

Planning has brought to the fore the value of **vital and health statistics.** Considerable progress was made during the year in evaluating programs, in improving the systems of registration of births and deaths, in morbidity and hospital statistics, and in statistics of resources and services. The assistance given by the consultants of the Pan American Sanitary Bureau in all these fields is described in the Report.

The need for trained technicians has become more evident. Training has been expanded through the efforts of the schools of public health, the Ministries of Health, and the Organization and its consultants. The Report describes the various types of courses held, which justify the importance that Governments assign to reliable statistics. It should be borne in mind that the data do not yet reflect reality, for they are incomplete and their quality leaves much to be desired.

At a second meeting in June 1962, the Regional Advisory Committee on Health Statistics dealt with this matter and made pertinent recommendations. It also examined the role of statistics in planning.

The Advisory Committee on the International Classification of Diseases also held a meeting in connection with the revision of the *International Classification* that the World Health Organization will undertake in 1965. The important work of the Latin American Center for the Classification of Diseases, in Caracas, is also described in the Report.

The Inter-American Investigation on Mortality continued to make satisfactory progress. By the end of the year, 8,576 completed questionnaires have been received from the 12 cities covered by the survey, which is to analyze 40,000 death certificates. It is expected that the results will disclose sufficient differences in the causes of death in the various countries to justify epidemiological studies.

OF ALL THE FUNDS invested by the Organization in 1962, 26.5 per cent were assigned to **education and training.** These activities include assistance to medical, nursing, engineering, and public health schools; fellowships, and in-service training in local programs; seminars; and other teaching devices. Nevertheless, we should like to increase the investments in this field because only with well-trained and capable technicians will it be possible to reduce the current mortality and morbidity rates.

In 1962, 530 fellowships were awarded, or 2.5 more than in 1961, and 44 extensions were approved at the request of the institutions concerned. In all, these fellowships amounted to a total of 2,308 fellowship months. As in previous years, regular academic studies predominated. The Report shows distribution of fellows by field of study, country of origin, place of study, and profession.

In 1962, there were 962 persons studying on fellowships awarded by the Pan American Health Organization and the World Health Organization, regardless of the date of the award. Of them, 904 were studying in the Americas—61 per cent in universities and other institutions in Latin America—and 39 per cent in the United States and Canada; the other 58, from the Americas, were attending schools in other regions.

The figures illustrate the magnitude of the delicate and complex task which involves dealing with very varied personalities having different interests and attending different schools.

Among the methods of international cooperation, fellowships are one of the most effective for advancing the progress of countries and for creating an active interchange between experts in the same field. The best successes have been obtained with those in which there was both careful selection and good orientation of fellows.

With regard to medical education, mention must be made of the first PASB travelling seminar carried out to observe organization and administration in schools of medicine. A group of 11 deans and professors accompanied by staff members and a special consultant of the Organization visited three schools in South America. The results exceeded all expectations and showed the value of this type of seminar. Both the visitors and the visited benefited from this reciprocal exchange of experience.

An Advisory Committee on Medical Education met in February 1962 and made a series of useful recommendations including one on the need to develop large-scale intensive program for training personnel for medical schools. As a result, 15 medical schools were visited to ascertain which of them offered the best teacher training facilities.

Short-term consultants gave assistance to various departments of 7 schools of medicine in Latin America, a type of activity that must be extended when the Organization has greater resources.

The first example of assistance in the field of the methodology of medical teaching took place at the School of Medicine of Chile in Santiago. The experiment showed the value of this new departure, which is centered on the process of learning rather than on that of teaching. We are of the opinion that its methods should be incorporated in all the universities of the Continent.

Consultants and members of the Pan American Sanitary Bureau furnished various types of advisory services to all the schools of public health in Latin America. Mention should be made of the participation of the University of Caracas in the planning course to which reference was made earlier.

Although the main effort of the Organization in nursing education was concentrated on basic nursing education and postgraduate education and also on the training of auxiliary personnel, increasing attention was paid to collaboration in surveys of nursing needs and resources as a basis for rational health planning.

The results of these studies in Latin American schools of nursing show the progress made in basic nursing education since 1949. These include entrance requirements, broadening of the curriculum, affiliation with universities, size and distribution of budgets, and administration by professionals. With respect to direct assistance, 18 instructors worked in 15 countries in 1962, both in advanced and basic nursing programs and in the training of auxiliary workers.

Thus far some of the activities carried out in 1962 in an essential area within the general program of work of the Organization. The need to formulate plans for the training of professional and auxiliary workers is very evident today. It is very important for the countries to determine how many technicians are needed for each function and how they must be prepared. The schemes of other Regions are not always applicable to the Americas, whose personnel requirements and demand for services differ. It will be for international collaboration to encourage this type of studies in the Continent.

COMMUNICATIONS MEDIA and dissemination of information increased and improved noticeably in 1962. This is clearly shown in the Report. Given the purpose of the Organization, they form part of the work of the Professional Education Branch.

The *Boletín* of the Pan American Sanitary Bureau celebrated its 40th Anniversary with a special number in May and dedicated its December issue to the 60th Anniversary of the establishment of the Pan American Sanitary Bureau. As we have pointed out on other occasions, this publication records the evolution of health in the Americas. The history and the most important events may be reconstructed from its pages, as may be the evolution of ideas and methods and changing concepts and practices in individual and collective medicine. The quality of its articles is continually improving, we are confident that it will continue to improve because that will reflect the experience of the health specialists of the Continent.

The **special publications** amounted to 47. They were mainly scientific and were selected to meet the need for information on important problems and methods. As a whole, they represent a 42 per cent increase in the number of titles and a 65 per cent in the number of pages over 1961. The Report contains a detailed list. The reception accorded them is shown by the distribution and the demand.

The work of the **Library,** of the **Public Information** and **Visual Aids** units also increased in 1962.

FOR THE PURPOSE of building up a long-range program of **medical research** in the Americas, one of a truly international character, an advisory committee was appointed, composed of 12 outstanding personalities in the biological sciences and the health sciences in the Continent. It held its first meeting in June 1962 when it reviewed existing projects, made appropriate suggestions and recommended the bases of a long-term policy of research in health and related sciences. The report of that meeting [15] contains much valuable information about the present state of knowledge and ideas about where new studies are needed. Everyone interested in the biological and social sciences should read it.

The immediate purpose of supporting research in Latin America, in the opinion of the Committee, is to solve problems related to health in a manner that will promote human welfare. The long-range goal is to upgrade the community in its most human aspects through the cultivation of science. Indeed, science—if properly understood as a form of culture—is a means of eventually providing the whole community with an objective awareness of the proper context of man; it gives a holistic view of the universe, in keeping with man's intellectual nature; it will eventually provide a basis for mutual understanding; and it is, in any case, a proper basis on which to build education.

Research policy and programs embodying the recommendations of the Committee, was approved by the XVI Pan American Sanitary Conference in its Resolution XXVI and thus became one of the basic activities of the Pan American Health Organization. It must, of course, be developed hand in hand with the medical research program of the World Health Organization.

It is generally agreed that the training of research workers is the most important factor in promoting scientific progress. The Organization has been entrusted with the task of preparing ways of doing so and of invigorating the existing centers in Latin America.

[15] PAHO Advisory Committee on Medical Research. Report of the First Meeting, RES 1/19, 1962.

THE GENEROSITY OF the W. K. Kellogg Foundation, whose sympathetic understanding of the purposes of the Pan American Health Organization has been a factor that has contributed to its growth during the past decade, made it possible to solve the problem of financing and construction of the new **Headquarters** building. The revised estimates prepared by a firm of special consultants showed that an additional 1.25 million dollars was needed and that amount was granted on the same conditions as before by the Kellogg Foundation; this brought the Foundation's grant to a total of 5 million dollars. Progress was made in various aspects of construction such as the structural specifications, space assignment, approval by the Federal and District agencies of the plans, height, and other aspects of the building. It is hoped that construction will be able to begin in the last three months of 1963.

A DETAILED account of the **administrative activities** of the Pan American Sanitary Bureau is given in the Report. It points out that the highest level of employment in its history was reached in 1962. The number of staff members ranged between 975 and 1,025, with the highest number of short-term consultants ever. They came from 47 countries, 87 per cent of them from the Americas. Changes in the conditions of employment and measures taken to accelerate recruitment and appointments are described.

The contributions of the Governments to the Pan American Health Organization for 1962 and for the past years amounted to only 83.3 per cent of the assessed budget for that year. This is an extremely serious matter, because it prevents the Organization from discharging its responsibilities and from satisfying the growing requests of the Ministries of Health. A series of projects that would have cost more than $2,000,000 could not be included in the program of work submitted to the Directing Council for approval. We know that the general economic condition of the countries of Latin America is the cause of this state of affairs. Nevertheless, the manifest and repeated interest in the collaboration of the Pan American Sanitary Bureau justifies the firm belief that the situation will progressively improve.

Another important activity was the Seminar on the Organization and Administration of Public Health Services for the countries of South America which was held in Bogotá, Colombia, in 1962. It was similar to that held in Costa Rica in 1960 for the countries of Central America and Panama. In a series of recommendations the participants, who included senior officials of the Governments concerned, acknowledged the importance of administrative practices for putting scientific advances within the reach of the persons for whom they were intended.

It has been pointed out that without rational and efficient administration no health plan can reach its goals. Unfortunately, progress in the techniques of prevention and cure has not been paralleled by that in administration. The extent to which they are disjuncted varies and is to be explained by the different levels of training of the officials concerned. Where trials of rationalization have been made, they have produced a substantial increase in the output of staff and equipment. In accordance with the legal provisions in force, improvement must be introduced into the structures and personnel systems, budget and finances, accounting, procurement, to cite only a few of the essential administrative activities of the health services. International collaboration can play a similar and important role in specific health programs. The Pan American Health Organization has been doing so in malaria programs and in some basic activities in various countries of the Continent. It is proposed to increase this activity because the above-mentioned seminars disclosed the magnitude of the problem and how to solve it progressively. Moreover the health plans the Governments are preparing show how urgent is the need for an efficient administration if the goals proposed are to be reached.

IN A COMMUNION of ideals and purposes the **international organizations,** both governmental and private, are collaborating with the countries of the Americas. The work done by the Rockefeller and Kellogg Foundations, the Pan American Union, the United States Agency for International Development, the United Nations Children's Fund and Food and Agriculture Organization, and others, is now traditional. The Pan American Sanitary Bureau has cooperated in accordance with the requests of the Governments.

THE ESSENTIAL PROBLEM of our time, according to Fromm,[16] is that man must be restored to his supreme place in society, never being a means, never being a thing to be used by others or by himself . . . the economy must become the servant of the development of man. Capital must serve labor, things must serve life.

This statement of principle expresses the basic **purposes** of health as a social function.

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[16] Fromm, Erich. *Psicoanálisis de la Sociedad Contemporánea,* 1960, p. 264.

I. PLANNING AND RESEARCH

PLANNING

Recognizing that health is an essential component of social and economic development, the Charter of Punta del Este made the Pan American Sanitary Bureau (PASB) responsible for providing advisory services to the American countries in the formulation and execution of national health plans. Measures were taken in 1962 to train national and international personnel, prepare guidelines on the methodology of planning, cooperate with other agencies participating in the preparation or analysis of national health plans, and utilize the services of specialists and advisory groups to establish methods and procedures.

Training activities began with a first national course conducted at the Center of Development Studies (CENDES) of the Central University of Venezuela. The Bureau cooperated in the organization of the course and provided consultants and a grant with some of the funds assigned from the Alliance for Progress. The students were physicians and engineers holding high-level positions in the Ministry of Health and Social Welfare and in other agencies engaged in health work in Venezuela. The three-month course covered principles of economic and social development, health and economic development, general principles and techniques of planning, and concepts of budgeting and financing. The first month was devoted to theory and workshop sessions; the remainder to field experience in the formulation of a health plan for the State of Aragua.

The Pan American Health Organization (PAHO) and the Latin American Institute for Economic and Social Planning entered into an agreement to offer annual courses for the next five years to train health planners, with PAHO furnishing fellowships and consultants. In the last quarter of 1962, in collaboration with the National Health Service of Chile, a course was conducted for senior officials from 19 Latin American countries occupying key positions in planning in governmental organizations concerned with health. The curriculum consisted of instruction in the theory of planning through lectures and round-table discussions, followed by an examination of the methodology and process of health programming and its application in the Departments of Melipilla and San Antonio of the Province of Santiago. The course also included seminars on the health plans of various Latin American countries and on the organization and administration of planning.

Preparations were also made to hold an eight-week intensive course on health planning at the School of Public Health and Hygiene of the Johns Hopkins University beginning in April 1963. The course, supported by funds of the Agency for International Development (AID), is designed to train top-level health officials in the principles and techniques required for sound long-range planning and development of health for economic and social growth. The Organization assisted in the preliminary phase of planning the course and its curriculum and will furnish some teaching staff.

The Organization contracted the services of CENDES for the preparation of a manual covering the methodology of planning and administrative practices. This manual was developed in collaboration with the School of Public Health of Venezuela and PASB staff.

Pursuant to Resolution A.4 of the Charter of Punta del Este, which calls for the organization of a health task force to "appraise prevalent problems and suggest general lines of action of immediate effect," the Bureau convoked advisory groups of experts from the Hemisphere who made recommendations on environmental sanitation, medical care, medical education, nutrition, research, statistics, and health planning. Headquarters specialists also prepared basic documentation on infant mortality and communicable diseases, including tuberculosis and smallpox, and on malaria and *Aëdes aegypti* eradication. This documentation and the advisory group reports were to serve as background material for the Task Force on Health at the Ministerial Level that was to meet in Washington, D. C., from 15 to 20 April 1963 and formulate recommendations, for submittal to the Secretary General of the Organization of American States (OAS), suggesting steps to be taken at local, national, and international levels.

Several of the Member Governments have already submitted long-range development plans with chapters on health for consideration by the Committee of Nine of the Alliance for Progress. The Organization provided technical consultant services in connection with evaluation of these plans. Field and Headquarters staff also cooperated

with the Tripartite Missions of the Organization of American States/Inter-American Development Bank (IADB)/Economic Commission for Latin America (ECLA) that made preliminary surveys and studies for national plans in several of the countries.

Thus, even before the XVI Pan American Sanitary Conference (21 August-3 September 1962, Minneapolis, Minnesota) adopted Resolution XXXIII urging Member Governments "to push forward with well-planned and coordinated programs designed to achieve the health objectives of the Charter of Punta del Este," the Bureau had responded to requests from Governments for technical advisory services in health planning.

RESEARCH

The XVI Pan American Sanitary Conference approved a research policy and expanded program for PAHO (Resolution XXVI) and requested the Director

> "to take all possible steps to expand the research activities of the Organization, including specific projects and their financing, for the mutual benefit of the countries of the Region."

This policy was to assist the Americas in the development of the necessary research resources for solving the most pressing health problems of the people.

The research program in 1962 included the fields of research training, environmental health, maternal and child health, nutrition, Chagas' disease, schistosomiasis, leprosy, plague, arthropod-borne virus (arbovirus) diseases, the zoonoses, morbidity and mortality studies, radiation and isotopes, dental health, health economics, and medical care. Plans were made to expand activities in 1963 and 1964 in mental health, rehabilitation, respiratory virus diseases, tuberculosis, epidemiology of cancer, rheumatic diseases, congenital malformations, assessment of national research resources, problems of providing standardized materials for research, and studies of research communication problems.

The expansion of the PAHO research program was directed toward increasing the support for the development of national research efforts of the Americas, facilitating the flow of fiscal and personnel resources to national programs, and providing a flexible and responsive administrative structure for research efforts requiring multicountry cooperation.

A PAHO Advisory Committee on Medical Research was established in 1962 to provide the Organization with guidelines for its research policy. The first meeting of the Committee was held at Headquarters from 18 to 22 June 1962. Its report provided an over-all appraisal of the existing research program and reviewed and made recommendations concerning 14 subjects for research proposed by staff specialists and expert consultants. The report laid guidelines for determining research priorities; emphasized the importance of research training and stable, adequately compensated research career opportunities; stressed the importance of developing permanent institutional resources for research training, graduate education, and research; and called for:

> "a radical study of the programs in the health and related sciences, so as to identify where research activities should and could be stimulated and career appointments be made to advantage."

The expanded program is concerned with three broad areas of research bearing directly on the health and well-being of the peoples of the Americas in the decade of the 1960's as laid down in the Charter of Punta del Este. These are:

1. Biomedical research and research training on certain communicable and other diseases, about which current knowledge is inadequate or nonexistent, to bring about their control and possible eradication;

2. Bioengineering applied research and technical training in environmental health having to do especially with sanitation, potable water supply, waste disposal, and industrial health problems; and

3. Biosocial research and research training dealing with the economics and social anthropology of health and medical care.

While communicable diseases continued to have the highest priority, it was recognized that these diseases could only be brought under control by acquiring, through *biomedical research* on the agents and vectors of the diseases, the necessary knowledge to deal with them effectively.

The second category of problems, *bioengineering applied research*, concerns the influence of the environment on health and disease. Toward this end, the Committee recommended that each country establish an experimental station associated with a technical institution, "where solutions to problems of applied research, adaptation of known principles, and the training of technological personnel could be stimulated. . ."

These problems can only be solved by the countries themselves, but the Organization can be of assistance by providing, upon request, expert consultant services in planning the experimental stations and research program.

The third broad category concerns the social and economic aspects of health and disease and of medical care—*biosocial research*. In this area, the Committee recommended that,

"The need for exploring anthropological approaches, human behavior, and mechanisms of mass education to accept new ideas and to change existing habit patterns is as important in treating problems associated with the environment as it is in all public health activities, and warrants emphasis in any consideration of applied research."

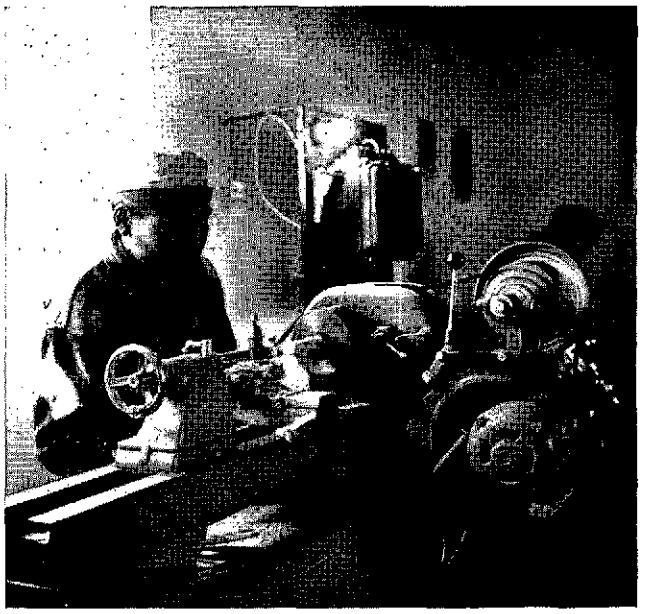
Recognizing that the gap between what was known about health and disease and what was being applied in practice was large and might be growing, the Committee observed that,

"research in medical care and its economic aspects would help tie up health with the general growth and development of a country, and establish the basis for a general body of doctrines related thereto. This type of research fits in very well with the present timely interest in the rational planning of many aspects of social and economic development in the Hemisphere."

The Committee gave this field of research "a very high priority level, on par with biological and medical research."

The Organization has intensified its efforts to assist Member Countries in initiating research activities aimed at closing this gap, as a contribution to the success of national plans for social and economic development.

In implementing the expanded research program, the Organization sponsored consultant services, meetings and other media of communication among scientists, and assisted in mobilizing financial and other resources. As the program gathered momentum and as research resources and interests expanded, national and international efforts to solve pressing health problems contributed directly to rising levels of living in the Americas.



HEALTH AND ECONOMIC DEVELOPMENT—THE TASK OF PAHO IS TO ENSURE THIS TRAINEE IN THE CHUCUITO, PERU, CENTER OF THE JOINT FIELD MISSION ON INDIGENOUS POPULATIONS A LONG AND HEALTHY WORKING LIFE.

HEALTH ECONOMICS

In view of the growing relationship between health planning and national programs for economic and social development, consultant services on health economics were added to the technical fields in which the Organization provides assistance to Governments.

A general research policy was formulated, and the PAHO Advisory Committee on Medical Research, at its meeting in June 1962, concluded that research on the economics of health services and medical care merited a high priority, on a par with biological and medical research.

A discussion paper on public health programs and economic development was contributed to the Conference on the Economics of Health and Medical Care sponsored by the Public Health Service of the United States of America (USPHS) and the University of Michigan (Ann Arbor, Michigan, May 1962). A study of some economic aspects of medical care in the Americas [1] was prepared for the Technical Discussions of the XVI Pan American Sanitary Conference. The Organization cooperated with the Organization of American States by preparing the documentation on health for the First Annual Meeting of the Inter-American Economic and Social Council (Mexico City, October 1962).

A short-term consultant from Headquarters provided services to the Government of Costa Rica in connection with an analysis of the financing of medical care services.

In 1962, as in 1961, the Organization gave financial assistance to the Bureau of Public Health Economics of the University of Michigan to continue studying the economic impact of malaria eradication in the Americas. Liaison to promote research in health economics was established with individual scholars and research institutions in Argentina, Brazil, Costa Rica, and the United States of America.

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[1] *Atención médica. Bases para la formulación de una política continental. Scientific Publication PAHO* **70,** 1962. Chapter 5.

II. PUBLIC HEALTH ADMINISTRATION

MEDICAL CARE

During 1962 the Organization continued its task of stimulating the Member Governments to incorporate medical care into their national health programs and services. To this end, the essential background information and opinions required to formulate a Continent-wide policy were gathered, and the countries were advised to undertake demonstration programs as extensive as conditions would permit.

Among other steps taken in preparation for the meeting of the Task Force on Health at the Ministerial Level an Advisory Group on Medical Care met in Washington, D. C., from 7 to 9 March 1962. Its final report contained a quantitative expression of the magnitude of the problem as regards organization and administration, personnel requirements, facilities, financing, and the psychological and social aspects. The report further defined the modern concept of medical care, specified the minimum requirements for planning, and laid down the main lines for a better organization and for making the best possible use of existing resources and services; it also rationalized the sources of financing, formulated a plan for applied research, and pointed out the increasing needs for international advisory services and how best to meet them.

One of the recommendations of the PAHO Advisory Committee on Medical Research was to give high priority to applied research in medical care problems.

The topic of the Technical Discussions held on 30 August 1962 during the XVI Pan American Sanitary Conference in Minneapolis, Minnesota, was "The Present Status of Medical Care in the Americas in Relation to its Incorporation as a Basic Service in Integrated Health Programs" (see Technical Discussions, Chapter VII). The documents of the Technical Discussions and those of the Advisory Group on Medical Care were published in Spanish.[1]

Recognizing the existing lacunae in basic information on medical care the Organization, in collaboration with the OAS, sent a special consultant to Brazil, Chile, and Peru to initiate a study on the organization and costs of medical care.

On the basis of the advisory services given to Argentina and El Salvador, the Bureau established two consultant posts to meet the needs of the countries of Zones III and VI. Steps were taken to establish another in Zone IV. Short-term consultants were appointed to programs in Panama and Uruguay. A request for a consultant was made by the Government of Venezuela.

A study with PASB assistance was underway in the Province of El Chaco, Argentina, to obtain better information on hospital costs and services. The medical care program in the Province of San Juan also received special attention. Consultant services were also provided in the field of hospital statistics (see Health Statistics, below).

In Central America, as elsewhere, the Organization recommended the investigation of current needs and resources as a first step in planning the expansion of medical care. Since this was a slow procedure and there are needs that had to be satisfied immediately, advisory services on medical care were limited mainly to promoting the improvement of existing services.

The Organization collaborated with the Government of Panama and the American Hospital Association in holding a national seminar on medical care administration in Panama City in April 1962. It exemplified the progress made in the concepts and procedures for jointly conducting the basic services that make up a national or local health program.

With the assistance of the Organization, the Government of Colombia continued to reorganize its health services and created two specialized hospital administration posts in the Division of Public Welfare of the Ministry of Health. The first one-year course to be given annually for administrative assistants was begun in Medellín in June 1962. Forms for collecting hospital data were prepared, and the analysis and tabulation of data on equipment and facilities in the hospitals of 40 integrated districts were completed. Preliminary studies on the construction of a new hospital at Santa María were also completed. The Organization was represented at the national seminar on hospitals held in the city of Buga, at which integration, classification, nursing, and other subjects were discussed.

In November 1962 the Organization submitted to the United States Public Health Service a request for funds to conduct a pilot study on medical care administration

[1] *Scientific Publication PAHO* **70**, 1962.

methods in Latin America. If the grant is obtained, the study will be carried out jointly by the Government of Colombia, the Medical Care Research Center, the Washington University at St. Louis, Missouri, and the University of Pittsburgh. The purpose of this study would be to determine whether it will be possible to give better care, both preventive and curative, if a group of general practitioners is available to take charge of a given number of families and if they are especially interested in correctly using the resources offered by preventive medicine to keep their patients in the best possible state of health. This study will make it possible to define certain aspects of medical care, such as the patient-doctor relationship, proper utilization of specialists, and, above all, to make better use of the hospital beds available. It was estimated that the planning phase would last for one year and the study proper for five years.

In January 1962 the Organization designated a Regional Adviser on Rehabilitation whose duty station was to be shifted according to need. Contact was established in Argentina with specialists in rehabilitation, especially as regards new systems for training physiotherapists.

In Brazil advisory services continued to be given to the Rehabilitation Institute of the University of São Paulo on the training of physiotherapists, occupational therapists, and prosthesis technicians, as well as on the in-service training of social workers, psychologists, and vocational guidance workers. Special courses in rehabilitation for physicians, social workers, and vocational guidance personnel were planned for the Instituto de Aposentadoria e Pensões dos Comerciarios (an agency supported jointly by the Government, employers, and workers), which was planning an intensive program to strengthen or establish rehabilitation centers in São Paulo, Pôrto Alegre, and Recife. These courses would be available to officials from other countries. Advice was also given on physiotherapy courses to the Catholic University at Belo Horizonte and to the Faculty of Medical Sciences of Pernambuco in Recife, as well as on short courses at the Children's Orthesis Center.

In Chile the Rehabilitation Center of the National Health Service began operations in August 1962. The Organization provided part of the equipment for the prosthesis and orthesis workshop, and the expert assigned to direct the shop continued to train technicians. It was planned to establish departments of physiotherapy, occupational therapy, and vocational rehabilitation.

Advisory services were provided to the Government of Venezuela on rehabilitation plans, including the organization of a pilot center at Maracaibo. The Organization also participated in a rehabilitation seminar held in Maracaibo in September.

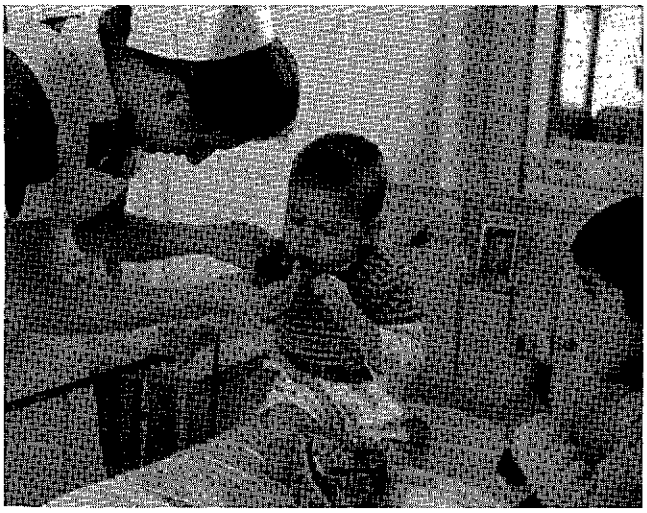
NURSING SERVICES

Advice continued to be provided throughout the Continent on the organization, development, extension, and evaluation of nursing services and on the preparation of nursing personnel. Priority was given to the elaboration of methods to determine nursing personnel needs and of plans for general in-service education programs, as well as for training in supervisory techniques. This year the Regional Adviser on Nursing Services gave direct consultation to Argentina, Bolivia, Chile, Colombia, Dominican Republic, Ecuador, Guatemala, Haiti, Mexico, Paraguay, Peru, and Uruguay.

Zone and Project Activities

Sixteen PAHO/WHO nurses assigned to health services projects continued to cooperate with professional nurses at intermediate and local levels, particularly in: developing the national administrative nursing unit; defining the functions of nursing personnel levels; establishing a system of supervision and developing supervisory techniques; studying ways and means for extending nursing services through the integration of hospital and public health nursing services; developing referral systems between hospital and public health services; assisting in establishing clinic routines; establishing policies for selecting nursing personnel; developing orientation and in-service educational programs for auxiliary and professional staff; cooperating with nursing schools to provide field training opportunities for undergraduate and graduate nurses; and analyzing records of families under nursing supervision to determine if all available medical services had been provided when needed.

Other activities undertaken with PAHO/WHO nursing staff guidance were: evaluation of the nursing program in a metropolitan area of Venezuela; completion of a sample survey of public health inspection and nursing work in Jamaica; a study of the preparation and utilization of nurse-midwives in Haiti; development of courses for auxiliary personnel and establishing supervisory programs in Mexico; development of long-range plans for the preparation and utilization of nursing personnel in Bolivia, the Dominican Republic, and Paraguay; teaching of public health nursing in Cuba; establishment of a committee to study the organization of the Division of Nursing in the Ministry of Health of El Salvador; a public health nursing course in Honduras; work with traditional birth attendants and graduate midwives in the area of Junín, Peru; orientation of nurses to their responsibility in tuberculosis control in Peru; a study of nursing services in the General Hospital at La Paz, Bolivia; estab-



T.L.C. (TENDER LOVING CARE) IS THE BASIS OF GOOD NURSING SERVICE—IN THE PEDIATRICS WARD AND EVERYWHERE ELSE.

lishment of an in-service education program in two health centers and analysis of the work of nursing personnel in home visiting in Ecuador; development of norms for nursing services in Colombia; planning supervisory and guidance visits in Brazil; studies to determine redistribution of nursing staff and coordinate hospital and public health nursing services in El Chaco and San Juan Provinces, Argentina; development of a program for public health orientation of midwives in Paraguay; development of in-service education for nursing auxiliary personnel in hospital-health centers in Uruguay; establishment of Binational Nursing Committees in United States-Mexico Border cities.

The Organization reviews periodically the development of public health and hospital nursing services brought about through educational programs to evaluate the advisory services so far provided. Because of advances made both in education and service, short-term consultants in specialized areas of nursing (i.e., pediatrics, mental health, radiological health, etc.) and seminars may eventually substitute for present day full-time project nursing personnel.

Papers, Publications, and Meetings

A paper entitled "Preparation in Midwifery. Contribution to International Health" was presented at the 1962 Annual Convention of the American College of Nurse-Midwifery and one on the "Changing Role of the Nurse in the Health Team" was prepared for the United Nations Conference on Application of Science and Technology. A policy guide on nursing services for the use of PAHO/WHO staff in the field was also prepared. The report of the Seminar on Public Health Nursing Services held in 1961, for participants from Mexico, the countries of Central America, and Panama, was published in Spanish in 1962.

Preparations to hold in 1963 a seminar on Public Health Nursing Services for the countries of South America were continued in cooperation with the Government of Peru.

MATERNAL AND CHILD HEALTH

The maternal and child health program of the Organization comprised activities in the areas of education and training, health services, and research.

In the field of education a project of assistance to the Department of Pediatrics of the School of Medicine of the University of Recife, in Pernambuco, Brazil, was organized. Two courses in social pediatrics (the public health aspects of pediatric care) were organized, financed, and held. One of these, a 10-week course sponsored and initiated directly by the Organization, was held from 1 April to 16 June in Santiago, Chile; and the other, a 4-week course sponsored jointly with the International Children's Center and the Inter-American Institute of the Child was held from 3 November to 1 December 1962 in Caracas, Venezuela. The purpose of both postgraduate courses was to prepare physicians for community child health service responsibilities.

On behalf of the Headquarters Office of the World Health Organization, planning and teaching assistance was given to a Seminar on Diarrheal Diseases, organized by the Communicable Disease Center of the United States Public Health Service and held from 27 August to 21 September in Atlanta, Georgia.

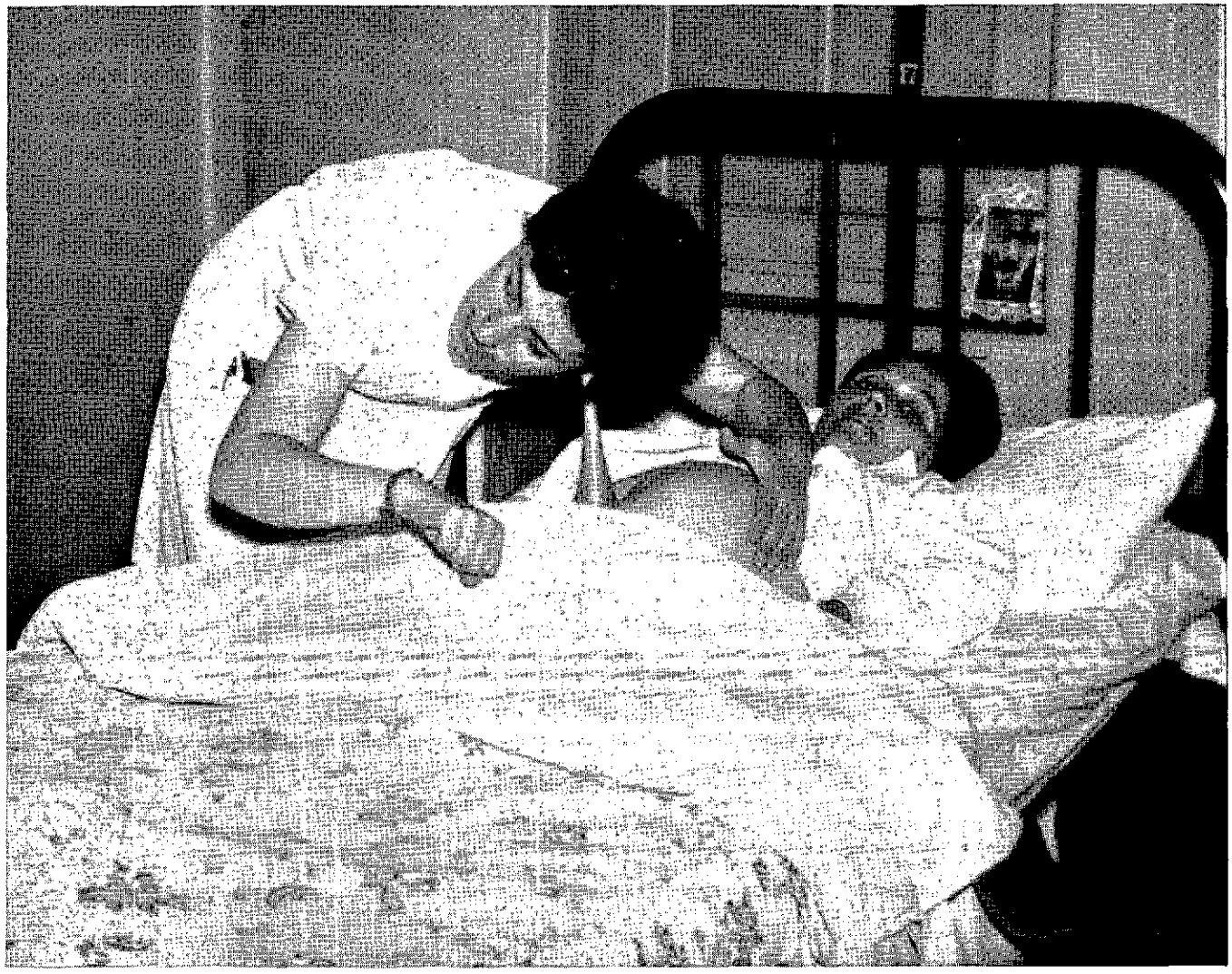
Other educational activities were developed within the framework of the integrated health services projects of countries. These included mainly the preparation of nursing personnel in maternity and child care; courses on the nutritional needs, diagnosis, and counselling of mothers and children; and child health principles. Courses in health aspects of child care were organized and conducted for social work personnel and school teachers in Honduras, Mexico, Panama and Uruguay.

Assistance aimed at strengthening health services for the benefit of mothers and children was also given through the framework of the basic, or integrated, health services projects. The philosophy that comprehensive medical services given to a population segment are a part of the total medical services supplied to the population gained strength during the year through reorganization of ad-

ministrative lines and increased emphasis on planning or creation of a planning unit in Argentina (San Juan Province), Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Mexico, Panama, and Paraguay. Expansion of coverage occurred in Argentina, Bolivia, Colombia, Dominican Republic, Mexico, Panama, Paraguay, and Uruguay. Guides and norms for service were prepared for Colombia and Ecuador.

Consultation, coordination, and planning for child health service aspects of social service projects initiated during the year by other United Nations agencies in Colombia, Guatemala, and Honduras were provided by Headquarters staff and by the integrated health service project staff stationed in those countries. In addition to the personal health services aspect of the integrated health services projects, the development of nursing services, the strengthening of medical and hospital care administration, the communicable disease control activities, the expansion of environmental sanitation activities —especially of water supplies and human waste disposal facilities—and the strengthening of nutrition services contributed greatly to maternal and child health protection.

Two research studies into the relationship between diarrheal disease and malnutrition were continued. The first of these, in Guatemala under the aegis of the Institute of Nutrition of Central America and Panama (INCAP), finished its third year of operations. Preliminary findings of significance were published in scientific journals during the year and further reports are being written as rapidly as data can be analyzed. These broad epidemiological studies reveal that a syndrome of "wean-



MIDWIFERY EDUCATION . . .
A STUDENT NURSE AT THE NATIONAL UNIVERSITY OF THE LITTORAL, ARGENTINA, LISTENS FOR THE FETAL HEARTBEAT.

ling diarrhea" accounts for much of the excess death toll of children in Latin America and that the nutritional status of the host conditions its severity. A number of contributing factors—such as the time interval between births and that the weanling rather than the older child (as in the United States) appears as the source case—have already been outlined.

In the second study, in Peru, investigations continue on metabolic reactions to the use of fish flour as a curative agent of protein malnutrition. The field use of fish flour as a preventive agent is also under study.

In addition to the activities already mentioned, a beginning was made in the field of maternal and child health research planning by the preparations of a basic background document. Finally, as a result of Resolution XIV of the XVI Pan American Sanitary Conference, plans, documentation, and background material were prepared for a Planning Conference for Research on Congenital Malformations, scheduled for the first week of 1963.

A Regional Adviser on Nursing-Midwifery, with duty station in Lima, Peru, was appointed on 1 January 1962 to assist health authorities in the Americas in implementing and strengthening educational programs and in making the best possible use of midwifery personnel in maternal and child health services.

NUTRITION

Through Headquarters, Zone, and country project personnel, nutrition advisory services were made available in 1962 to all the Governments of the Americas.

One of the objectives of the Ten-Year Public Health Program of the Alliance for Progress (Resolution A. 2), adopted at the meeting of Punta del Este, is "To make substantial improvements in the feeding and nutrition of the most vulnerable sectors of the community by increasing the consumption of animal or vegetable protein"; another objective, undoubtedly one of the most impressive, is "To reduce the present mortality rate in children under five years of age by one-half."

The PAHO Advisory Group on Nutrition met at Headquarters from 10 to 13 January 1962 to appraise problems related to nutrition in Latin America and to suggest immediate and long-term measures that could be applied within the framework of national health plans. In appraising the problems, the Group discussed the resources available, the order of priorities, the immediate steps to be taken, the training of personnel, the establishment or consolidation of nutrition services, the strengthening of maternal and child health programs, and the studies needed to obtain a better knowledge of the problems and their solutions.

Expanded Nutrition Programs

The applied nutrition programs, which began modestly in 1958, have been expanded considerably in several countries of the Hemisphere. These programs are carried out by the Governments through the coordinated action of their Ministries of Health, Education, and Agriculture in cooperation with the Organization, the Food and Agriculture Organization (FAO), the United Nations Children's Fund (UNICEF), and occasionally the United Nations Educational, Scientific and Cultural Organization (UNESCO). Their purpose is to raise the level of nutrition of rural families by means of intensive educational activities and the promotion of food production by schools, families, and communities.

Brazil, Colombia, and Paraguay extended their programs in 1962, and new projects were begun in British Guiana, Honduras, Panama, St. Kitts, St. Lucia and Trinidad. At year's end, 19 projects were being carried out in 16 countries or territories, and five additional projects were under study.

Training

The Advisory Group on Nutrition estimated that one non-medical nutritionist is normally needed for every 300,000 population. Several countries have already established this ratio as a goal to be reached in the next few years. To achieve this ratio throughout Latin America will require a considerable intensification of training activities, but the basis of this policy will lie in promoting the expansion of the curriculum at existing schools for dietitians so that, in addition to the training necessary for work in hospitals and other institutions, they may prepare students for public health work.

The 13 fellowships awarded for studies in nutrition brought the total awarded since 1954 to 72. In addition to fellowships granted from its own funds the Organization also induced other agencies and foundations to increase their allotments for nutrition studies. The Bureau also collaborated in two national seminars (Paraguay and Colombia) at which public health nutrition programs were discussed. The serious problem in Latin America, however, is lack of adequate nutrition training centers. To alleviate this situation, in 1962 the Bureau expanded the INCAP School of Nutrition and Dietetics and assisted in organizing three new training centers.

Nutrition Training Center for Social Service

In cooperation with the Inter-American Institute of the Child (Montevideo), UNICEF FAO, the United Nations Department of Social Affairs, and the Pan American Union, a three-month course was organized for 20 executives and teachers of nutrition education from schools of social service in Latin America. The course will be given early in 1963.

Regional Center for Training in Planning for Nutrition Education

In collaboration with FAO, UNICEF, and the Health Services of the United States and Puerto Rico, the Bureau prepared a course on planning for education in nutrition programs, to be held in collaboration with the University of Puerto Rico in 1963. The purpose of this three-month course, which it is hoped will be held periodically, was to train personnel in charge of nutrition education programs in planning methodology. The course was planned for 20 students—nutritionists, health educators, public health nurses, home economics teachers, agricultural extension workers, and other persons responsible for organizing, supervising, and evaluating nutrition education programs.

Applied Nutrition Training Center for Agricultural Extension Workers

The Bureau cooperated with FAO, UNICEF, and the Agricultural University of Molina (Peru) in organizing at that University an applied nutrition training center for agricultural extension workers. The one-year course is to train 20 students annually.

Nutrition Research Programs

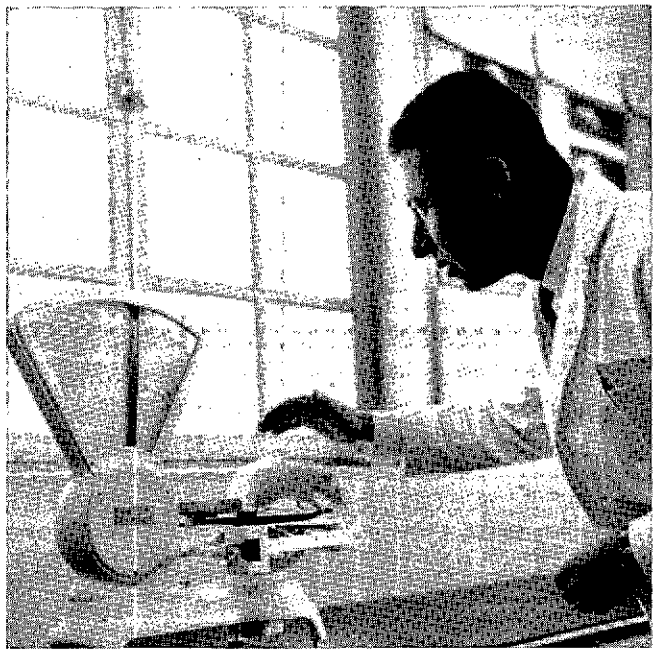
Work on protein mixtures continued to develop actively at INCAP.

The National Institutes of Nutrition in Ecuador and Peru continued their research on other sources of vegetable protein, such as quinoa (the cereal grain *Chenopodium quinoa*) and the seed locally called chocho (*Lupinus mutabilis*), with the periodic advisory services of Bureau staff.

The Institute of Scientific Research in Venezuela received assistance from WHO Headquarters for a study on anemias.

The Advisory Group on Nutrition felt that to give the proper direction to nutrition programs it was necessary to gather more information on the epidemiological as-

FROM ANIMAL EXPERIMENTATION . . . . . TO HUMAN APPLICATION



Left: WEIGHING A MOUSE AS PART OF RESEARCH ON THE DEVELOPMENT OF CHEAP DIETARY PROTEINS AT THE NATIONAL INSTITUTE OF NUTRITION OF ECUADOR, QUITO. *Right:* WEIGHING A BABY IN THE NUTRITION WARD OF THE BACA ORTIZ CHILDREN'S HOSPITAL, QUITO. THIS YOUNGSTER IS WELL ON THE WAY TO RECOVERY.

pects of malnutrition, particularly protein-calorie malnutrition in children, hypovitaminosis A, ariboflavinosis, and endemic goiter. The Group further indicated that it was necessary to assess the effects of malnutrition on physical and mental development and to obtain more accurate data on mortality due to mulnutrition.

The Group also pointed to the need for further studies on protein-rich foods, the interaction between nutrition and infections, prevalence and causes of the anemias, and nutritional needs of infants, especially during weaning. In addition to these problems, the Group emphasized the need for improved methodology for assessing nutritional status and for conducting nutrition education programs for various cultural, socio-economic, and age groups.

The Bureau convoked a group of advisers in Boston in April 1962 to discuss certain specific research projects of high priority. Among the projects submitted in June to the PAHO Advisory Committee on Medical Research, a tentative list of priorities within the nutrition field was established by the Committee as follows:

1. Malnutrition in infants and young children with special emphasis on the effects of protein and/or calorie deficiency on patterns of growth and development,
2. Anemias,
3. Endemic goiter, and
4. Nutrition and infection.

Institute of Nutrition of Central America and Panama

Services to Member Countries

Special attention was given to the expanded nutrition programs already at various stages of development in Costa Rica, El Salvador, Guatemala, and Nicaragua. The main concern of INCAP was to evaluate these programs and improve them in the light of the experience accumulated.

In Guatemala, where the program had been conducted for a longer time and where expansion was desired, assistance was given to national officials in connection with their study of the present situation and future needs. The development of the program in Honduras was studied. Prior to the implementation of the program in Panama, a survey was made of the general nutrition and health conditions in the areas, and of the related socio-economic factors.

In Costa Rica the Institute worked with the Government in planning nutrition activities at the national level within the general program of the Ministry of Health.

A survey of the prevalence of endemic goiter was made in Guatemala, the first since the introduction of iodized salt about two years ago. The results showed a greater reduction than had been anticipated in so short a time.

Training

The training program of the INCAP School of Nutrition and Dietetics continued to expand satisfactorily, in part with UNICEF collaboration.

The program for professionals brought to a successful conclusion the two-year training course in nutrition for university graduates in medicine, biochemistry, or pharmacy. The nine-month Course in Applied Nutrition for Latin American Dietitians was extended to 11 months. This course included academic studies and field practice to give the dietitians the knowledge and experience needed to work in community programs of applied nutrition. Nine students from six Latin American countries attended the course.

The Nutrition Course for Public Health Physicians was given simultaneously in English and in Spanish. Nine physicians from Argentina, Bolivia, Brazil, Colombia, the Dominican Republic, El Salvador, Mexico, and Venezuela attended the Spanish-language course and five physicians from the United States, India, and Thailand attended the English-language course. In view of the demand, it has been decided to offer this course in both languages every year.

A start was made on a series of seminars to acquaint professionals with INCAP work and with general advances in nutrition and related fields useful in their work. The first seminar, held in San José, Costa Rica, lasted two days and was attended by 40 physicians, mostly pediatricians. The main topic was "Feeding of Children from Birth to 2 Years."

Research

Clinical metabolic studies on malnutrition in children were continued. It was found that severe cases of the multiple deficiency syndrome of infancy recuperated with diets providing only from 2 to 3 grams of protein per kilogram of body weight per day when the protein supplied was of high biologic value and the total calorie intake and therapeutic measures were adequate. The protein intake previously recommended to treat such cases was from 5 to 7 grams per kilogram of body weight per day. The studies also confirmed that whole milk could be used from the beginning of the treatment of such children and that modified milk offered no important advantage. Other studies to elucidate why the absorption of fats and water-soluble factors was diminished in the acute phase of the syndrome indicated that it was due in greater part to a defect in the intestinal mucosa rather than to malfunction of the liver or pancreas.

After continued studies in search of indicators for early and accurate evaluation of subclinical states of protein malnutrition, it was confirmed that the urea/creatinin relationship in a single fasting urine sample clearly indicates the level of protein intake of the various population groups.

Among the studies begun in 1962 special mention should be made of the long-term study of children to determine the effect of nutritional deficiencies on mental development. Preliminary work was begun and certain study techniques were standardized, so as to make it possible to have the project fully underway early in 1963.

Research on ways to prevent protein malnutrition has led to the elaboration of new formulas for vegetable mixtures in which cotton-seed flour or the cereals in Vegetable Mixture No. 9, or INCAPARINA, can be replaced by other protein concentrates and fillers. This could be of advantage in areas where the raw material available is different from that in Central America. Some of these new formulas hold promise of being of even higher nutritional value than INCAPARINA.

Additional information was obtained, from studies in children, on the biological value and deficiencies of essential amino acids in basic cereals. These studies will make it possible to give well-grounded recommendations on the best way to supplement those cereals, using other protein foods for different groups of the population.

The small experimental farm placed at the disposal of INCAP by the Government of Guatemala continued to be used for studies on the influence of ecological factors on basic food crops and particularly on their nutritive values. Studies were also begun on the effect of intestinal parasitism and on other factors that reduce livestock yield. Among the latter, mention should be made of a study on the effect of soil fertilizers on the nutritive value of corn, sorghum, and beans and on the effect of these foods when fed to animals.

The facilities of the farm were also used to explore the possibilities of cultivating plants new to the area and wild plants that might be sources of the nutrients lacking in the region. If successful, these new sources could be used directly for human consumption or indirectly by being used as animal feed.

In the field of epidemiology, the Inter-American Ath-

CHILD SUFFERING FROM KWASHIORKOR . . .
BEFORE BEGINNING OF TREATMENT AND AFTER THREE MONTHS OF SUPPLEMENTARY FEEDING WITH INCAPARINA.

erosclerosis Study, jointly directly by INCAP and the School of Medicine of Louisiana State University, continued to progress satisfactorily. In the study on the relationship between nutrition and infection, a preliminary analysis of the data gathered during the first three years seemed to indicate that direct contacts within the home played a major role in the transmission of diarrheal processes in childhood. Specific studies to clarify the transmission mechanism were designed, and initial arrangements were made to investigate the possible role of viruses as etiological agents of these diarrheal processes. The clinical and laboratory research with experimental animals was aimed at obtaining a better understanding of the mechanisms by which nutritional deficiencies diminish resistance to infections and the mechanisms by which the infectious processes exert an unfavorable influence on nutritional status.

Commercial Distribution of Vegetable Mixtures

INCAPARINA sales in Guatemala tripled in 1962, as the manufacturers continued to increase production and improve distribution to meet consumer demand. The product met with less success in El Salvador and Nicaragua, but efforts have been started to adapt the organoleptic characteristics of INCAPARINA to the dietary habits of these countries, as well as to improve its distribution and promote its popularity in order to enhance consumer acceptance.

In addition to countries that have previously authorized commercial firms to manufacture and distribute this product, a firm in Panama was licensed in 1962 and companies in Colombia, Honduras, and Mexico prepared to launch the product on the market early in 1963.

Publications and Meetings

Of the 46 INCAP articles contributed in 1962 for publication, 36 were published in Spanish as *Collected Papers No. 4*.[2] The *Table of Composition of Foods for Use in Latin America* was published in both English and Spanish. The outcome of a joint project undertaken in 1959 by INCAP and the Interdepartmental Committee on Nutrition for National Defense of the United States of America, the Table includes analytical data for 716 foods most commonly found in the markets. All institutions of nutrition in Latin America assisted in compiling the data.

The Institute also began publishing a quarterly bulletin (*INCAP Informa . . .*) intended to make the people of the member countries aware of the services at their disposal.

Pamphlets and other reference material for programs of education in nutrition continued to be prepared and distributed. In 1962, efforts were made to pretest material before distribution. For example, reading matter on the principles of nutrition for pupils in the early grades of elementary schools was prepared in cooperation with the American School of Guatemala. Before publication, the material is being evaluated to ascertain its suitability for classroom use, its value as reading material, and its effectiveness in achieving nutrition education goals.

Several of INCAP's professional staff took part in conferences, meetings, and courses on nutrition and on related areas such as social anthropology, librarianship, statistics, and administration.

DENTAL HEALTH

This year's dental program included activities in the areas of education and training, dental public health practice, and research and collaboration with professional associations.

Assistance to Governments

In 1962, as in 1961, the Organization concentrated its efforts on assisting in the development of dental education at the undergraduate level. The key activity was the First Latin American Seminar on Dental Education held from 14 to 19 October in Bogotá, Colombia. Two representatives from each of the 18 schools in Bolivia, Chile, Colombia, Ecuador, Peru, and Venezuela attended the Seminar. There were also observers from 16 countries. Subjects of fundamental interest to dental education, such as its objectives, the selection of students, and the preparation of teachers were discussed during the meetings. The conclusions arrived at will serve as a basis for the Organization's further activity in dental education.

The Seminar recommended that added emphasis be given to teaching the preventive and public health aspects of dentistry at the undergraduate level. The Organization had already begun, in 1961, a five-year program of assistance to the University of Antioquia, in Medellín, Colombia, for the development of a pilot Department of Preventive and Social Dentistry. In 1962 the Department established a dental health program in El Retiro, a small community near Medellín, to serve as a field training area for senior dental students. In addition to advisory services, the Organization provided equipment and teaching supplies for the Department.

During the preparation for the Seminar in Bogotá each school was visited by two consultants who made a survey of dental education in the six participating countries.

[2] *Scientific Publication PAHO* **59**, 1962.

Their report was used both at the Seminar and at the WHO Expert Committee on Dental Education in Geneva in July 1962.

The Organization participated in the Congress of the Latin American Association of Dental Schools, held in Bogotá immediately after the Seminar, and assistance was given for a short course in dental education. The course was attended not only by all the Seminar participants but also by educators of all but two of the Latin American countries that have dental schools.

The Organization continued to support the development of the dental public health training program at the School of Public Health of the University of São Paulo. In 1962 a short course for dentists working at the local level was offered for the first time. This course was in addition to the regular public health course of one academic year. The Organization sent a total of eight fellows to both courses. A short-term consultant visited São Paulo in April to assist in planning a pilot dental program for the schools of the city of Campinas. A new member was added to the staff of the School of Public Health. He will be mostly concerned with the teaching of dental epidemiology and statistics. One of the dental professors made an observation trip to the dental schools and health services in four Latin American countries with a travel grant provided by the Organization. A textbook on dental public health,[3] developed at the University of São Paulo, was translated into Spanish, published, and distributed by the Organization to all dental, public health, and medical schools in Latin America.

Both the São Paulo and the Medellín projects are jointly sponsored by the Organization and the W. K. Kellogg Foundation. The Foundation also gave support to the Bogotá Seminar.

The dental public health activities are usually developed within the framework of integrated health services projects. As part of one such project, a short-term consultant visited the Dominican Republic in May and, after studying the needs and resources for dental care in the country, recommended the creation of a dental health division at national level, specifying its organization and functions. This consultant also provided advisory services to the dental school of the University of Santo Domingo.

Research

A plan was drawn for a long-range program of dental research. The initial activity was oriented towards the possibility of preventing caries on a mass basis in rural areas, and, therefore, the search for an alternative to water fluoridation.

[3] *Scientific Publication PAHO* **63**, 1962.

Collaboration with Professional Organizations

The Organization worked very closely with national and international associations. Papers were presented or talks given at meetings of the Central America and Panama Dental Federation, the Federation Dentaire Internationale, the American College of Dentists, the Brazilian Dental Education Association, and the Brazilian Dental Association. Collaboration was given to the American Dental Association for the meeting held in Miami in October 1962, which had "Better Dental Health for the Americas" as its main theme.

MENTAL HEALTH

Exploration of the mental health needs and resources in the Americas, initiated in 1961, was completed by mid-1962. The Regional Adviser's report, "Mental Health in the Americas," was presented at the First Latin American Seminar on Mental Health (Cuernavaca, Mexico, November-December, 1962).

Participants in the Seminar, from Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, and Panama, discussed mental health conditions, problems, and possible solutions in those countries.

The discussions revealed that little organized activity had been undertaken in the Continent to approach the mental health problems as a public health responsibility. The participants' unanimous recommendation for the establishment and development of national mental health programs, integrated at all levels into the national programs of health, seems to indicate a change in attitude toward mental health problems.

Additional seminars have been planned for 1963 in Mar del Plata, Buenos Aires Province, Argentina, and for 1964 in Kingston, Jamaica.

The National Institute of Mental Health of the United States of America agreed to support the establishment of an international clearing house on mental health for Latin America at the Pan American Sanitary Bureau. This is intended to be a permanent center for the systematic collection, analysis, and dissemination of information about mental health in Latin America and will constitute the foundation for mental health work on an international scale.

The short-term consultant services of a child psychiatrist, a social worker, and a clinical psychologist were

GROWING EMPHASIS ON MENTAL HEALTH . . .
A STUDENT NURSE AT WORK WITH MENTAL PATIENTS IN ROSARIO, ARGENTINA.

provided to the Government of Venezuela to advise health authorities in the establishment of mental health services for children.

RADIATION AND ISOTOPES

Because of the growing amounts of man-made ionizing radiation resulting from X rays, medical and research uses of isotopes, and reactor operations, ionizing radiation has assumed increasing public health significance. A research advisory group on radiation met at Headquarters in May 1962 to consider topics, facilities, and professional personnel that could be utilized to carry out research related to ionizing radiation. The group recognized two areas as worthy of consideration: (1) the use of ionizing radiation to produce biological effects, and (2) the application of radioisotope tracer techniques to gain an understanding of the biological functions related to health and disease.

In 1962 a short-term consultant visited laboratories and medical facilities in Brazil, Chile, Peru, and Venezuela to discuss research projects that could benefit from the use of ionizing radiation in the ways recommended by the advisory group. The Organization arranged for New York University to make preliminary studies and limited analyses of samples of food, water, and human teeth from areas of high background radiation in Brazil. In the field of environmental surveillance, the Organization facilitated arrangements for the U.S. Public Health Serv-

ice laboratories to analyze air samples collected by the sampling stations established by the Governments of Chile, Peru, and Venezuela. The results are transmitted to the countries through the Organization.

By arrangement with the Government of Chile and the Brookhaven National Laboratory of Long Island, New York, the Organization will coordinate the activities of Chilean physicians and of a scientific investigator at the Laboratory for an international study of manganese poisoning. Planning was also begun for studies of lead poisoning, hookworm anemia, and comparisons of high-altitude hypoxia in burros and llamas.

A short-term consultant in radiation physics surveyed the use of X rays and radioisotopes, including radium, in selected hospitals and medical institutions in Chile. In addition to giving on-the-spot technical advisory services, the consultant included in his report recommendations for safe use, practices, and proper management of radiation sources.

The Organization continued efforts to promote research on the biology of *Rhodnium prolixus*, a vector of Chagas' disease in Venezuela, at the Division of Biology and Health Physics of the Atomic Energy of Canada Ltd. installation, in Chalk River, Ontario, and at the Venezuelan Institute of Scientific Research in Caracas. A request for a research grant was prepared and submitted to the National Institutes of Health of the United States of America.

The Organization continued assisting the teaching center for the use of isotopes of the School of Medicine of the University of Chile, in Santiago, where the first six-month course on basic techniques in the handling of radioisotopes and the clinical use of medical isotopes was held in 1962. Of the seven students who attended the course, the Organization awarded fellowships to two from Argentina, two from Peru, and one from Venezuela. Two students from Ecuador had fellowships from the International Atomic Energy Agency. One of the fellows received six months of additional training at the same school.

The Organization also provided three fellowships for the study of radiological health, one to a staff member of PAHO Zone Office II and two to public health officials from Brazil and Chile.

The Organization continued the preparation and distribution of Spanish-language teaching materials, as well as providing original English-language materials to English-speaking countries. English-language films of proper radiological health practices in hospital use of X rays and isotopes were provided with Spanish-language narration. The translation of a basic radiological health manual was begun in the Ministry of Health of Peru, for publication with assistance from PAHO and the U.S. Public Health Service. Other manuals were prepared for the Organization by the American College of Radiology.

The Organization was represented at the fourth meeting of the Inter-American Nuclear Energy Commission, held in Mexico City in April 1962, and at the September meeting of the WHO Expert Committee on Radiation.

PUBLIC HEALTH LABORATORIES

The Organization continued to assist Governments to improve national public health laboratories. By providing technical advisory services through Headquarters staff and short-term consultants, central, peripheral and, more recently, hospital laboratories have been organized or improved in several countries. The Organization also assisted in the training of laboratory personnel (through courses given within countries and by awarding fellowships for study abroad) and in the establishment and improvement of laboratory animal colonies. A short-term consultant studied the operations of the National Institute of Microbiology in Argentina—including diagnostic services, sera and vaccine production, control of biologicals, training, research, and development of local laboratories—and recommended measures for improvements. Assistance was also given in the organization and implementation of laboratories for the Provinces of San Juan and El Chaco.

A consultant continued to provide advisory services to the Dominican Republic in the organization of the Division of Laboratories and the establishment of peripheral laboratories. Personnel training was intensified through a course on serology, as well as expanded by means of a course for laboratory technicians for which help was received from UNICEF.

Assistance to the Government of Haiti had the following objectives: to increase the technical and administrative efficiency of the central laboratory; to conduct epidemiological investigations on problems of national interest (brucellosis, syphilis, tuberculosis, leptospirosis); to expand the colony of laboratory animals; and to train laboratory technicians and microscopists for the malaria and yaws eradication campaigns.

Paraguay began putting into effect the recommendations made in 1961 by a PAHO consultant, and training courses were organized for laboratory technicians.

The Organization completed negotiations with the University College of the West Indies, at Kingston, Jamaica, for a long-range plan to strengthen the laboratory services of the English-speaking countries in the Caribbean.

Virology Laboratories

Brazil, Mexico, and Venezuela, among others, received assistance from the Organization to establish or expand their laboratories for the diagnosis and epidemiological study of virus diseases.

For the past two years the Organization has had a consultant assigned to the National Virus Laboratory of the Oswaldo Cruz Institute, in Rio de Janeiro, Brazil, for which financial assistance from UNICEF made it possible to furnish part of the laboratory equipment. Marked progress was achieved during 1962. In September a course in theory and practice of tissue-culture techniques as applied to virology was attended by seven physicians and veterinarians. Research was underway on continuous culture cell lines, practical methods for the titration of attenuated viruses in live poliomyelitis vaccine, and simplified high-performance techniques for the isolation of enteroviruses. The etiologic agent of an epidemic of poliomyelitis in Peru was typed. A cooperative project for the preparation of antisera against 66 types of enteroviruses was initiated with the participation of the Oswaldo Cruz and Adolfo Lutz Institutes and the Schools of Medicine and Hygiene of São Paulo. Assistance was given to the Adolfo Lutz Institute in laboratory studies made in connection with the pilot program of poliomyelitis immunization with attenuated live vaccine in the municipality of Santo André, São Paulo, and subsequently, with the national campaign which covered most of Brazil; antibodies were titrated and enterovirus isolation studies were made in specimens obtained from a random sample of vaccinated children and their contacts.

In March a two-week course on fluorescent antibody techniques and their application in rabies diagnosis and other uses of epidemiological interest was held at the National Virology Institute of Mexico. Conducted by the Organization and attended by 20 professionals from Guatemala, Honduras, and Mexico, the course was organized in collaboration with Mexico's Ministry of Health and the Communicable Disease Center of the United States Public Health Service.

The Organization continued to collaborate in the research and training program carried out at the National Virology Institute of Mexico, with the participation of Cornell University, to study the relationship between the arboviruses pathogenic to man and the migratory birds which can act as continental disseminators, and to provide training in the ecological relationships between these viruses and other biological species.

The Organization provided short-term consultant services to Venezuela's National Institute of Hygiene on tissue culture techniques; the slide technique for the study of enteroviruses, poxviruses, and arboviruses; methods of isolating and identifying enteroviruses; and procedures for detecting the viral agents of respiratory diseases. These procedures will be applied in an epidemiological study in Caracas.

Production and Control of Biologicals

For several years the Organization has been providing to countries reference services for the verification of the safety and efficacy of vaccines, sera, and other biologicals. In this way the quality of biologicals is assured, the use of adequate control techniques in the production laboratory is stimulated, and changes are suggested to make production procedures safer and more economical. During 1962, at the request of the producing countries, 32 samples of vaccines, toxoids, and sera were studied at reference laboratories.

The importance attributed by the Organization to the immunization programs in Latin America led it to request the cooperation of the Inter-American Development Bank to carry out a survey on the use of immunizing products and their production and control in official laboratories. Consultants visited 10 countries to study the administrative, technical, and economic aspects of the problem; their recommendations would aid the countries to formulate plans for the greater use, increased and cheaper production, and improvement of the quality of the biologicals.

Technical advisory services, supplies, and equipment were provided to the laboratory producing lyophilized smallpox vaccine at the Oswaldo Cruz Institute, to in-

BACTERIOLOGICAL CONTROL OF BRAINS OF INOCULATED RABBITS IN A PUBLIC HEALTH LABORATORY IN GUATEMALA CITY.

crease production to the level required for the smallpox eradication program in Brazil. The Biological Products Laboratory of Guatemala was also given technical advisory services and some equipment for the production of antirabies vaccine as well as of lyophilized smallpox vaccine (see Chapter IV).

The Organization continued to assist the Government of Mexico in planning its new biological products laboratory, to which end a short-term consultant cooperated with the planning committee in studying the plans for the building with a view to suitability. Contributions were also made toward improving the control methods of pertussis vaccine production.

Biological Reagents and Laboratory Animals

Public health laboratories in Latin America continued to request biological reagents such as strains of bacteria, fungi, viruses, standard antigens and hormones, vitamins and antibiotics, special materials for vaccine, toxoid, and serum production, and standards for the control of biologicals. During 1962, 391 items were supplied to laboratories of 13 countries.

Laboratory animals are the most delicate biological reactors because their genetic heterogeneity, deficient nutritions, and infections may seriously affect the validity of tests made with them. In 1962 technical advice on the breeding of laboratory animal colonies was given to Brazil, Costa Rica, and Mexico, and initial stocks for breeding mice, hamsters, and guinea pigs were provided at the request of countries.

CONTROL SERVICES FOR FOODS, DRUGS, AND BIOLOGICALS

Interest in establishing or improving services to control the quality and distribution of foods, drugs, and biologicals increased in 1962, owing in part to the wide publicity given to drug-related congenital malformations and to the problems inherent in the expanded use of insecticides. The approval for human consumption of foods and drugs, both domestically produced and imported, involves a public health responsibility that received varying attention in the countries of the Americas.

While much of the purely technical work was done in public health laboratories, the development of regulatory, inspection, and control activities suffered from a dearth of suitably trained personnel at both national and international levels. Despite active recruitment, the Organization was able to acquire the services of only one qualified specialist in 1962. National services expanded faster than adequately trained personnel could be found. Because of this shortage, the Organization devoted considerable attention to academic institutions in an effort to promote the initiation or expansion of facilities to train personnel for food, drug, and biological control services.

The Organization provided Member Governments with information on specific problems in this field, as well as with standards and control and analysis agents. Confirmatory testing of biologicals was conducted, on request, at the Organization's reference laboratories, including the Pan American Zoonoses Center (see also Public Health Laboratories, above).

A specialized consultant spent four months in Panama

TABLE 1. BEEF AND VEAL: FRESH MEAT AND MEAT FOOD PRODUCTS EXPORTED TO THE UNITED STATES, 1 JULY 1961-30 JUNE 1962

Pounds

Country of origin	Fresh meat and edible organs received and inspected		Cured meat received and inspected		Total	
	Passed for entry into U.S.A.	Refused entry and/or condemned	Passed for entry into U.S.A.	Refused entry and/or condemned	Passed for entry into U.S.A.	Refused entry and/or condemned
Costa Rica	4,531,000	32,248	36,800	–	4,567,800	32,248
Guatemala	6,105,892	11,200	–	–	6,105,892	11,200
Honduras	7,775,490	359	–	–	7,775,490	359
Nicaragua	15,219,458	37,693	91,650	33,000	15,311,108	70,693
Panama	239,898	7,551	–	–	239,898	7,551

– None.

Source: United States Department of Agriculture, ARS-93-2-6. *Summary of Activities—Meat Inspection Division*. September 1962.

studying current national legislation and available facilities and personnel for the supervision of foods, drugs, and biologicals. The consultant's finding that in 1962 the national services in Panama received over 3,000 applications for registration of different items under food and drug legislation illustrates the heavy burden on national services. The statistics of inspection of improved meats (Table 1) also reflect the magnitude of the inspection problem.

HEALTH EDUCATION

The greater part of Headquarters efforts was directed toward stimulating health education training of specialist staff and other categories of health personnel. The Organization participated in planning and carrying out the 1962 International Conference on Health and Health Education (30 June-7 July) and the first Inter-Regional Conference on Postgraduate Health Education Training of Health Personnel (8-17 July) in Philadelphia, Pennsylvania. At the first of these meetings a thousand leaders in the health field from all parts of the world discussed multiple aspects of the problems of health and health education in their countries. At the second meeting 69 participants from 31 countries of all WHO Regions discussed the present postgraduate health education training given in professional education institutions of the countries represented, possible trends, requirements, and possibilities of modifying methods and policies.

Postgraduate Health Education Training

Advisory services were provided to the School of Hygiene and Public Health of the University of São Paulo, Brazil, in preparing a proposed course of studies for health education specialists, and a consultant-professor in health education was provided to the School of Public Health of the Central University of Venezuela, at Caracas. For the School of Public Health of the National University of Colombia, at Bogotá, the Organization assisted in reviewing a proposed UNICEF-supported, two-year project to prepare health education specialists in the School, in the content and methodology of this course of studies.

Other Health Education Training

Assistance was given in planning and carrying out health education aspects of the First Training Course for Sanitary Inspectors of the Caribbean Area. In collaboration with FAO, UNICEF, and the United States Government, plans were initiated to establish in San Juan, Puerto Rico, a Regional Center for Training in Planning for Nutrition Education (see Nutrition, this Chapter).

As a result of discussions with health education staff of national health services, efforts were intensified to translate and distribute material on health education and social sciences, which were needed for training programs in professional institutions and national health services. Several scientific articles were translated and published by the Organization. In addition, cooperative efforts were initiated in several countries whereby national health education personnel would translate material and the Organization would assist in its reproduction and distribution.

Field Activities

In Mexico assistance in the program of instruction of the School of Public Health was continued, and advisory services were provided for the health education training programs carried out in the Ministry of Health, the Federal District, the Latin American Regional Fundamental Education Training Center (CREFAL), and malaria eradication work. Advisory services to the malaria eradication program were provided both in routine operations and in special studies related to chemotherapy. Besides supplying materials, assistance was given in planning and carrying out in-service and refresher training in health education for personnel working in the various national zone offices.

PAHO/WHO health education consultants were assigned to the Ministry of Health of the Dominican Republic and the malaria eradication program in Haiti. In the Dominican Republic the Division of Health Education was re-established in the Ministry of Health, with a trained health educator in charge. In Haiti the PAHO/WHO consultant worked with national and international staff toward the development of training programs to improve health education efforts of all categories of personnel involved in malaria eradication. Assistance with training in health education activities was furnished to the Malaria Eradication Training Center at Kingston, Jamaica.

The consultant in health education for the malaria eradication project in Surinam and a short-term consultant in behavioral sciences participated in a survey to identify cultural factors bearing on acceptance of the malaria eradication program. The results of this survey are being used to plan the bases for health education efforts to be carried out in malaria eradication in Suri-

SOCIODRAMA PRESENTED BY HEALTH WORKERS OF THE JUNÍN HEALTH AREA IN PERU, DIRECTED BY THE AREA HEALTH EDUCATOR.

nam. This will involve training of field teams in appropriate health education methods and techniques.

Consultant services to the School of Public Health in Caracas, Venezuela, were directed particularly to teaching health education methods and techniques to physicians, nurses, statisticians, sanitarians, and veterinarians studying at the School; integrating health education methodology into subject matter for the 1963 course; and imparting health education training to the staff of the practice health center used by the School. Assistance was also given to community water supply programs in planning for health education activities related to various projects. One important effort was the training of personnel who will be involved in organizing communities to participate in the construction, maintenance, and operation of local water supply systems.

HEALTH STATISTICS

Major developments in 1962 were the expansion of the research program, which included planning for additional epidemiological and statistical research; provision of basic data needed for specific programs; and the publication of the *Summary of Four-Year Reports on Health Conditions in the Americas, 1957-1960.*[4]

Research

Grants awarded by the National Institutes of Health of the United States allowed the Organization to continue

[4] *Scientific Publication PAHO* **64**, 1962.

the Inter-American Investigation of Mortality and to hold planning conferences preparatory to studies on the etiology of congenital malformations and on cancer epidemiology.

Inter-American Investigation of Mortality

The initial steps for field work in the investigation of mortality were taken in 1961 with a pilot test using a preliminary questionnaire. After the first 275 answers to the questionnaire were reviewed at Headquarters the principal collaborators met in Washington, D. C., from 22 to 30 January 1962, to develop the final standard questionnaire and the procedures to be used in all cities participating in the investigation. A *Manual of Procedures* was then issued to maintain uniformity throughout the investigation.

Field work, based on the study of persons between 15 and 74 years of age, included the investigation of deaths from January 1962 in Bogotá, Colombia; Caracas, Venezuela; La Plata, Argentina; Lima, Perú; and São Paulo and Riberão Prêto, Brazil. In Guatemala City and Mexico City, work started with the investigation of deaths occurring in March; and with those of May in Cali, Colombia. Local circumstances delayed the beginning of the project in Santiago, Chile, until July. Delay was also encountered in developing plans for English-speaking cities, but eventually San Francisco, California, and Bristol, England, started the investigation with deaths occurring in October.

A preliminary analysis of the 1,561 completed questionnaires received from seven cities by the end of June 1962 was undertaken, principally to evaluate the progress of the study and the suitability of the data for the purposes for which the project was designed. Although the numbers from individual cities were too small to warrant drawing any definitive conclusions, it became obvious that the pathological services in some of the cities should be strengthened.

In spite of the unavoidable delays encountered in some cities, field work progressed satisfactorily; and by the end of December, 8,576 completed questionnaires had been received.

Etiology of Congenital Malformations

The XVI Pan American Sanitary Conference, after studying the June report on the Inter-American Investigation of Mortality in the Americas, recommended in Resolution XIV that specific action be taken by the Member States and by the Organization in regard to the reporting of congenital defects, up to date maintenance of tabulation, and analysis of the data. To implement the recommendation, a Planning Conference for Research on Congenital Malformations was scheduled for 3 to 7 January 1963. In the last quarter of 1962 working documents for the Conference were prepared, and a draft proposal for a research program was designed as a framework for discussion.

Epidemiological Studies of Cancer

Plans to carry out epidemiological research on cancer began with the necessary preliminary work to hold a planning conference in 1963. One aim of this meeting will be to determine the specific fields of cancer epidemiological research which may profitably be carried out in Latin America because of the unusual occurrence of the disease in specific sites or the existence of special population characteristics to be investigated in relation to the disease. Another aim will be to select places where the recommended research can be carried on successfully because facilities and interested qualified personnel are locally available.

Headquarters Activities

As stipulated in the Pan American Sanitary Code, the collection, analysis, and distribution of data on notifiable diseases—including the quarantinable diseases—was continued; as was the collection and analysis of data to define the status of health conditions as a guide for health programs in the Region. The Organization's overall planning in the field of statistics was aided by recommendations of advisory committees, and the Latin American Center for Classification of Diseases contributed its technical and advisory services.

The *Summary of Four-Year Reports on Health Conditions in the Americas, 1957-1960* was published in 1962. Efforts were made to assemble data regarding advances in health programs, expenditures for health, hospital facilities and services, populations with water supplies and sewerage systems, health personnel, and new developments in education and training, in addition to providing data on vital statistics and communicable diseases. New data on average lengths of stay in hospitals and the percentage distribution of causes of hospitalization of patients were also included.

Data for the calendar years 1959 and 1960 were published in *Reported Cases of Notifiable Diseases in the Americas, 1959-1960.*[5]

The collection and distribution of data on quarantinable and notifiable diseases continued as in the past, with the *Weekly Epidemiological Report* released on Wednesday of each week. Monthly data were published in the quarterly publication *Health Statistics*. The progress of

[5] *Scientific Publication PAHO* **58**, 1962.

the *Aëdes aegypti* eradication campaign in the Americas was evaluated monthly and reports were published in the *Weekly* and in the *Boletín de la Oficina Sanitaria Panamericana.* Provisional figures on the quarantinable diseases for 1962 are given in Table 2.

TABLE 2. REPORTED CASES OF QUARANTINABLE DISEASES IN THE AMERICAS, 1962[a]

Country	Jungle yellow fever	Smallpox	Plague	Louse-borne typhus
Argentina	–	2[b]	–	–
Bolivia	–	–	–	1
Brazil	1	2,812[c]	36	–
Canada	–	1[d]	–	–
Chile	–	–	–	3
Colombia	30	41	–	–
Ecuador	–	205	326	492
Mexico	–	–	–	3
Peru	20	–	164	57
Uruguay	–	10[e]	–	–
Venezuela	1	11	1	–
Total	52	3,082	527	556

– None.

[a] Based on official notification to the Health Services; data received at PASB through 16 April 1963.

[b] Includes one imported case.

[c] Includes data for the States of Guanabara (1,292 cases) and São Paulo (973 cases), and partial data for the State of Pernambuco and for the cities of Curitiba, Fortaleza, Macapá, Maceio, Manaus, Natal, Pôrto Alegre, and Vitória.

[d] Imported.

[e] Includes two imported cases.

In 1962 a new system was established to coordinate the collection of annual reports of notifiable diseases at the Pan American Sanitary Bureau, for both PAHO and WHO, thus eliminating duplication of requests for information. Special forms were devised for collecting data from notifiable disease reports, from death registration, and from reports of cases in animals received by veterinary agencies. Reported cases of selected notifiable diseases were requested by month, by age and sex, and by major political division; deaths were requested by month. For other notifiable diseases, the annual numbers of cases and deaths were also requested.

Regional Advisory Committee on Health Statistics

The Regional Advisory Committee on Health Statistics met from 11 to 13 June 1962 to consider and advise on the role of statisticians in health planning for the next decade, and to prepare recommendations for a strong program to improve basic statistical data and for the expansion of research. The meeting was attended by nine members from countries in the Region and by representatives of the World Health Organization, the United Nations, and the Inter-American Statistical Institute. To achieve the goals of the Charter of Punta del Este, the Committee recommended [6] that the Organization hold conferences and short courses on health planning for statisticians, augment the statistical consultant staff, develop experimental areas, and establish goals in statistics for the ten-year period.

Progress in the field of education and training was reviewed and the following recommendations were made. Each of the schools of public health should conduct courses at the intermediate level for technicians in health statistics. Resources should be obtained not only to support the programs in operation in Santiago, Chile, and São Paulo, Brazil, but also to permit their expansion. Accelerated medical records and statistics courses should be provided in several countries for the training of chiefs of hospital departments of statistics as well as of statistical personnel for hospitals.

The preliminary results of the Inter-American Investigation of Mortality were noted, and the Organization was encouraged to continue its research program to ascertain the patterns of mortality in the Region. The Committee suggested that a similar study of excessive childhood mortality, with laboratory facilities for diagnostic work, would seem advisable. It was also suggested that a meeting of specialists in cancer epidemiology be convoked in 1963 to plan research in this field.

Regional Advisory Committee on the International Classification of Diseases

The Committee held its second meeting on 14 June 1962 as part of the preparation for the 1965 revision of the *International Classification of Diseases and Causes of Death.* The meeting was attended by five members from Argentina, Brazil, Peru, and the United States, the Director of Health Statistics of WHO, and the Director of the Latin American Center for Classification of Diseases.

The Committee reviewed the results of the trials of the proposed classifications of diarrheal, virus, and nutritional diseases, completed in Colombia, Panama, Peru, Venezuela, and Buenos Aires Province, Argentina. The results of the trials showed agreement on the applicability and usefulness of the proposed scheme to classify nutritional deficiency diseases and indicated the need to unite diarrheal diseases into a single group in the *International Classification.* The results also revealed the diversity of terminology in the Spanish-speaking countries, and the inclusion of additional terms in the Spanish version of the alphabetical index of the *International Classification*

[6] *Scientific Publication PAHO* **65**, 1962.

will be an important contribution to the accuracy and uniformity of statistics on these diseases in Latin America. The report of the Committee was published in 1962.[7]

Latin American Center for Classification of Diseases

The Latin American Center for Classification of Diseases, in Venezuela, carried on several activities which are essentially Regional. It continued to work on the proposed revision of the *International Classification of Diseases and Causes of Death* in the field of diarrheal, nutritional, and infectious diseases. The results of the trials of the proposed classifications carried out in five countries were analyzed by the director of the Center. The Center reviewed all categories in Section I, Infective and Parasitic Diseases, and developed a proposal incorporating the results of the trials and other suggestions. The Center also adapted to Spanish the diagnostic standards for mental diseases from a document of the Dominion Bureau of Statistics of Canada prepared in accordance with Section V of the *International Classification.* Courses on the *International Classification* were given in Bolivia and Chile. The director of the Center also served as a co-principal investigator and as a medical referee in the Inter-American Investigation of Mortality research project. The Spanish version of the *International Classification of Diseases, Adapted for Indexing of Hospitals Records and Operation Classification* proved to be so useful that the entire issue was exhausted shortly after its publication in 1962. A second printing is planned.

Field Activities

Emphasis on health as a part of socio-economic development has pointed out the dependence of planning on reliable health statistics. In 1962 statisticians were assigned to Brazil, Colombia, Dominican Republic, and Paraguay to advise on statistical activities of health services; and consultant statisticians were active throughout the year in Zones IV and VI and for limited periods in Zones I and II. Considerable progress was made during the year in the countries of the Americas in evaluating statistical programs and in improving the registration systems of births, deaths, morbidity, hospitals, resources, and service statistics.

Vital Statistics

In Argentina the National Department of Statistics and Census supported the adoption of a national plan for vital statistics. Systems have been consolidated in the Provinces of Buenos Aires, El Chaco, and San Juan and plans are in progress for those of Misiones, Córdoba, and Mendoza, as well as for the Federal Capital. This will produce a national registration area covering more than two thirds of the country, using the international certificate of death and following efficient and tested procedures. Activities of the Department of Statistics and of the Civil Registration Office have been coordinated with those of the Office of Biostatistics of the Ministry of Public Health of each province.

The National Committee on Vital Statistics in Bolivia is working on the obligatory use of a medical certificate of death. This effort, begun with a proposed trial for La Paz, plans to coordinate the activities of the Civil Registry and the Department of Statistics.

The National Committee on Vital and Health Statistics of Colombia prepared, for presentation to Congress in 1963, a draft law and regulations on the civil registration of vital events. A revised certificate of death, in use since January 1962, permits a better classification of causes of death. The new form also makes it possible to distinguish between deaths medically certified or not and between cases that had or lacked medical care.

The development of a national health plan in the Dominican Republic emphasized the need to improve its biostatistics service to strengthen the organization of health services at the national level. A plan to reorganize the country's health statistics is being prepared.

Changes under way for birth and death certification in Ecuador will enable the Department of Statistics to provide the Department of Health with earlier tabulations of vital statistics.

At the request of the Ministry of Health of Mexico a PAHO/WHO consultant made a general study of the Ministry's Department of Biostatistics.

In Paraguay a program to improve vital statistics was drawn up and initiated in the Health Demonstration Area. A subcommittee of the National Committee on Vital and Health Statistics supported the changes. This project coordinates the work of the Civil Registry, the Office of Statistics, and the Department of Biostatistics. Tabulations of mortality statistics for 1961 have been completed.

Morbidity Statistics

Morbidity statistics of notifiable diseases are at present usually obtained from the national system for reporting notifiable diseases and, in certain areas and countries, from hospital data. Attention was directed to both sources in 1962.

In Argentina the systems for reporting notifiable diseases were improved in the Provinces of San Juan, El Chaco, and Buenos Aires. The Department of Communicable Diseases has routinely published and distributed the *Boletín Epidemiológico Nacional,* which includes

[7] *Scientific Publication PAHO* **66**, 1962.

international data from the PAHO *Weekly Epidemiological Report*. Projects in hospital morbidity statistics using the *International Classification of Diseases* were initiated. Plans for a cancer registry were drawn up for the Province of Buenos Aires, and a statistical system for a tuberculosis registry was organized at the National Center of the Campaign Against Tuberculosis in Recreo, Province of Santa Fe.

Plans for definitions and standards for routine hospital statistical reporting were developed in Colombia.

Studies of the reporting of notifiable diseases in Paraguay resulted in the adoption of a new system of notification. The system was successfully tried in Asunción and will be extended to the rest of the country in 1963. Tabulations of 1961 data were prepared. Plans and forms to obtain statistics for studying the best use of

TABLE 3. REPORTED STATISTICS COURSES IN HEALTH AND MEDICAL SCIENCES, 1962

Country	Type of course	Length	Number of students	Agency
Argentina	Intermediate[a]	...	40	National School of Public Health, Ministry of Social Welfare and Public Health, Buenos Aires
	For physicians[a]	...	7	National School of Public Health, Ministry of Social Welfare and Public Health, Buenos Aires
	Medical records and hospital statistics[a]	6 months	14	Ministry of Social Welfare and Public Health, Buenos Aires
	For tuberculosis physicians	4 weeks	10	National Center Against Tuberculosis, Recreo Santa Fe
	For health administrators	...	50	School of Public Health, National University of Buenos Aires
	Biostatistics for medical clinicians	...		School of Public Health, National University of Buenos Aires
Bolivia	Classification of diseases	2 weeks	25	Latin American Center for Classification of Diseases, Caracas
Brazil	First course in statistics applied to medical sciences	6 weeks	37	School of Public Health, University of São Paulo
	Course on probability	1 month	20	School of Public Health, University of São Paulo
	Second course in statistics	6 weeks	25	School of Public Health, University of São Paulo
	Medical records	9 months	...	School of Public Health, University of São Paulo
	Biostatistics for laboratory workers	1 month	...	Ministry of Health, Rio de Janeiro
Chile	Degree course with specialization in biostatistics	15 months	11	School of Public Health, University of Chile, Santiago
	Intermediate	6 months	34	School of Public Health, University of Chile, Santiago
Colombia	Orientation on health and statistics for departmental statisticians	4 weeks	19	School of Public Health, National University of Colombia, Bogotá
	For hospital administrators	22 weeks	20	University of Antioquia Hospital, Medellín
Cuba	Coding[a]	2 weeks	7	Ministry of Public Health, Havana
Dominican Republic	For medical clinicians[a]	3 months	...	Ministry of Health and Social Welfare, Santo Domingo
Mexico	Intermediate	7 months	15	School of Public Health, Ministry of Public Health and Welfare, Mexico City
Paraguay	For statistical personnel of the Ministry[a]	2 weeks	12	Ministry of Public Health and Social Welfare, Asunción
	For statistical personnel of the Ministry[a]	2 weeks	9	Ministry of Public Health and Social Welfare, Asunción
	Statistics in course for health officers	4 weeks	...	Ministry of Public Health and Social Welfare, Asunción
Peru	Statistics in course in training center for health personnel	...	...	Ministry of Public Health and Social Welfare, Lima
Venezuela	Medical records	11 months	...	Ministry of Sanitation and Social Welfare, Caracas
	Statistics in course on national health planning	4 months	13	Ministry of Sanitation and Social Welfare, Caracas

... Data not available.
[a] Course given with PAHO participation.

hospital beds are underway. Hospital morbidity statistics for the second half of 1961 are being tabulated.

Health Services

In the Buenos Aires, Mendoza, and Tucumán Provinces of Argentina statistical data on resources of personnel, establishments, and services were gathered to plan for health programs. At the national level, the Federal Investments Council is promoting the collection of such statistics for use in both health and over-all planning.

The Ministry of Health of Colombia included in its Ten-Year Plan provisions for the training of statistical personnel. A course planned in 1962 for statisticians at the intermediate level will be given on two occasions in 1963.

To plan an integrated health services project in the Province of Manabí, Ecuador, basic data were collected. In addition, a new coordinated system of records was designed for the monthly reports of the activities of health centers.

Tabulations of activities in the health centers of Paraguay were made for 1961 and the first half of 1962.

National Committees on Vital and Health Statistics

National Committees on Vital and Health Statistics have been recommended by WHO Expert Committees since 1948 as a method for countries to participate in the development of international standards and procedures. Committees have been formed in 18 American countries.

Education and Training Program

The education and training program in health and medical statistics is being expanded through the efforts of the faculties of the schools of public health as well as by the activities of Ministries of Health and of the Organization and its consultants.

A summary of the statistics courses in health and medical services in Latin American countries is given in Table 3.

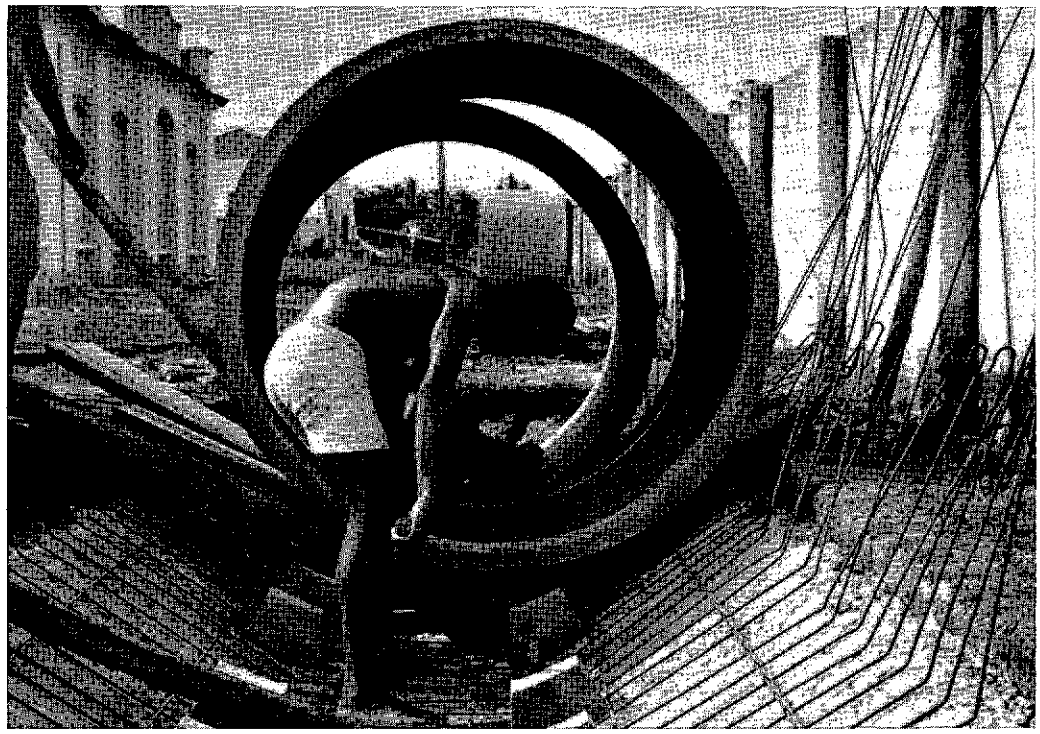
The School of Public Health of the University of Chile received short-term consultant services and financial support from PAHO/WHO. A 15-month degree course with 11 students and a six-month course with 34 students were completed in 1962, bringing the total number of students trained in statistics in Chile to 328. The country of origin of these students is given in Table 4. (See Fellowships, Chapter V, for further details.)

TABLE 4. COUNTRY OF ORIGIN OF STUDENTS TRAINED IN VITAL AND HEALTH STATISTICS, CHILE, 1953-1962

Country	Number
Argentina	36
Bolivia	9
Brazil	8
Chile	161
Colombia	16
Costa Rica	7
Cuba	2
Dominican Republic	1
Ecuador	7
El Salvador	3
Guatemala	6
Haiti	3
Honduras	2
Mexico	13
Nicaragua	4
Panama	8
Paraguay	11
Peru	18
Uruguay	10
Venezuela	3
Total	328

The School of Public Health of the University of São Paulo expanded its training program in medical statistics. It again provided a first course in statistics applied to medical sciences (25 students) and added an advanced course (37 students) as well as an introductory course on the theory of probability. The 62 students in the first two courses were from Argentina, Bolivia, Brazil, Colombia, Cuba, Ecuador, Honduras, Mexico, Peru, Venezuela, and Portugal. Some of the 20 students who attended the course on the theory of probability also took the advanced course. The Division of General Medical Sciences of the National Institutes of Health, United States Public Health Service, continued its training grant to the School and PAHO/WHO consultants again assisted in teaching.

The Organization continued assisting in the training program for personnel in charge of medical records and hospital statistics. A medical records librarian has been rendering consultant services in Argentina, where progress is being made on the keeping of medical records and hospital statistics. Courses in this field were also given in São Paulo, in Caracas, and in San Juan (Puerto Rico); Colombia and Mexico have expressed interest in such training.



CONSTRUCTION OF A REINFORCED CONCRETE AQUEDUCT BRINGING WATER TO A NEW PLANT IN SALVADOR, BAHIA, BRAZIL.

POTABLE WATER COMES TO URBAN CONSUMERS—WORKMEN LAYING A SECTION OF 10-INCH, ASBESTOS-CEMENT WATER MAIN IN AREQUIPA, PERU.

III. ENVIRONMENTAL SANITATION

The most outstanding accomplishments in the field of environmental sanitation during 1962 were achieved in the urban water supply program. The fact that over 300 million dollars were committed for construction or expansion of water supply systems in Latin America in loans by the Inter-American Development Bank and contributions by the Governments of the Region pointed to what was probably the most significant feature—the intent of the countries of the Americas to solve one of their most pressing and difficult problems.

The Organization contributed to the solution of the problem through continued collaboration with the Governments in the technical, financial, administrative, and operational aspects of urban water supplies and in the education and training of professional and auxiliary personnel for work in public water supply services. Assistance in personnel training was extended to Ministries of Public Works, autonomous water boards, and university schools of engineering throughout the Continent.

The Organization also continued to cooperate in other areas of environmental sanitation, particularly legislation, sewerage systems and sewage disposal, rural sanitation

TABLE 5. CONSULTANTS FURNISHED BY THE ORGANIZATION FOR ENVIRONMENTAL SANITATION, BY SPECIALTY AND BY COUNTRY, 1962

Country or other political unit	Long-term consultants	Short-term consultants[a]					
	Water	Design or water supplies	Administration of water services	Water rates	Treatment of wastes	Wells	Total
Argentina	–	–	–	–	–	1	1
Bolivia	–	–	1	–	–	–	1
Brazil	–	–	1	–	–	–	1
Chile	–	1	–	–	–	–	1
Colombia	2	–	2	1	–	1	7[b]
Costa Rica	–	1	1	1	1	–	4
Dominican Republic	1	–	1	–	–	–	2
Ecuador	–	2	1	–	–	–	4[c]
El Salvador	–	3	1	1	1	–	7[d]
Guatemala	–	3	–	–	–	–	3
Haiti	–	1	–	–	–	–	1
Honduras	–	1	–	–	–	–	1
Mexico	1	2	–	–	–	–	3
Nicaragua	1	1	1	–	–	–	3
Panama	–	1	–	1	–	–	2
Paraguay	–	–	–	–	–	1	1
Peru	1	–	1	–	–	–	2
Trinidad	–	–	–	–	1	–	1
Venezuela	–	1	1	–	1	–	3
British Honduras	1	–	–	–	–	–	1
British West Indies	1	–	–	–	1	–	2
Total	8	17	11	4	5	3	51

– None.
[a] Some gave assistance in more than one country or other political unit.
[b] Includes one short-term consultant in health education.
[c] Includes one short-term laboratory consultant.
[d] Includes one short-term consultant on sewerage.

programs, garbage collection and disposal, industrial hygiene, and housing.

Requests from Member Governments for advisory services in sanitary engineering and environmental sanitation increased in 1962. The organization therefore recruited 5 additional engineers, which raised the consultant staff at Headquarters, Zone Offices, and projects to 33 engineers and 5 sanitary inspectors. Table 5 shows the 21 countries and territories where 8 regular staff specialists in water supply and 38 short-term consultants in various aspects of waterworks design, well drilling, and administration provided services during the year. In addition, 5 consultants gave advice on laboratory work and education.

Advisory services continued to be given on the drafting of legislation for the establishment of water and sewerage boards and were provided for the first time to British Guiana, Nicaragua, Paraguay, and Trinidad. Such boards began functioning in 1962 in Bolivia, the Dominican Republic, and Panama. Assistance continued to be given to the boards established in earlier years in Costa Rica and El Salvador.

Fifteen of the short-term consultants provided advice to 11 countries on problems relating to the organization and administration of water supply systems and the establishment of water rates.

WATER SUPPLY

The Organization continued to give the highest priority in the field of environmental sanitation to the promotion of programs calling for the construction and expansion of water supplies in the Hemisphere. Working relationships and collaboration with the Inter-American Development Bank were strengthened by the signing, on 11 May 1962, of a letter of agreement governing the technical assistance activities both organizations furnish to the countries in connection with development of community water supply and sanitation facilities. The agreement established tentative procedures to avoid duplication on requests for technical assistance made to both organizations and provided for mutual consultation as to the best way to comply with requests received by either one alone.

As can be seen from Table 6, up to 31 December 1962 the Inter-American Development Bank had approved loans for construction and expansion of potable water supplies and sewerage systems amounting to $157,541,000. With the contribution of Governments or municipalities of $152,157,000, the total amount invested in these water and sewerage systems reached $309,698,000. This investment was to benefit over 11 million persons in cities that obtained the loans.

The Agency for International Development, the Export-Import Bank, and the International Development Association of the World Bank also approved loans in 1962 to finance water supply works (and sometimes sewerage) in the Americas. Adding their investment of about $13,000,000 to the amount pledged by the Governments concerned, the total amount committed by 31 December 1962 for water and sewerage systems was more than $320 millions.

Three experienced sanitary engineers visited the national agencies responsible for water services in 19 countries of the Americas, to gather information on the standards in force for the design of water systems and other technical aspects. The information obtained was discussed at the Seminar on Water Supply Systems Design held in Buenos Aires, Argentina. The study revealed that many countries either had no standards for the design of water supply systems or that those in force were inadequate, making it evident that greater attention should be given to standards in the future.

Consultants assigned by the Organization to British Honduras, Colombia, the Dominican Republic, Mexico, Nicaragua, Peru, and St. Lucia provided advisory technical services on the preparation of new projects for water supplies or for the expansion of existing ones and in the training of professional and auxiliary personnel. Plans were also drafted during the year to furnish similar advisory service in 1963 to Barbados, Costa Rica, Dominica, El Salvador, Ecuador, and Panama.

To make the best possible use of ground water in the six Central American countries a consulting hydrologist made a preliminary study of the area's resources. The project was to be sent to the United Nations Special Fund for consideration and possible financing.

SEWAGE AND WASTE-WATER DISPOSAL

During 1962 a Symposium on New Methods of Sewage Treatment was held in Cincinnati, Ohio, in collaboration with the Robert A. Taft Sanitary Engineering Center of the U.S. Public Health Service, the Agency for International Development, and the University of Cincinnati. The Symposium was attended by 99 engineers from all the countries in Latin America, some from other Regions, and a number of consultants from the Organization and

TABLE 6. COMMUNITY WATER SUPPLY AND SANITATION FACILITIES: LOANS APPROVED UP TO 31 DECEMBER 1962 BY THE INTER-AMERICAN DEVELOPMENT BANK, LOCAL CONTRIBUTION, AND POPULATION TO BE SERVED

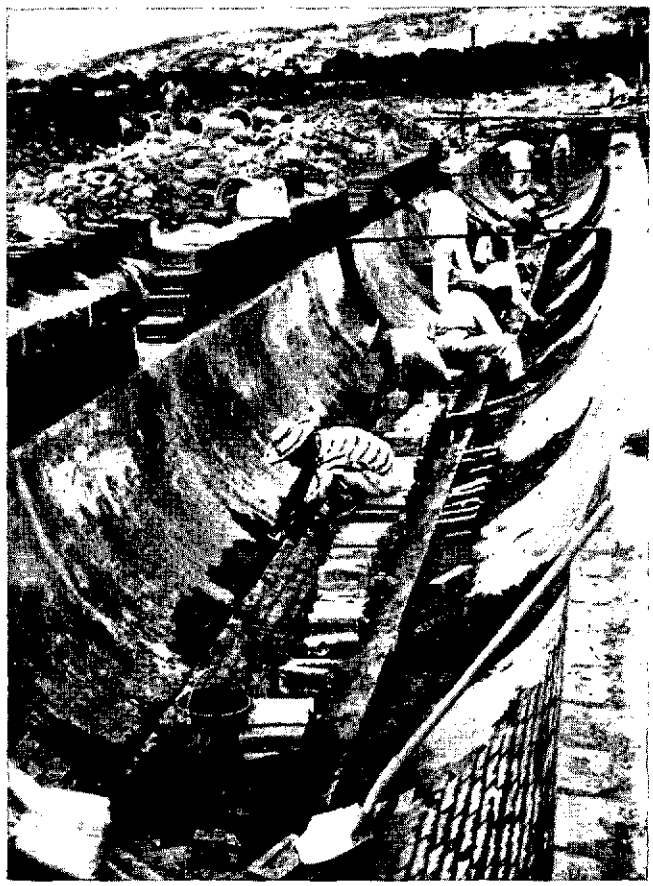
Country	Locality	Service	Organization	Amount of loan	Local contribution	Population to be served
				U.S. dollars	*U.S. dollars*	
Brazil	Guanabara	Water	SURSAN[a]	24,000,000	29,557,000[b]	2,100,000
		Sewerage	SURSAN[a]	11,000,000	11,473,000[c]	580,000
	Recife, Maceio, Campina Grande, Natal, Teresina, Sao Luiz	Water and sewerage.	SUDENE[d]	12,878,000	5,554,000[e]	1,300,000
	Salvador	Water	Water and Sewerage Department	4,120,000	4,007,000	400,000
Chile	Concepción and Talcahuano	Water	Ministry of Public Works.	3,520,000	2,530,000	205,000
Colombia	Medellín	Water	Public Works	6,048,000	4,000,000	300,000
	Cartagena	Water	Municipal Public Works.	5,969,000	4,865,000	50,000
	Cúcuta	Water and sewerage.	Municipal Services	5,183,000	3,980,000	50,000
	Cali	Water	Municipal Works	2,454,000	1,660,000	150,000
	367 urban centers and Buenaventuara	Water	Institute of Municipal Development	15,000,000	22,800,000	3,000,000
Ecuador	Quito	Sewerage	Municipality	3,000,000	2,015,000	200,000
El Salvador	18 towns	Water and sewerage.	SCISP[f]	5,490,000	1,678,000	108,000
	5 towns	Water and sewerage.	ANDA[g]	2,100,000	1,400,000	200,000
	34 towns	Water and sewerage.	ANDA[g]	2,700,000	1,130,000	236,000
Guatemala	Puerto Barrios	Water	Atlantic Hydroelectric Company	175,000	90,000	10,000
	More than 60 urban centers	Water and sewerage.	Institute of Municipal Development	3,500,000	1,650,000	120,000
Mexico	12 towns, State of Yucatan; 1 town, State of Quintana Roo	Water and sewerage.	Nacional Financiera, S.A.	9,200,000	6,200,000	300,000
Panama	7 towns	Water and sewerage.	IDAAN[h]	2,762,000	3,080,000	80,000
Peru	Arequipa	Water	Arequipa Sanitary Corporation	3,899,000	2,500,000	122,000
			Central Credit Cooperative	300,000		
Uruguay	Montevideo	Water	OSE[i]	5,743,000	7,200,000	500,000
		Sewerage	Sanitation Department, Montevideo City Council	2,500,000		
Venezuela	336 communities	Water	Ministry of Social Welfare	10,000,000	10,000,000	600,000
	Several communities of 5,000 to 10,000 inhabitants	Water	INOS[j]	10,000,000	10,800,000	460,000
	Maracaibo	Water	INOS[j]	6,000,000	13,998,000	174,000
Total				157,541,000	152,157,000	11,245,000

[a] Superintendency of Urbanization and Sanitation.
[b] Includes $1,667,000 furnished by the United States of America by virtue of Public Law No. 480.
[c] Includes $667,000 furnished by the United States of America by virtue of Public Law No. 480.
[d] Northeastern Development Superintendency.
[e] Includes $733,000 furnished by the United States of America by virtue of Public Law No. 480.
[f] Inter-American Public Health Cooperative Service.
[g] National Agency for Water and Sewerage.
[h] Institute of National Aqueducts and Sewerage.
[i] National Sanitary Works.
[j] National Institute of Sanitary Works.

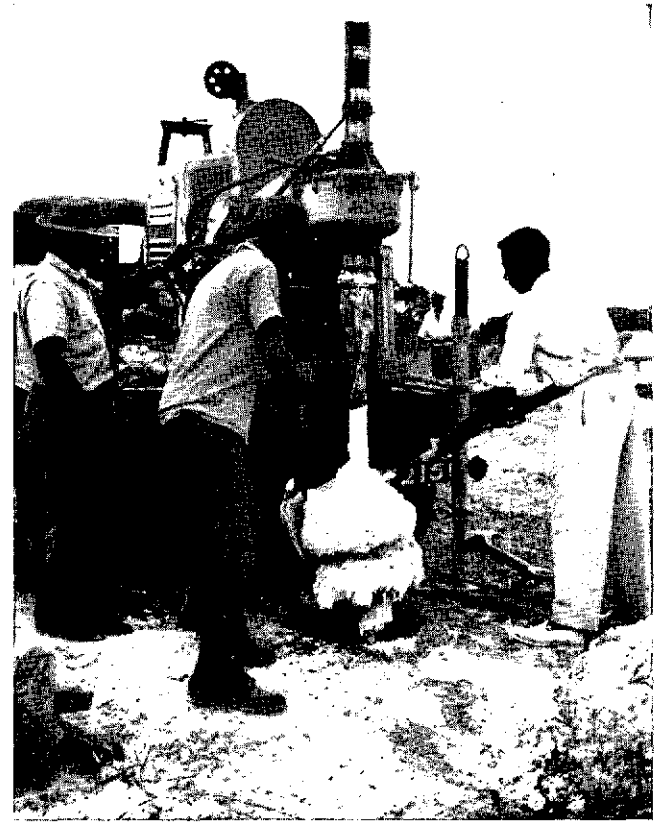
from AID. Experts spoke on the latest advances in sewage treatment. Detailed discussions were also held on the technique of oxidation ponds and the practical advantages of their simple and economical upkeep. A survey of sewerage systems and sewage treatment in 20 countries of the Continent made it possible for the first time to present accurate and up-to-date data on the situation.

The Organization provided short-term consultant services on sewerage and sewage treatment to Barbados, Costa Rica, El Salvador, Trinidad, and Venezuela. In Costa Rica a study was carried out on the effects of dumping untreated wastes from a new chemical fertilizer plant into the ocean. Similar studies were made in Acajutla, El Salvador, with reference to wastes from factories being established in the new port.

Up to the end of 1962 the Inter-American Development Bank had granted 11 loans to cities for the construction or expansion of sewerage systems. In most cases the loans were for combined water supply and sewerage projects, and almost without exception the Bank requested that the city involved solve its water problem first.



CONSTRUCTION OF ONE OF THE COLLECTORS FORMING PART OF THE MASTER SEWER PLAN OF CÚCUTA, COLOMBIA.



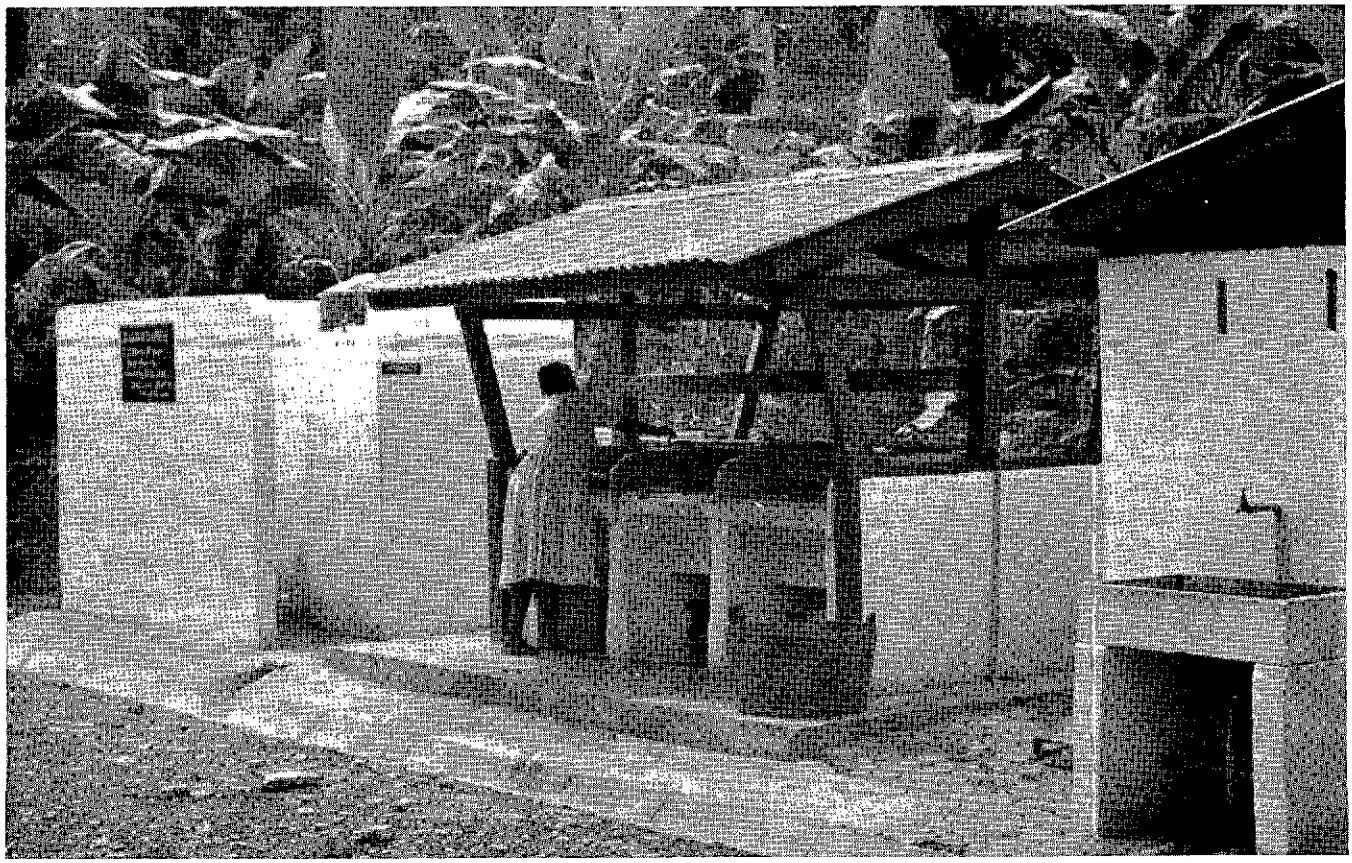
SPECIAL EQUIPMENT IN USE IN THE CARRIBBEAN, FOR BUILDING LATRINES ON CORAL OR ROCK SOIL FORMATIONS.

RURAL SANITATION

The Organization investigated ways and means of promoting the development of national rural sanitation plans so that countries might reach the goals established by the Charter of Punta del Este. The main difficulty to be overcome was the total or partial self-financing of the works and the obtaining of capital from both local and international sources.

The Organization continued to collaborate with the Governments of Argentina, Bolivia, Brazil, Chile, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay, Venezuela, and several of the territories in the Caribbean, in the development of rural sanitation projects. These projects related principally to rural water supplies and the disposal of excreta and wastes and, to a lesser degree, to food sanitation and the improvement of housing and schools. The projects almost always included the training of sanitary inspectors and other auxiliary personnel.

NATURE'S LAUNDRY FOSTERS THE SPREAD OF BILHARZIASIS . . . WHILE THE COMBINED FACILITIES ON THE ISLAND OF ST. LUCIA, *below*, PROVIDES WATER FOR DRINKING, TOGETHER WITH A BATHHOUSE, LAUNDRY, AND LATRINE.



Short-term consultant services to accelerate well-drilling operations of projects in Argentina, Colombia, and Paraguay were provided.

Colombia and Venezuela received loans from the IADB for the construction of water supplies in small localities able to undertake self-financing. In collaboration with UNICEF, a major project was developed in Venezuela for the construction of small water supply systems in localities with fewer than 500 inhabitants. UNICEF also collaborated during the year in projects for the construction of small water supply systems and of installation of latrines in Argentina, Brazil, Colombia, Chile, El Salvador, Honduras, Panama, Paraguay, Peru, Mexico, and Uruguay. Similar programs were approved and developed with the assistance of UNICEF in British Guiana, British Honduras and some of the Caribbean territories.

In the Caribbean Area the installation of latrines in Barbados, Grenada, St. Kitts, St. Lucia, St. Vincent, and Trinidad reached almost 50 per cent of the original goals. During 1962 a total of 10,841 latrines were completed, which brought the cumulative total to 64,012 units since the program began. Negotiations were also undertaken during the year to extend the program in 1963 to British Guiana, Dominica, Montserrat, and the Netherlands Antilles.

WASTE AND REFUSE

In 1962 the Organization furnished advisory services to Colombia, Peru, Trinidad, and Venezuela on the collection and disposal of refuse and waste in their capital cities. In their reports, the consultants included recommendations on the need to reorganize the services, change the administrative systems, and improve the methods for the collection and final disposal of wastes. In view of this situation, the Organization made plans to step up its future action in this field, by providing advisory services and through the organization of a symposium to study more satisfactory administrative techniques and procedures.

In connection with public health services projects, collaboration was continued with municipal and health authorities in the formulation and execution of programs for refuse and waste collection and disposal in small localities and rural areas. In Venezuela, for example, the Ministry of Public Health started a program of refuse disposal in small localities, with very good results.

INDUSTRIAL HYGIENE

In April 1962 the Organization signed an agreement with the Ministry of Public Health and the University of Chile, for the establishment of an Institute of Occupational Health and Air Pollution. A request for assistance to expand the scope of activities of the Institute and convert it into a training center for national and international personnel was approved by the United Nations Special Fund. Once the project is in full force, the Government of Chile is to receive $404,000 over a period of five years. The Organization is to provide technical advisory services for the direction of the project, which will be administered by the National Health Service of Chile. Because students in industrial hygiene at the Institute will use the industrial hygiene program of the National Health Service of Chile as a practice field, the Organization conducted an evaluation of the program.

Lectures on occupational health were given at the University of Córdoba, Argentina. Consultant services were furnished to Bolivia, Chile, Jamaica, Mexico, the Panama Canal Zone, Trinidad, and Venezuela. The services included evaluation of the operations of existing programs, and in the case of the Canal Zone, Jamaica, and Trinidad, exploratory visits were made to determine future needs in industrial hygiene.

The Organization participated in the First Latin American Conference on Air Pollution held in Buenos Aires, Argentina, in October 1962, and in the National Conference on Air Pollution held in Washington, D. C., in December.

EDUCATION AND TRAINING

The effect of the seminar on the teaching of sanitary engineering in schools of engineering of Latin America, held in Lima, Peru, in July 1961, became evident during 1962. Argentina, Colombia, the Dominican Republic, Mexico, Venezuela, and the countries of Central America, requested assistance from the Organization in the preparation of programs to improve or expand the teaching of sanitary engineering in their Schools of Engineering, as well as in the preparation of requests for assistance from the United Nations Special Fund.

The Fund approved a project presented by the National University of Colombia, in Bogotá, for the improvement of the teaching of sanitary engineering and the expansion of facilities, and had under consideration a project covering four universities in Venezuela. Requests by the Na-

tional Autonomous University of Mexico and the National University of Buenos Aires were in preparation.

The Organization also collaborated in the preparation of a combined project for the universities of the Central American countries, for which a study prepared by a short-term consultant was to serve as a basis for the presentation of a request to the Fund. Similar aid was given to the Superintendency of Urbanization and Sanitation of the State of Guanabara, Brazil, which wished to obtain assistance for its Institute of Sanitary Engineering which was devoted to research and the training of professional and auxiliary personnel.

Assistance was also given to the University of the Dominican Republic in the revision of the civil and sanitary engineering curricula. In response to a request of the National University of Honduras, a consultant revised the plans for laboratories where subjects related to sanitary engineering were to be taught.

Collaboration continued in the training of auxiliary sanitation personnel, particularly sanitary inspectors for sanitation programs in rural areas. Courses of this type were conducted in Argentina, Bolivia, Colombia, Chile, Costa Rica, Guatemala, Mexico, Panama, Peru, and Venezuela, resulting in the training of a satisfactory number of inspectors of good quality. The course at the School of Public Health of Chile was designed specifically for graduate sanitary inspectors with supervisory functions in environmental sanitation activities in various countries.

A refresher course was conducted for sanitary inspector-supervisors from several countries in the Caribbean Area. The course, which lasted nine weeks, was held in Barbados in collaboration with UNICEF and the Government; it was attended by 31 inspectors occupying key positions in health services. Plans were made to repeat this course during the second half of 1963.

A Seminar on Water Supply Systems Design was held in Buenos Aires, Argentina, from 20 to 29 September 1962, in collaboration with the Argentine General Administration of Sanitary Works and the School of Engineering of the National University of Buenos Aires. Sixty-five engineers occupying responsible positions in technical organizations in most of the Latin American countries, the United States of America, and Canada, attended the Seminar. Experts from North and South America presented 16 papers on the fundamental aspects of standards for the design of water supply systems.

The second course on water supply systems design was held in Mexico City from 17 September to 21 December. This course was organized by the Pan American Sanitary Bureau in collaboration with the Doctorate Division of the School of Engineering of the National Autonomous University of Mexico and the Ministry of Hydraulic Resources. It was attended by 33 engineers from Argentina, Brazil, Colombia, Costa Rica, the Dominican Republic, El Salvador, Honduras, Guatemala, Mexico, Nicaragua, Paraguay, Peru, and Venezuela. The instructors were professors from the University and staff members and short-term consultants of the Organization. The purpose of the course was to help fulfill the objective that as often as possible new water projects be designed by national personnel.

Fellowships were granted by the Organization to engineers from several Latin American countries for the Course on Ground Water Development, held at the University of Minnesota from 18 June to 24 August, and arrangements were made with the Agency for International Development for PAHO to send 12 engineers and 8 waterworks operators to the II AID Regional Course on Ground Water Development to be held at the University of Costa Rica from January to April 1963. Arrangements were also made for AID to send a certain number of engineers to the courses on design and administration of water supply systems conducted by the Universities of Akron, Ohio, and of North Carolina.

The survey of the teaching of sanitary engineering in schools of engineering in Latin America, conducted in 1961, provided data for 57 schools. The results were published in the December 1962 issue of the *Boletín de la Oficina Sanitaria Panamericana*.

HOUSING

During the first few months of the year, the Organization sent two consultants to several countries to observe the activities being carried out by health authorities in the field of housing. The report was subsequently presented to the group of housing specialists and consultants from the Organization and the WHO European Region who met from 9 to 12 April 1962 at the University of Pittsburgh, Pennsylvania, to draw up the agenda for the Inter-Regional Seminar on Public Health Aspects of Housing which was to be held in Madrid, Spain, from 22 April to 1 May 1963.

In view of the increasing importance of housing programs in the Latin American countries and of the recommendations made by the countries during the XVI Pan American Sanitary Conference, the position of Regional Adviser on Public Health Aspects of Housing was established.

OTHER ACTIVITIES

The VIII Congress of the Inter-American Association of Sanitary Engineering (AIDIS), in which the Organization's engineering staff actively participated, was held in Washington, D.C., from 10 to 15 June 1962. The Congress was attended by more than 700 sanitary engineers from all the Latin American countries. The Organization presented documents on the financing of water supply systems and the teaching of sanitary engineering in Latin America.

As a contribution to the training of members of the U.S. Peace Corps, Headquarters personnel lectured on environmental sanitation problems in Latin America and on the activities being carried out by the environmental sanitation staff of the Organization in this field. This contribution yielded unexpected returns, as in many instances members of the Peace Corps later collaborated in sanitation programs in which the Organization was participating.

A draft manual on the sanitation of schools was prepared on the basis of observations of school buildings and sanitation regulations in North, Middle, and South America. The draft was to be sent to the health and school authorities of the countries for review and comment before final publication.

The Organization continued to collaborate with the countries on food hygiene programs. Work on a manual of food sanitation, begun in 1961 to serve as a guide for the control of establishments selling food and beverages, advanced so far that it was hoped to make the first draft available in 1963 for the countries to apply its recommendations on a trial basis.

IV. ERADICATION OR CONTROL OF DISEASES

MALARIA ERADICATION

Progress of Eradication Programs

The turning point of the malaria eradication program in the Americas came in 1960, when—transmission having been halted—areas with a total population of 10,101,000 ended the attack phase of their campaigns and entered the consolidation phase. By the end of 1961, the population living in areas from which malaria had been eradicated or that had entered the consolidation phase was 17,879,000. In 1962 the entry of still more areas into these categories raised the total population in areas without malaria transmission to 30,410,000. This steady progress indicates that Continent-wide malaria eradication is possible if efforts are continued.

Grenada, Carriacou, and St. Lucia completed the third year of surveillance operations in the consolidation phase in 1962; formal recognition of eradication followed.

Table 7 shows the population registered in areas where malaria has been eradicated and in those which had entered the consolidation phase by the end of 1962, as claimed by the Governments. Figure 1 shows the situation as known at the end of 1962.

Cuba, Haiti, and Panama began the attack phase with total coverage of their malarious areas—Cuba for the first time; Haiti and Panama after a reorganization of their campaigns, due mainly to the need of shifting from annual house-spraying with dieldrin to biannual spraying with DDT. Brazil extended its areas under attack. Funds approved for 1963 assure progress continuity and, if there is no setback in Government support, the entire malarious area of the country will be in the attack phase by the end of 1964.

In spite of the progress achieved, some countries continued to face administrative and financial problems. Argentina, Colombia, the Dominican Republic, Paraguay, and Peru fell in this category. At the same time, technical problems arising in certain areas of Costa Rica, El Salvador, Guatemala, Nicaragua, and Mexico generated administrative problems, chiefly financial.

It became evident at the end of 1962 that the problem of malaria eradication in the Americas within the present decade, as postulated in the Charter of Punta del Este, will depend principally upon the will of the Governments to give it top priority.

It is hardly possible to assure economic development in many rural areas of Latin America if malaria continues to undermine the health of the population. This was the experience in the United States. Infected children were

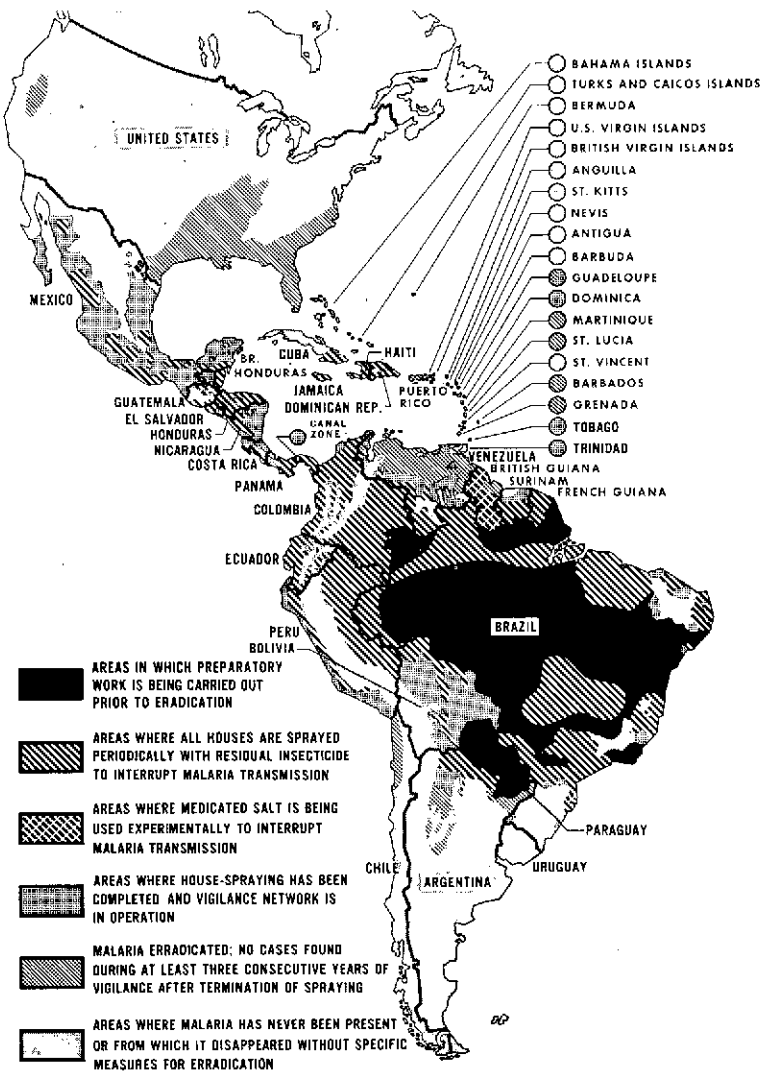


FIG. 1. STATUS OF MALARIA ERADICATION IN THE AMERICAS, DECEMBER 1962.

TABLE 7. STATUS OF MALARIA ERADICATION IN THE AMERICAS, BY POPULATION IN THE SAME AREA, 1962

Population in thousands

Country or other political unit	Total	Originally malarious areas	Areas with malaria eradication claimed	Areas with eradication program in progress		
				Consolidation phase	Attack phase	Preparatory phase
Argentina	22,216	2,645	987	624[a]	298	736
Bolivia	3,556	1,287	–	759	528	–
Brazil	75,996	39,896	3,902	5,597	18,156	12,241
Colombia	14,768	9,304	–	3,027	6,027	250[b]
Costa Rica	1,274	412	–	230	182	–
Cuba	7,022	1,874	–	–	1,874	–
Dominican Republic	3,228	2,647	–	–	2,647	–
Ecuador	4,359	2,376	–	–	2,376	–
El Salvador	2,600	1,820	–	–	1,820	–
Guatemala	4,014	1,782	–	498	1,284	–
Haití	4,134	3,080	–	–	3,080	–
Honduras	1,950	1,561	–	46	1,515	–
Jamaica	1,650	1,282	–	1,282	–	–
Mexico	37,170	20,219	–	15,592	4,627	–
Nicaragua	1,637	1,571	–	515	1,056	–
Panama	1,118	1,091	–	–	1,091	–
Paraguay	1,817	1,512	–	–	–	1,512
Peru	10,742	3,189	–	864	2,325	–
Trinidad and Tobago	877	877	–	877	–	–
Venezuela	7,604	5,696	5,269[c]	150	277	–
British Guiana	592	592	556	–	36	–
British Honduras	100	100	–	100	–	–
Dominica	60	14	–	14	–	–
French Guiana	34	34	–	[e]	30[e]	4
Grenada	89	37	37[d]	–	–	–
Guadaloupe	281	253	187	66	–	–
Panama Canal Zone	45	45	–	44	1	–
St. Lucia	97	82	82	–	–	–
Surinam	300	185	–	125	60	–
Total	209,330	105,463	11,020	30,410	49,290	14,743

– None.

[a] Includes an area with 205,723 inhabitants where, without antimalarial measures being taken, no cases occurred in the past three years.

[b] Area difficult to reach, where spraying is done irregularly or not at all.

[c] Of the figure shown, it is estimated that 4,325,177 persons live in the malaria-eradicated area registered at PASB.

[d] Population in area where malaria has been eradicated and the area registered at PASB.

[e] Correction: spraying continued in areas reported in the consolidation phase in 1961.

not able to take advantage of the educational facilities provided, and adults were not capable of producing as expected.

Large private firms are fully cognizant of this problem and include in their budgets programs for malaria control or eradication. Agricultural, mining, oil, and electric companies in Latin America have invested substantial funds to remove malaria from their fields of operations.

Case-Finding and Epidemiological Evaluation

Epidemiological operations were underway in most of the countries. Increased activity in case-detection, in epidemiological investigation, and in classification of cases permitted suspension of spraying operations in large areas and improved delimitation of problem areas.

The areas that entered the consolidation phase in 1961 should go into the maintenance phase during 1964. They

include all of Trinidad and Tobago and parts of Argentina, Bolivia, Jamaica, Mexico, Peru, Surinam, and new areas in Venezuela.

This will impose upon the local health services of those countries the added responsibility of keeping permanent vigilance to detect any malaria-imported case as early as possible to avoid the re-establishment of the disease. If they fail to do so, it will be their responsibility to apply the indicated counter-measures to neutralize the effects of reimportation.

To prepare a country's local health services for vigilance, the Ministry of Health must develop a plan that will assure full economic and administrative support to permit:

1. The National Malaria Eradication Service to continue its work in areas still in the attack phase;
2. A combined program of the National Malaria Eradication Service and the local health service during the consolidation phase to ascertain eradication, and
3. The local health service to carry out effective surveillance during the maintenance phase.

It was not difficult to arouse the medical profession to give nation-wide support to the national malaria eradication goal. It has not always been possible, however, to obtain unfaltering cooperation in case-detection from all medical officers in local health services, government hospitals and clinics, private hospitals, and from physicians in private practice. Though this unfortunate situation does not hamper the program during the attack phase, it becomes very serious in the consolidation phase when it is imperative to know if the disease has disappeared.

Through their network of notification posts manned by volunteer collaborators and through active house-to-house visiting, the National Malaria Eradication Services have carried most of the burden of case finding. To help solve the problem of continuity when malaria is officially declared eradicated in a country, two seminars were planned, one for 1963 and the other for 1964. The first will be for the countries in South America and the second for those in Middle America and the Caribbean. These seminars were designed to help the directors of National Malaria Eradication Services and local health services to understand that malaria eradication is their common job, and that it can succeed only through their full cooperation.

Problems and Research

The Organization kept up its search for solutions to the problems of malaria-transmission persistence.

During 1962 an Epidemiological Study Team continued investigating the causes of persistent transmission in the coastal area of El Salvador. They found that *Anopheles albimanus* has not only become resistant to dieldrin and DDT, but in certain areas has also acquired a highly sensitive repellency to DDT. Mosquitoes that have developed this excito-repellency to a high degree do not rest on sprayed walls long enough to absorb a lethal dose of the insecticide. Both DDT-susceptible and DDT-resistant mosquitoes sometimes behave in the same manner.

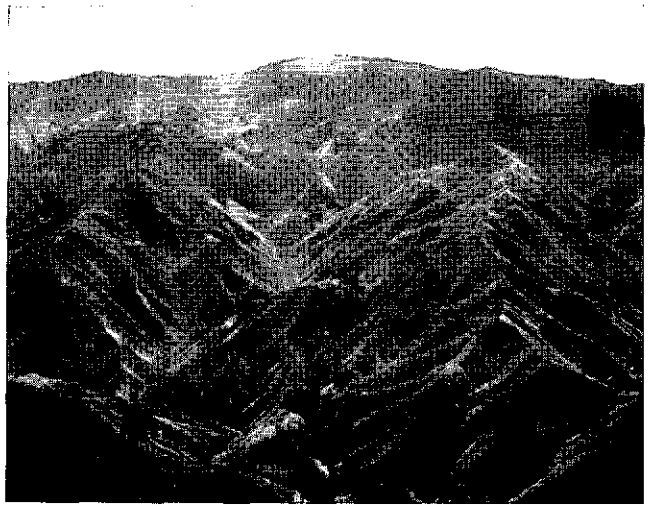
Personnel of the Epidemiology Study Team developed in 1962 a device called the Excito-Repellency Test Box—PAHO Model—to study the behavior of anopheles mosquitoes in relation to DDT-sprayed wall surfaces. The plywood box is a 50-centimeter cube that resembles a miniature house. Female mosquitoes are released inside the box to study both the rate at which they escape through window traps and their mortality in the 24 hours following exposure to the insecticide. The device is always used in pairs: one treated with insecticide, the other untreated. While its potentialities have not been fully explored, it has already given useful information about excito-repellency variations in *A. albimanus* populations of different localities in Central America.

The Team is also developing speedy, reliable, and economical epidemiological investigation techniques to ascertain the causes of persistent transmission, which, in the future, may be useful to other countries with similar problems.

An insecticide testing program was continued in El Salvador and Bolivia. In addition to testing the effects of indoor-sprayed insecticides, the team began research on larviciding for operational use in areas where house spraying does not halt transmission. Dust and suspensions of both Fenthion (formerly Baytex) and paris green were tested. During the rainy season, hand spraying with these larvicides proved to be unsatisfactory and expensive.

Paris-green powder mixed with 75 per cent dust was sprayed by airplane over an area of about 100 square kilometers, with a population of 25,000 inhabitants, in the Department of La Libertad on the coast of El Salvador. Airplanes with their pilots were rented from local private firms that specialize in agricultural spraying. A weekly dusting, started in mid-October, was effective and economical. The cost was US$10.00 per 500-pound discharge. The Organization provided the larvicide mixture and loading.

In addition to malathion studies carried out in El Salvador and Nicaragua, plans were made to begin experiments in 1963 on the problem of insecticide sorption by certain mud walls. Sorption weakens greatly the residual effect of insecticides. The unfinished surface of mud-wall houses in rural areas of Latin America



Above, left: Rugged Terrain in Oaxaca, Mexico, Where Mass Drug Treatment for Malaria Eradication is Being Undertaken; *right:* Antimalaria Measures to Supplement Residual Spraying—Dusting a Body of Water in El Salvador with Paris Green to Kill the Larvae of Malaria-Carrying Mosquitoes That Breed There.

Below, left: In Houses Such as This One, There is Virtually no Sprayable Wall Surface and Supplementary Antimalarial Measures Must be Taken to Protect the Population; *right:* Mass Distribution of Antimalarial Drugs to Workers on a Cotton Plantation in El Salvador.

prevents the use of promising residual-action insecticides, such as malathion and carbamates, where the vector is resistant to DDT.

Field trials of a pressure-regulator device for spray pumps were conducted by the U. S. Public Health Service, UNICEF, PASB, and the Governments of Guatemala and Nicaragua. The trials were so satisfactory as to justify its adoption in most house-spraying operations with wettable-powder insecticides. Besides saving 10 per cent in insecticide, the device increased the spray output per man-day. UNICEF agreed to provide the new device during 1963 for all malaria eradication campaigns sponsored by the Organization in the Continent. The device, developed by the USPHS Communicable Disease Center at Savannah, Georgia, cannot at present be used to spray DDT or dieldrin emulsions or solutions because the chemicals in these formulations attack the synthetic rubber pressure-regulating disc.

Chemotherapy

Pilot projects of mass treatment with drugs were sponsored by the Organization in Costa Rica, El Salvador, Guatemala, Mexico, and Nicaragua. Tablets com-

bining chloroquine and primaquine were distributed free every 14 days. After the sixth cycle of medication, no cases of malaria were detected among the high percentage of the population accepting the drug. The studies are being continued to determine when the medication can be suspended without setbacks to the campaign.

Plans were completed to establish with the support of the Organization a screening center in the State of São Paulo, Brazil, for the detection of strains of human plasmodia resistant or highly tolerant to chloroquine and other antimalarial drugs.

British Guiana, with the assistance of the Organization and UNICEF, has been using chloroquinized salt to eradicate malaria from the interior of the country. During 1962 an actinic exfoliative skin reaction broke out among certain population groups using medicated salt in their diet, and a small focus of persistent transmission was observed near that country's border with Brazil. The skin reaction has not been proved to have been caused by the small chloroquine dose administered. The drug, in higher doses than those used in the medicated salt, is recommended for treatment of similar skin diseases. Chloroquinized salt has been effective in halting malaria transmission in the northern districts. The problem on the border with Brazil is attributed to the use of non-medicated salt imported from Brazil or to high tolerance to chloroquine developed by *Plasmodium falciparum* strains. Further investigations are being conducted.

The Organization offered technical and economic facilities to the National Institute of Allergy and Infectious Diseases of the National Institutes of Health of the United States Public Health Service, for field trials of LC-501, a new antimalaria drug of Parke, Davis & Company laboratories. This injectable drug, tested in individuals under laboratory conditions, has shown to have a six-month residual protective effect against malaria infections. If its effectiveness is the same under field conditions, the cost of mass treatment will be considerably reduced.

Education and Training

During 1962 the Organization not only provided fellowships and travel grants for malaria workers but also financed two training centers in the Americas. AID provided assistance, as in 1961, for the center in Kingston, Jamaica, which is operated for English-speaking students. The other center, in the School of Hygiene and Public Health of the University of São Paulo, Brazil, is for Spanish- and Portuguese-speaking students. The School in São Paulo offers a course in entomology with emphasis on malaria vectors.

As in the past, the Government of Venezuela provided, at its Malariology Institute in Maracay, assistance in training professionals for the malaria eradication program. The field training and observation facilities of Mexico continued to receive economic assistance from the Organization; and other countries, especially Honduras and Guatemala, opened their doors to foreign observers. Details on fellowships and travel grants can be found in Chapter V.

Meetings

The X Meeting of Directors of the National Malaria Eradication Services of Central America, Mexico, and Panama was held in Tegucigalpa, Honduras, from 14 to 19 May 1962.

In addition, a Seminar on Malaria Problems in the Guianas was held in Paramaribo, Surinam, from 25 to 28 September 1962. Health authorities from Brazil, British Guiana, French Guiana, and Surinam discussed the problem of malaria eradication in the rural population of this special area. This seminar resulted in better understanding of common problems and also set the pattern for future border meetings to consider details of joint activities in these difficult operational areas. In consequence, border meetings between Brazil and British Guiana, and between Brazil and French Guiana took place on the dates shown in Table 8.

TABLE 8. MALARIA ERADICATION PROGRAM: BORDER MEETINGS STIMULATED AND ASSISTED BY THE ORGANIZATION, 1962

Countries	Dates	Place of meeting
Guatemala-Mexico	8-10 February	Quetzaltenango, Guatemala
Brazil-Paraguay	21-23 June	Ponta-Porã, Mato Grosso, Brazil
French Guiana-Surinam	28 September	Paramaribo, Surinam
Colombia-Venezuela	24-26 October	Cúcuta, Colombia
Brazil-British Guiana	24-25 November	Boa Vista, Rio Branco, Brazil
Brazil-French Guiana	10 December	St. Georges, French Guiana

YELLOW FEVER CONTROL AND AËDES AEGYPTI ERADICATION

Yellow Fever

During 1962, 52 cases of jungle yellow fever were notified in the Americas—in Brazil, Colombia, Peru, and Venezuela (Figure 2). There were no unusual epidemiological manifestations during the year.

The Organization continued to assist the Yellow Fever Section (formerly Carlos Finlay Institute for Special Studies) of the National Health Institute in Bogotá, Colombia, which produces 17D yellow fever vaccine and conducts epidemiological studies on yellow fever and other arbovirus infections. The Organization also continued to assist the Oswaldo Cruz Institute in Rio de Janeiro, Brazil, in producing 17D vaccine and in providing free diagnostic services to other countries in the Americas. Total 1962 production of yellow fever vaccine in Colombia was 716,468 doses, and in Brazil 4,958,000 doses; details regarding use are shown in Table 9.

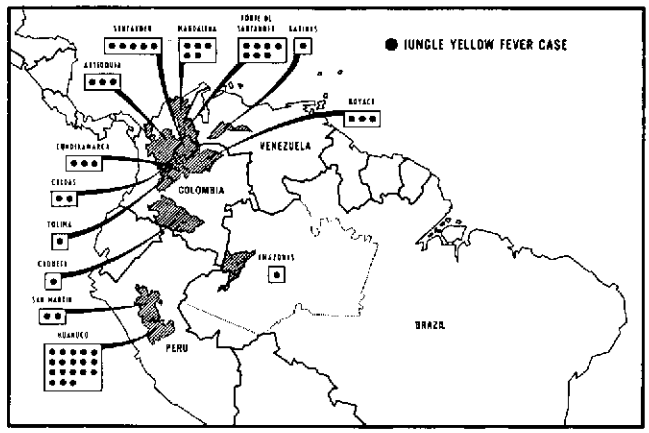


FIG. 2. REPORTED CASES OF JUNGLE YELLOW FEVER IN THE AMERICAS, 1962.

Aëdes aegypti Eradication

The XVI Pan American Sanitary Conference urged the countries and territories still infested with *Aëdes aegypti* to give maximum priority to the provision of funds to complete their eradication campaigns, and requested the Governments of areas where the vector has been eradicated to maintain active surveillance programs to prevent reinfestation.

In the Caribbean, for geographic, economic, and administrative reasons, it has not been possible up to now to coordinate the campaigns in the various territories and countries so as to prevent repeated reinfestations. In addition, *A. aegypti* strains resistant to chlorinated insecticides are rapidly developing in many of the countries and territories.

To meet this situation it was considered essential to make a general review of the campaign in the area, in order to correct existing faults, intensify the pace of activities, and coordinate the various programs in such a way as to make it possible to eradicate the mosquito more or less simultaneously throughout the area in the shortest time possible.

As a first step in this plan, in 1962 the Organization sent an entomologist to study the problem of vector resistance to insecticides in the Caribbean. With *A. aegypti* larvae from Jamaica and elsewhere in the Caribbean, the entomologist is carrying on susceptibility tests with various insecticides and studying new eradication techniques suitable for the Caribbean Area. However, to carry out the eradication plan it will also be necessary to examine the other technical, administrative, economic, and political difficulties that are hampering the progress of the campaign in this area.

The Governing Bodies of the Organization have declared *A. aegypti* eradicated from Bolivia, Brazil, British Honduras, Chile, Costa Rica, Ecuador, El Salvador,

TABLE 9. USE OF YELLOW FEVER VACCINE PRODUCED IN THE AMERICAS, 1962

Doses

Country or other political unit supplied with vaccine	Produced in	
	Brazil	Colombia
Aruba	–	3,702
Bolivia	50,000	–
Brazil	2,370,400	–
British Guiana	–	16,200
Chile	–	4,000
Colombia	–	176,915
Cuba	–	1,000
Curaçao	–	2,500
Ecuador	–	1,300
Guatemala	–	10,000
Jamaica	–	1,500
Mexico	–	21,908
Panama	–	8,875
Peru	–	100,000
Venezuela	270,000	82,800
Liberia	–	3,000
Portugal	44,000	–

– None.

French Guiana, Guatemala, Honduras, Nicaragua, Panama, the Panama Canal Zone, Paraguay, Peru, and Uruguay. No new country was added to this group in 1962.

A summary of the status of the campaign in the countries and territories of the Hemisphere is given below, as well as in Table 10 and Figure 3.

Argentina. Eradication activities in this country covered the entire presumably infested area, which measures some 1,000,000 square kilometers. During the initial survey 3,741 localities were inspected, of which 165 were found infested with *A. aegypti.* All of these localities were negative in the latest verifications made. At the end of 1962, to declare the entire country free of the mosquito, only the investigation of one island in the La Plata River estuary and a special verification of 77 of the 165 originally positive localities still remained to be done.

Colombia. In 1961 Colombia was considered to have eradicated *A. aegypti,* but in September of that year the city of Cúcuta, near the Venezuelan border, was found reinfested. Reinfestation was high and widespread when the first foci was found, but the Government immediately resumed eradication activities with PASB assistance, and the verification completed in December 1962, covering 22,274 of the 22,454 houses in Cúcuta, revealed only 14 houses infested with *A. aegypti.* Four houses in the small community of San Luis, one kilometer from Cúcuta, were also found reinfested in 1962. The locality was rapidly treated.

Cuba. Despite administrative difficulties which delayed activities during the first months of 1962, the campaign continued to progress satisfactorily. By December the campaign was in full development in the Provinces of La Habana, Pinar del Río, and Matanzas, to be extended at a later date to the remainder of the country. Since December 1961, when dieldrin was selected for spraying in Greater Havana and neighboring municipalities because of the low susceptibility of *A. aegypti* to DDT, the mosquito has been progressively eliminated in the entire working area. As of December 1962, a total of 677 localities had been surveyed in Cuba and 496 found infested. Of the initially positive localities, 409 had been verified after treatment; 155 continued positive.

Dominican Republic. Susceptibility tests made in 1962 with *A. aegypti* larvae gathered from various localities showed that resistance of the mosquito to chlorinated insecticides was present throughout the entire country. It was therefore decided to interrupt the campaign in November 1962, until such time as the studies underway in Jamaica indicate which insecticides should be used instead of the chlorinated.

Haiti. The campaign was suspended for financial reasons in 1958; infestation at present is probably high and extensive. The emergency public health plan that the Government of Haiti presented to the Tripartite Committee of the Alliance for Progress in 1962 included *A. aegypti* eradication, and it was hoped that the campaign might be resumed in a not too distant future.

Jamaica. Because of unsatisfactory results, the Government halted the campaign in 1961, to resume it after suitable reorganization. Investigations made in 1962 showed the island to be extensively infested and that in some areas *A. aegypti* was resistant to the chlorinated insecticides. Studies made during the last quarter of 1962 by an entomologist sent by the Organization showed that this resistance was higher and more widespread in some areas than had been originally believed. These studies, however, have not clarified the problem fully nor indicated which insecticides could be successfully substituted for the chlorinated hydrocarbons.

Mexico. The campaign has covered all the presumably infested area, where 4,235 localities were surveyed and 600 were found positive. According to the latest inspection, the 600 originally positive localities were considered free of the mosquito. The special verification of the country was started with assistance from the Organization in October 1961, and as of December 1962 a total of 178 localities had been inspected; of these, only the city of Mérida was found positive, with infestation of 20 of

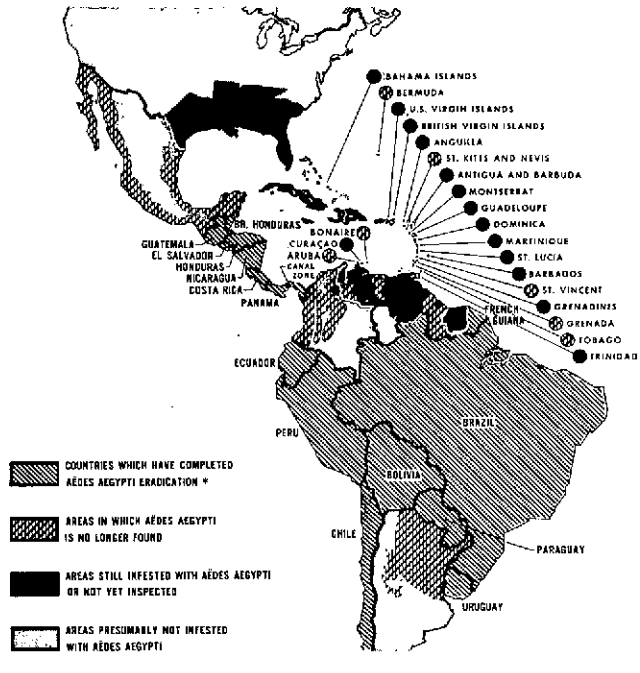


FIG. 3. STATUS OF THE *Aëdes aegypti* ERADICATION CAMPAIGN, DECEMBER 1962.

TABLE 10. STATUS OF THE *Aëdes aegypti* ERADICATION CAMPAIGN IN THE AMERICAS, 1962 [a]

Country or other political unit	Date campaign began	Date of latest available report	Area assumed initially infested		Localities inspected since beginning of campaign					Present stage of campaign
			Total	Inspected	Number	Initially positive				
						Total	Verified			
							Treated	Number	Still positive	
			Square kilometers	*Per cent*						
Argentina	June 1953	Dec. 1962	1,000,000	100.0	3,741	165	165	165	–	b
Bolivia	June 1932	Dec. 1962	100,000	100.0	282	65	65	65	–	c
Brazil	Jan. 1931	Dec. 1962	5,358,822	100.0	268,576	36,119	36,119	36,119	–	c,d
Chile	June 1945	June 1962	104,373	100.0	301	48	48	48	–	c,d
Colombia	Nov. 1950	Dec. 1962	280,000	100.0	3,801	354	354	354	2	b
Costa Rica	April 1949	Sept. 1962	20,000	100.0	1,342	104	104	104	–	c
Cuba	March 1954	Dec. 1962	100,000	20.3	677	496	409	409	155	b
Dominican Republic	Oct. 1952	Aug. 1962	42,020	80.4	1,420	351	351	319	15	b
Ecuador	June 1946	Dec. 1962	69,454	100.0	2,824	337	337	337	–	c,d
El Salvador	April 1949	Dec. 1962	18,675	100.0	909	190	190	190	–	c,d
Guatemala	Jan. 1949	June 1962	36,423	100.0	2,485	138	138	138	–	c,d
Haiti	Oct. 1953	Sept. 1958	27,750	49.4	2,379	605	602	435	27	c
Honduras	Sept. 1949	Dec. 1962	69,929	100.0	600	53	53	53	–	c,d
Jamaica	Feb. 1950	Sept. 1962	11,424	100.0	14	12	...	...	...	e
Mexico	Jan. 1951	Dec. 1962	1,000,000	100.0	4,244	600	600	600	–	b
Nicaragua	Jan. 1950	June 1961	65,263	100.0	3,126	18	18	18	–	c
Panama	Feb. 1949	June 1960	56,246	100.0	2,853	44	44	44	–	c
Paraguay	Jan. 1948	Dec. 1962	200,000	100.0	1,561	98	98	98	–	c,d
Peru	Jan. 1940	Dec. 1962	638,000	100.0	4,320	191	191	191	–	c,d
Trinidad and Tobago	Jan. 1951	Dec. 1962	3,108	100.0	128	122	122	122	4	b
United States of America	–	–	777,000	...	...	...	...	...	...	e
Uruguay	Oct. 1948	Dec. 1962	187,000	100.0	1,020	133	133	133	–	c,d
Venezuela	June 1948	Dec. 1962	710,000	71.8	5,721	577	570	492	22	b
France										
French Guiana	May 1949	Sept. 1962	91,000	100.0	222	55	55	55	–	c,d
Guadeloupe	Jan. 1957	Oct. 1961	1,619	4.9	53	38	38	27	20	c
Martinique	Nov. 1953	March 1962	1,000	100.0	34	21	19	19	2	b
Netherlands										
Aruba	March 1952	Dec. 1962	174	100.0	9	9	9	9	–	b
Bonaire	Sept. 1952	Dec. 1962	246	100.0	6	6	6	6	–	b
Curaçao	Oct. 1951	Dec. 1962	448	100.0	5	5	5	5	4	b
Saba, St. Eustatius	July 1958	Sept. 1962	65	100.0	34	30	30	30	15	b
Surinam	Dec. 1962	Dec. 1962	48,000	...	231	74	–	–	–	b
United Kingdom										
Antigua	Aug. 1954	Dec. 1962	283	100.0	50	47	47	47	25	b
Bahama Islands	June 1954	Dec. 1962	11,396	1.3	13	11	11	11	9	b
Barbados	March 1954	Dec. 1962	171	100.0	99	98	98	98	48	b
Bermuda	Jan. 1951	Dec. 1951	53	100.0	9	9	9	9	–	b
British Guiana	March 1946	Dec. 1962	4,662	100.0	93	21	21	21	2	b
British Honduras	Oct. 1950	June 1962	22,965	100.0	84	2	2	2	–	c
Cayman Islands	–	–	259	...	...	...	...	...	...	e
Dominica	Feb. 1951	Oct. 1956	789	90.0	136	66	66	66	16	e
Grenada	Nov. 1952	July 1959	311	100.0	8	8	8	8	–	f
Grenadines	Nov. 1952	June 1962	65	100.0	7	5	5	5	4	b
Montserrat	May 1956	Dec. 1962	83	100.0	33	16	16	16	2	b
St. Kitts–Nevis–Anguilla	May 1950	March 1962	396	100.0	62	33	33	33	16	b
Saint Lucia	May 1953	Oct. 1962	259	100.0	50	50	50	50	6	b
Saint Vincent	March 1953	Dec. 1962	332	100.0	8	8	8	8	–	b
Turks and Caicos Islands	–	–	430	...	...	...	...	...	...	c
Virgin Islands	March 1960	Dec. 1962	174	74.6	23	23	23	23	8	b
United States of America										
Canal Zone	1948	Sept. 1960	1,432	100.0	21	2	2	2	–	c,d
Puerto Rico	May 1950	March 1961	8,896	61.8	481	248	248	248	116	c
Virgin Islands	–	–	124	...	...	...	...	...	...	c

– None.
. Data not available.
[a] Based on reports received through 21 March 1963.
[b] Program in operation.
[c] Eradication completed.
[d] Vigilance continued.
[e] No program activity, but positive for *A. aegypti*.
[f] Awaiting official declaration of eradication.

the nearly 47,000 houses. The city was treated again and the reinfestation eliminated.

Trinidad and Tobago. These two islands had been considered negative for some time, but in 1961 *A. aegypti* was found in one of the localities of the interior as well as around the harbor of Port of Spain. The necessary measures to eliminate the mosquito from the two areas were taken and Trinidad once again became negative. In 1962 *A. aegypti* foci were repeatedly found in and around the dock area of Port of Spain, which led to the supposition that the mosquito was being reintroduced by boats arriving from other Caribbean ports. In August the source responsible for the reinfestation was found to be some small vacation islands, belonging to Trinidad, which lie close to Port of Spain and which had never been surveyed or treated. All of these islands were sprayed, and it was expected that the mosquito would soon be eradicated. Tobago continued to be considered free of the vector.

United States of America. According to the latest data available, the areas infested with *A. aegypti* include the States of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, South Carolina, Tennessee, part of Texas, the Commonwealth of Puerto Rico, and the U. S. Virgin Islands. The XVI Pan American Sanitary Conference was informed that the Government intended shortly to initiate *A. aegypti* eradication activities in the continental United States, Puerto Rico, and the Virgin Islands.

Venezuela. The campaign has been greatly intensified since 1959. Up to December 1962, of the 5,721 localities inspected in the presumably infested areas, 577 were found positive. Of these initially positive localities, 492 were verified after treatment, and 470 were found negative in the last inspection made.

France

French Guiana. This territory has been considered negative since the 1960 reinfestation was eliminated in the same year.

Guadeloupe. The campaign was virtually suspended in 1962 because the results were unsatisfactory. *A. aegypti* is resistant to chlorinated insecticides, and appropriate new insecticides were not yet available.

Martinique. There has never been a specific *A. aegypti* eradication campaign in this island. Although the campaign conducted against insects by the local authorities continued, results with regard to *A. aegypti* were not satisfactory.

St. Martin. The French part of the island, administered by Guadeloupe, was considered negative. The Netherlands part, however, continued positive, which made the consolidation phase of the campaign in the French territory difficult.

Netherlands

Aruba and Bonaire. A recent verification confirmed the absence of the mosquito in these islands, which have been negative for several years.

Curaçao. Eradication of the mosquito had been expected to be completed rapidly, but instead the situation worsened. The city of Willemstad and its environs are again extensively infested, and there were indications during 1962 that the vector in this area has become resistant to chlorinated insecticides.

Saba and St. Eustatius. These islands were also considered negative, but there was no recent information.

St. Martin. The Dutch part of the island was found reinfested in 1961, but administrative reasons have made it impossible to reinstate the eradication campaign.

Surinam. In 1962 an agreement providing for collaboration between the Government and the Organization was signed, and the plan of operations for the campaign was prepared. The selection and training of campaign personnel was begun in November, and eradication work proper was scheduled to begin in Paramaribo in January 1963.

United Kingdom

Antigua and Barbuda. These islands were found reinfested in 1961, and a 1962 survey of Antigua revealed extensive infestation. *A. aegypti* was found in 25 of the 50 localities of Antigua. The Government therefore decided to resume the eradication campaign throughout the entire territory.

Bahama Islands. The budget and the personnel of the campaign have been insufficient to deal with the problem, and the results have not been satisfactory. The susceptibility of *A. aegypti* to DDT is low.

Barbados. The campaign has lacked sufficient staff at its disposal; in consequence, the work cycles have been long and the results unsatisfactory. The *A. aegypti* in the island is resistant to DDT.

Bermuda. The island had been considered negative for several years, but the special verification to confirm eradication of the vector is yet to be made.

British Guiana. After being free of the vector for several years, British Guiana was found reinfested in 1962. The infestation was generalized in Georgetown, and it is possible that neighboring localities were also reinfested. The Government renewed operations against the vector in Georgetown but, owing to the limited num-

ber of campaign personnel and to the method employed to eliminate the mosquito, the results were not satisfactory. This situation may become dangerous because the presence of yellow fever virus was confirmed in the jungles of British Guiana in 1962.

Cayman, Turks, and Caicos Islands. The campaign has not been started in any island of this group.

Dominica. Financial reasons have prevented the Government from resuming eradication operations.

Grenada, Carriacou, and Petite Martinique. Grenada has been considered negative since 1958, but Carriacou and Petite Martinique continue positive. In Carriacou, vector resistance to chlorinated insecticides has been confirmed.

Grenadines. These islands, including Bequia and Union, continue infested.

Montserrat. The 1960 reinfestation was eliminated in 1961, but a 1962 verification showed that the island was positive again and that complete treatment is indicated.

St. Kitts, Nevis, and Anguilla. St. Kitts and Nevis continued negative, but Anguilla was highly infested. The campaign has lacked the necessary funds to intensify activities to the extent required.

St. Lucia. This island was reinfested in 1960 and again in 1961. An inspection made in 1962 showed infestation to be high and generalized. As of December 1962, financial reasons had prevented the resumption of eradication activities.

St. Vincent. This island is considered negative.

Virgin Islands. Campaign activities continued to be hampered by administrative difficulties, and results have been unsatisfactory.

SMALLPOX

Resolutions of the Governing Bodies of the Pan American Health Organization dealing with the problem of smallpox in the Americas have repeatedly urged the countries where smallpox exists to conduct intensive vaccination campaigns aimed at reaching at least 80 per cent of the population, and have requested that the Organization collaborate with the countries in developing smallpox eradication programs and coordinating country activities (Table 11). Criteria for smallpox eradication were approved at the XIII Meeting of the Directing Council of the Organization.[1]

Continuing the long-run decline evident in the past decade, 3,082 cases of smallpox were reported in the

[1] *Official Document PAHO* **41**:352-53, 1962.

TABLE 11. CONTRIBUTIONS OF INTERNATIONAL ORGANIZATIONS TO THE SMALLPOX ERADICATION PROGRAM IN THE AMERICAS, 1948-1962[a]

U. S. dollars

Country and project	PAHO	WHO	UNICEF	Total
AMRO-60	75,729	–	–	75,729
Argentina-2	9,736	37,610	–	47,346
Bolivia-8	10,263	37,610	–	47,873
Brazil-38	43,720	–	–	43,720
Chile-32	12,172	–	–	12,172
Colombia-17	83,789	20,000	15,000	118,789
Cuba-8	30,741	–	–	30,741
Ecuador-20	68,145	60,949	60,926	190,020
Haiti-18	3,848	–	–	3,848
Mexico-31	5,307	–	–	5,307
Paraguay-15	10,164	–	–	10,164
Peru-51	1,148	–	–	1,148
Uruguay-12	6,870	–	–	6,870
Venezuela-12	5,728	–	–	5,728
Total	367,360	156,169	75,926	599,455

– None.
[a] Consultant services, fellowships, equipment, etc.

Americas in 1962 (see Health Statistics, Chapter II): 2,812 occurred in Brazil, 205 in Ecuador, 41 in Colombia, 11 in Venezuela, 10 in Uruguay, 2 in Argentina, and 1 in Canada (Figure 4). Two of the cases in Uruguay and the single case recorded in Canada were imported.

Smallpox vaccination activities in the countries of Central America and Panama were intensified with the aim of raising the percentage of population immunized (Table 12). The Organization furnished glycerinated vaccine ready for use to Costa Rica, the Dominican Republic, Honduras, and Panama from the reserve of 2 million doses donated by the Government of Mexico to WHO for the world-wide smallpox eradication program and assigned to the Region of the Americas. The Government of Brazil donated 100,000 doses of lyophilized smallpox vaccine directly to the Government of Nicaragua.

The Organization gave technical advisory services to the health authorities of the Dominican Republic in the preparation of a national smallpox vaccination program, for which lyophilized vaccine was given by the Government of Venezuela and glycerinated vaccine by PASB/WHO. Vaccination was scheduled to begin in 1963.

In Argentina the smallpox eradication campaign of the Ministry of Social Welfare and Public Health included, in 1962, 16 Provinces (1 more than in 1961) of the northern and central regions. Since the campaign began in October 1960, 6,395,505 persons were vaccinated against smallpox up to December 1962; this accounted

for 80 per cent of the population in 7 Provinces, about 75 per cent in 2 Provinces, and a lower percentage in the other 7 Provinces. During the year, it was necessary to reduce the campaign personnel to a minimum for financial reasons, and performance was thereby greatly diminished. The National Institute of Microbiology produced glycerinated smallpox vaccine of good quality in sufficient quantities to meet the demands of the eradication campaign.

Bolivia interrupted its smallpox eradication campaign in 1959, when there remained about 700,000 persons to be vaccinated. In 1962 a new program was prepared with the aim of immunizing 80 per cent of the population in a period of three years. The Organization provided technical personnel to assist in preparing the new program, and the United Nations Technical Assistance Board (UNTAB) approved special assistance from the con-

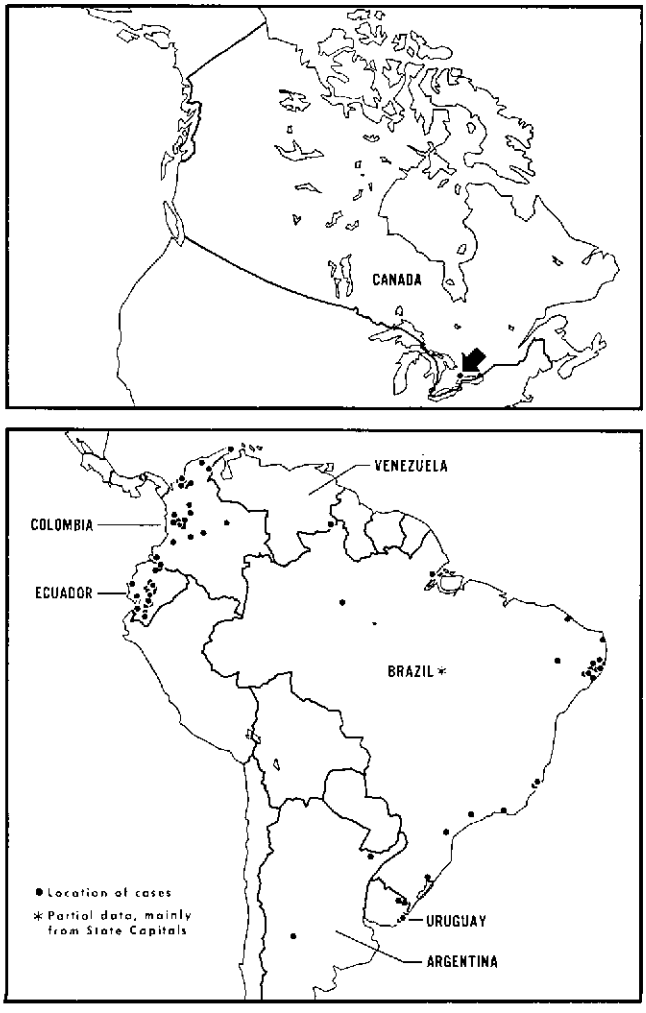


FIG. 4. AREAS IN THE AMERICAS WHERE CASES OF SMALLPOX WERE REPORTED, 1962.

TABLE 12. REPORTED NUMBER OF SMALLPOX VACCINATIONS IN THE AMERICAS, 1960-1962

Area	1960	1961	1962
Argentina	1,990,467	4,407,020	1,344,401
Bolivia	42,603	34,215[a]	164,449
Brazil	4,910,091	...	2,061,179[b]
Canada	1,332,000	...	...
Chile	285,314	382,946	703,297
Colombia	3,195,355	1,250,685	191,083[c]
Costa Rica	14,657	79,553	106,252[d]
Cuba	38,635[a]	129,647	135,319[c]
Dominican Republic	26,057	10,000	35,135
Ecuador	783,338	535,668	685,696
El Salvador	33,373	24,554[a]	143,835
Guatemala	123,590[f]	120,590[a]	127,004
Haiti	441[f]	3,135	180,719
Honduras	17,843	9,509	127,144[d]
Jamaica	79,973	70,129	131,652
Mexico	3,637,334	2,588,149	5,226,096[g]
Nicaragua	8,803	19,385	3,335[c]
Panama	24,835	31,596	11,547[a]
Paraguay	122,897	110,142	28,283[c]
Peru	1,049,740	969,808	593,336
Trinidad and Tobago	3,839	11,438	1,271[h]
United States of America	...	...	...
Uruguay	214,360	188,674	81,754[c]
Venezuela	1,104,389	1,140,842	1,147,574[g]
Antigua	1,603	1,186	446[c]
Bahama Islands	...	17,941	3,196
Barbados	10,564[i]	14,070	86,507
Bermuda	783[i]	579	...
British Guiana	3,165	...	6,982
British Honduras	3,939	4,900	10,617
Cayman Islands	...	...	...
Dominica	...	1,351[a]	2,315[c]
Falkland Islands	128	...	...
French Guiana	2,204[a]	1,120[a]	1,122[g]
Grenada	3,402	2,695	1,031
Guadeloupe	13,567[f]	5,000[a]	750[c]
Martinique	18,817	7,650[a]	10,685
Montserrat	1,204	903	927
Netherlands Antilles	3,665[f]	...	2,400[c]
Panama Canal Zone	9,528[f]	...	...
Puerto Rico	...	...	...
St. Kitts-Nevis-Anguilla	3,300	2,979	...
St. Lucia	...	...	3,200
St. Pierre and Miquelon	224	...	...
St. Vincent	...	...	2,405
Surinam	6,375	8,400	5,286
Turks and Caicos Islands	...	...	...
Virgin Islands (U. K.)	44	...	...
Virgin Islands (U. S. A.)	...	...	...

... Data not available.
[a] Incomplete data.
[b] State of São Paulo.
[c] January-April.
[d] January-November.
[e] January-September.
[f] Primary vaccinations.
[g] Provisional.
[h] January-March.
[i] Data exclude vaccinations done by general practitioners.
Source: Reports of Governments.

tingency reserve of the Expanded Program of Technical Assistance (EPTA).

In Brazil the Ministry of Health established a national smallpox campaign to eradicate the disease from the country. A pilot vaccination project to test and improve working methods and procedures was carried out in the States of Sergipe and Alagoas, vaccination to be extended next to the States of Pernambuco, Rio de Janeiro, and Paraná. The campaign in Paraná will give special attention to the areas bordering on Argentina and Paraguay. In the State of São Paulo, 2,061,179 persons were vaccinated in 1962. During the same year the Oswaldo Cruz Institute produced 1,250,000 doses of lyophilized smallpox vaccine per month. The Institute's production capacity will be doubled in 1963 as soon as equipment furnished by the Organization has been put in operation. The laboratories of Pernambuco and Pôrto Alegre, for which the Organization also donated the dry vaccine equipment, produced 5,000,000 doses during 1962.

The National Health Service in Chile has succeeded in maintaining about 80 per cent of the population immunized against smallpox. In the five-year period 1957-1961 a total of 5,402,777 vaccinations were performed, 1,095,731 of which were primovaccinations. The Bacteriological Institute of Chile produced glycerinated and lyophilized vaccine of good quality in sufficient quantity to meet the needs of the National Health Service.

Colombia terminated its national smallpox eradication program, during which 11,283,658 persons were vaccinated, in April 1962. The objective of immunizing at least 80 per cent of the population was reached or exceeded throughout the country.

Marked progress was made in the smallpox eradication campaign in Ecuador. The changes introduced by the Government in both program management and the provision of funds in sufficient quantity and readily available, plus material purchased with funds from the EPTA contingency reserve (11 jeeps plus field and laboratory equipment) and the assignment of a PASB/WHO sanitary inspector to collaborate with local staff in organizing field work, made for increased performance. Between May 1958 and December 1962 a total of 2,550,940 persons were vaccinated, 666,637 of them in 1962. In Guayaquil 87 per cent of the population were vaccinated; 80 per cent or more were vaccinated in the Provinces of El Oro, Esmeraldas, Guayas, Loja, Los Ríos, and Pichincha, and 65 per cent in the Provinces of Bolívar and Chimborazo. The 1,040,000 persons still unvaccinated are expected to be covered during 1963 and 1964. The dried smallpox vaccine manufactured in Ecuador proved to be of good quality, and the amount produced was sufficient for the needs of the campaign.

A smallpox vaccination campaign intended to cover 80 per cent of the population in a period of three years was initiated in Haiti in July 1962. Up to December, 180,719 persons had been vaccinated, representing 81 per

TABLE 13. REPORTED PRODUCTION OF SMALLPOX VACCINE IN THE AMERICAS, 1961-1962

Doses

Country or other political unit	1961		1962	
	Glycerinated	Dried	Glycerinated	Dried
Argentina	14,100,000	–	5,200,000	...
Bolivia	...	122,500	–	377,852
Brasil	...	...	3,181,400	11,978,500
Chile	1,050,000	360,000	1,691,000	557,500
Colombia	...	2,809,865	–	2,072,075
Cuba	518,500	...	388,000	–
Ecuador	41,020	1,095,220	9,000	1,106,770
El Salvador	127,650	–	167,535	–
Guatemala	283,400	–	256,500	–
Honduras	20,000	–	19,400	–
Mexico	7,880,480	...	15,331,200	–
Nicaragua	40,000	–	...	...
Peru	433,400	1,299,900	556,850	3,758,400
Uruguay	1,480,000	70,000	2,298,000	–
Venezuela	4,600,000	278,000	4,179,000	1,000,000
Surinam	15,000	...	...	...

– None.
... Data not available.

cent of the population of the communes of St. Marc, La Chapelle, Verrettes, and Dessalines in the Department of Artibonite. The lyophilized vaccine used was a gift from the Government of Colombia.

Jamaica placed special emphasis on the vaccination of its infant population. The Government of Venezuela pledged to contribute 120,000 doses of lyophilized vaccine, at the rate of 10,000 doses per month, free of charge.

In Venezuela, where cases of smallpox had last occurred in 1956, 11 cases were reported between January and March 1962 in the nomadic indigenous population of the area bordering on Brazil. Of the estimated 5,500 persons in this nomadic group, 4,415 were promptly vaccinated against smallpox.

In Paraguay it was not possible to maintain the population immunity level which had been reached during the 1957-1960 smallpox eradication campaign.

Table 13 shows the reported production of glycerinated and dried vaccine.

YAWS ERADICATION

The Organization continued to give special attention to the eradication of yaws and, with rare exceptions, the eradication programs continued to progress satisfactorily. In areas where yaws was endemic and measures had not been taken to eliminate it, studies were begun to serve as a basis for the preparation of eradication plans.

Surveillance continued in Haiti. In 1962 a total of 1,533,500 persons were examined and only 12 cases of infectious yaws were detected. The incidence of infectious yaws in the population examined was 0.8 per 100,000 population (compared with 1.6 in the final analysis of the 1961 statistics). A medical consultant and a sanitary inspector collaborated with the Government of Haiti in this phase of the eradication program.

In the Dominican Republic continuous search for infectious forms of yaws in areas previously surveyed led to the discovery of 45 additional cases among 402,517 persons examined.

A medical consultant assigned by the Organization collaborated with the health authorities of the areas of the eastern Caribbean where yaws was endemic to achieve greater efficiency in the program, particularly in the phases of control and surveillance. Assistance was also given to the health authorities of Jamaica and Surinam in the preparation of a survey to determine the extent of the yaws problem.

For the second consecutive year, no cases of infectious yaws were reported in Trinidad, Tobago, St. Kitts, or

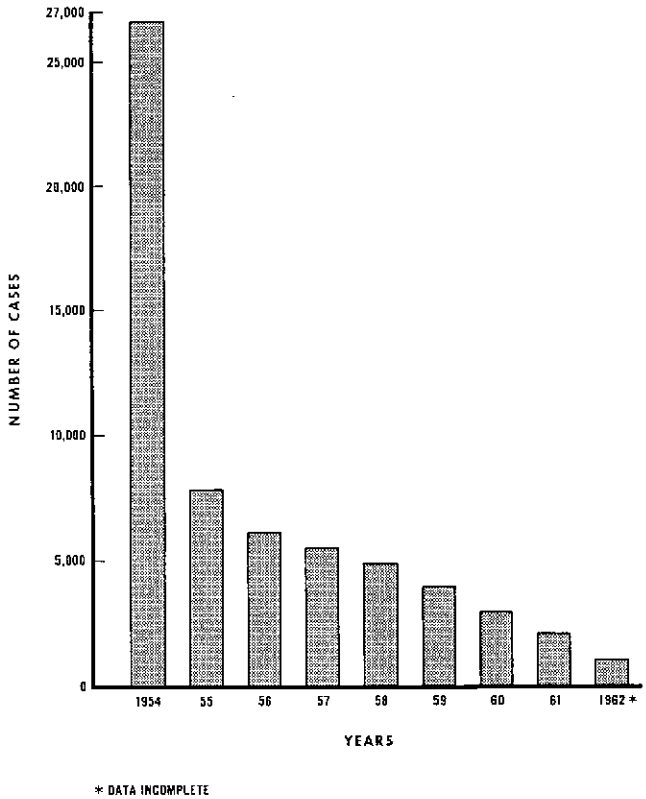


FIG. 5. REPORTED CASES OF YAWS IN THE AMERICAS, 1954-1962.

the British Virgin Islands; 147 cases were reported in St. Lucia, 69 in St. Vincent, 10 in Dominica and 7 in Grenada.

Preliminary work was done to establish an international team, consisting of a physician and a laboratory technician, to cooperate with local technicians in Colombia, the Dominican Republic, Ecuador, and Haiti in evaluating the progress achieved in yaws eradication of those countries. The professionals were recruited and work was scheduled to begin in 1963.

VENEREAL DISEASE CONTROL

Although the extent of the venereal disease problem in most countries of the Western Hemisphere is not known, there are indications that it is severe and increasing. Venereal disease cases in numbers giving cause for alarm have reappeared even in countries where the methods of diagnosis, reporting, and control have reached a high degree of development. Assistance provided by the Organization to individual countries during 1962 follows.

In the Eastern Caribbean Area, a program of intensive

venereal disease control was prepared in Jamaica, and health education programs relating to venereal disease were intensified. Consultant services on the study and preparation of venercal disease programs and their execution were provided to local health authorities. The regional study on the evaluation of serological services for the diagnosis of syphilis was continued, and the number of participating laboratories was increased from 7 to 10. Two fellowships for study abroad were awarded to Jamaica for training in contact investigation, and one to Barbados for the study of serological techniques for the diagnosis of syphilis.

A venereal disease control program was prepared in Chile and will be carried out by stages until it covers the entire country. Preliminary work was done on fellowships for professionals who are participating in this program to train abroad.

In the Dominican Republic a course in venereology for physicians was given in the city of La Romana, La Altagracia Province; five new serological centers were established for syphilis diagnosis; and the use of the microflocculation technique on VDRL slides and of the Kolmer test were established throughout the country. Efforts were continued to improve coordination between the medical institutions participating in the venereal disease control program. Continued in-service training was given to contact investigators, and a manual on venereology for contact investigators was prepared. A medical consultant and a laboratory expert cooperated with the Government of the Dominican Republic in developing programs of yaws eradication and venereal disease control.

At the XX Annual Meeting of the United States-Mexico Border Public Health Association, past venereal disease control activities along the border between the United States and Mexico, and plans for future activities, were reviewed. This review not only stimulated the local authorities directly responsible for the problem but also induced national and state authorities to support the establishment of binational committees for venereal disease control in twin cities along the border.

In 1962 the Organization published a Spanish translation of the USPHS *Notes on Modern Management of V.D.*[2]

LEPROSY

Leprosy control programs in the Americas during 1962 were characterized by continuous progress in their organization and development. An important aspect of this progress was the incorporation of the leprosy programs into the regular activities of the health services in a number of countries.

Through the services of four specialists in leprosy, and Zone Offices and Headquarters technical staff, the Organization continued collaborating in the study of the leprosy problem and assisting in the planning, development, and evaluation of control programs. In 1962 assistance was given in Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, and Uruguay.

The leprosy control programs of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama, which form part of the regular activities of the health services, improved noticeably in administrative structure and technical development. The training of medical personnel, diagnosing the disease, and the extension of leprosy services to areas not previously covered made it possible to detect a further 109 cases in the area, which brought the total of recorded cases to 1,485. Since these figures were the result of very limited case-finding activity, they indicated that in Central America and Panama leprosy was a far more serious problem than was originally thought.

Field activities of the leprosy control programs in Argentina began in October 1962 in the pilot area of the Province of Entre Ríos. Mobile teams with vehicles provided by UNICEF worked intensively between October and December 1962 relocating registered cases, finding new cases, conducting epidemiological investigations of foci, and examining contacts and communities. The medical staff in the mobile teams were given special training in a 45-day course which combined theoretical instruction with practical demonstrations. In the year ending 30 October 1962, 459 new leprosy cases were detected. At the end of that period the total number of cases in the active register was estimated to be slightly lower than 12,000. Only 3,996 of the registered cases were receiving treatment. In the Entre Ríos pilot area the mobile teams examined 9,071 persons and found 48 unrecorded cases of leprosy.

The reorganization of the Ministry of Public Health of Colombia, in which the Organization collaborated, included the incorporation of the Leprosy Section into the Division of Epidemiology. The 28 dermatological clinics and outpatient clinics were placed directly under the authority of the Departmental health services, as part of the general integration of leprosy control into regular health service activity. Since the enactment of Law No. 148 on 23 December 1961—abolishing compulsory isolation of leprosy patients and restoring to

[2] *Scientific Publication PAHO* **71**, 1962.

them all civil and political rights—609 patients left leprosaria to take up a normal life.

Between January and September, 69,156 persons were examined; and among the 43,969 tested for the first time 1,125 new cases of leprosy were discovered. Forty per cent of the new cases were contacts of leprosy patients. On 31 December, Colombia had 13,743 leprosy cases under surveillance (5,201 in sanatoria and 8,542 under the care of dermatological clinics and dispensaries). About 40 per cent of persons usually in contact with leprosy cases were under surveillance (11,534 examined for the first time and 5,868 re-examined).

New foci of leprosy were found in the Departments of Nariño (Pacific coast), Huila, and Tolima (inland), as well as in Atlántico. The fact that an important number of leprosy patients was found in the area of the eastern plains and in the Territorial District of Caquetá shows that leprosy is more widely distributed in Colombia than was originally thought.

In Paraguay 204 cases of leprosy were recorded during the first six months of 1962. Prevalence at the time, based on the estimated population, was 2.08 per 1,000. The active register contained the names of 3,759 cases. Contacts throughout the country were estimated at approximately 18,500, with 13.9 per cent under surveillance. The difficulties posed by the integration of leprosy control activities into regular health center operations have slowed down the progress of the program.

Other developments that took place in 1962, also with assistance provided by the Organization, included: Bolivia and Ecuador took the initial steps for the preparation of leprosy control programs; representatives of the Government of Brazil, UNICEF and WHO signed a tripartite agreement for a national leprosy control program, and supplies and equipment supplied by UNICEF arrived in the country; a leprosy control program on Easter Island was evaluated, and Chilean medical personnel received specialized training; a consultant made a study of the extent and severity of leprosy in Haiti and Uruguay for future control programs; and in Mexico the central and peripheral structure of the leprosy control service continued to be improved. The number of leprosy cases recorded in Mexico was slightly over 15,000 and included 1,144 cases discovered during 1962.

As a consequence of the progress made in the leprosy control programs certain failures and needs came to light, and in search of solutions for the newly revealed problems Headquarters specialists met with PAHO leprosy consultants and epidemiologists in Lima, Peru, from 12 to 16 November. Some results of their deliberations follow.

The training of medical and auxiliary personnel for leprosy control programs was felt to be particularly urgent. Medical personnel should be trained in one of two ways—either in the diagnosis of leprosy at the earliest possible stage and the basic principles of control or in the techniques of directing leprosy control programs skillfully. Responsibility for detecting new cases and treating them belonged to the general practitioner, while the conduct of programs should be entrusted to public health specialists.

Training courses within the countries were considered to be the solution for general practitioners.

The training of public health specialists, on the other hand, requires prolonged academic training in the modern concepts of public health planning and administration. Preliminary conversations were held with the School of Public Health of the Johns Hopkins University, Baltimore, Maryland, to obtain their cooperation to train this special type of professionals who, whenever desirable, would receive additional basic training in leprosy with assistance from the Leonard Wood Memorial (American Leprosy Foundation). Negotiations were begun to obtain a practice field for leprosy training.

During 1962 special attention was given to basic and applied research in leprosy. Two special consultants visited the countries of the Region to exchange opinions with local scientists regarding research underway and future plans, and to investigate physical facilities available. A special report on research in leprosy was presented to the PAHO Advisory Committee on Medical Research. Among other activities, preparatory work for a leprosy seminar to be held in mid-1963 was begun, and a variety of scientific informational material on leprosy was distributed in the American countries.

TUBERCULOSIS

Satisfactory determination of the prevalence and incidence of tuberculosis in the Americas was still impossible in 1962 because of the lack of complete and accurate information in most countries. Available statistics, however, indicated that this disease was one of the principal causes of death in several American countries. Reported cases of tuberculosis with rates per 100,000 population for the period 1956-1961 are provided in Table 14 and deaths per 100,000 population in Table 15. These data are incomplete because in many areas without adequate medical facilities cases are not diagnosed or reported, and because in the absence of medical certification not all deaths caused by tuberculosis are recorded as due to this disease.

The Organization continued to cooperate with Gov-

TABLE 14. NUMBER OF CASES OF TUBERCULOSIS WITH RATES PER 100,000 POPULATION IN THE AMERICAS, 1956-1961

Area	Cases											
	Number						Rate					
	1956	1957	1958	1959	1960	1961	1956	1957	1958	1959	1960	1961
Argentina	18,307	19,647	16,508	17,387	18,865	19,098	93.9	98.9	81.5	84.3	90.0	90.6
Bolivia	745	596	522	1,779	1,136	1,244	22.8	18.0	15.5	52.2	32.9	35.5
Brazil[a]	11,556	13,735	7,986	14,079	9,943	...	171.7	204.2	115.7	138.2	100.8	...
Canada[b, c]	8,405	7,979	7,502	6,579	6,345	5,784	52.3	48.2	44.1	37.7	35.6	31.7
Chile	...	...	...	...	...	...	...	...	...	...	...	...
Colombia[d]	11,048	13,787	14,579	13,858	14,392	19,961	93.0	114.6	119.3	110.1	106.5	145.1
Costa Rica	700	605	560	649	624	492	70.9	58.6	52.0	57.6	53.3	40.2
Cuba	1,951	1,838	1,177	1,849	1,856	2,625	31.2	28.8	18.0	27.8	27.3	37.9
Dominican Republic	2,149	2,184	2,199	2,189	2,122	1,197	82.2	80.8	78.6	75.6	70.9	38.6
Ecuador	4,466	4,699	5,463	4,692	5,223	5,758	117.5	119.6	134.9	112.0	121.0	129.2
El Salvador[d]	2,615	3,011	2,918	3,872	5,251	5,388	239.0	262.7	231.2	294.0	358.2	365.8
Guatemala	2,157	1,942	1,153	3,649	3,802	3,302	64.4	56.3	32.5	99.9	101.0	86.5
Haiti	779	1,188	2,278	3,067	2,860	3,332	23.3	35.1	66.5	88.5	81.6	78.4
Honduras	...	...	1,439	1,609	4,566	1,985	...	...	78.7	85.3	233.8	104.9
Jamaica	614	701	574	838	629	...	39.3	45.0	36.4	52.4	38.9	...
Mexico	9,421	10,392	11,157	11,348	12,417	13,801	30.9	33.1	34.5	34.1	35.6	38.2
Nicaragua	1,051	1,014	1,330	744	581	707	81.6	76.1	96.5	52.2	39.3	46.3
Panama	1,323	1,878	1,385	1,673	1,487	1,104	139.6	193.0	138.5	162.9	140.9	99.5
Paraguay[d]	1,158	1,381	1,206	1,126	1,113	920	124.1	135.3	107.6	65.2	63.2	78.3
Peru[d]	19,818	22,552	19,336	22,796	19,485	23,174	450.3	472.8	397.5	425.3	348.4	543.8
Trinidad and Tobago	345	380	281	298	243	...	46.4	49.6	35.7	36.7	29.1	...
United States of America[e]	68,866[e]	67,171	63,534	57,535	55,494	53,727	41.2	39.3	36.5	32.5	30.8	29.4
Uruguay	...	3,164	3,134	2,134	1,928	...	...	116.2	113.6	76.4	68.2	...
Venezuela[d]	8,062	7,211	7,494	7,887	8,722	8,658	232.7	200.3	201.2	204.3	217.7	208.3
Antigua	19	16	22	28	8	6	35.8	30.8	41.5	51.9	14.5	10.7
Bahama Islands	109	117	107	124	187	...	113.5	119.4	105.9	120.4	178.1	...
Barbados	88	79	72	68	43	...	38.6	35.3	31.7	29.6	18.5	...
Bermuda	4	2	11	7	12	22	9.5	4.9	26.8	16.7	28.6	51.2
British Guiana	190	192	202	172	186	...	38.0	37.1	37.9	31.3	32.9	...
British Honduras	38	56	74	38	72	54	46.3	67.5	86.0	43.2	79.1	57.4
Dominica	96	85	83	...	...	...	150.0	149.1	143.1	...	...	...
Falkland Islands	5	3	4	3	3	...	250.0	150.0	200.0	150.0	150.0	...
French Guiana	51	21	14	...	...	...	170.0	70.0	45.2	...	...	...
Grenada	...	...	...	34	45	...	...	...	...	38.6	50.6	...
Guadeloupe	...	...	...	459	241	...	...	...	...	173.9	89.3	...
Martinique	191	215	271	225	190	...	75.5	83.3	102.7	83.0	68.6	...
Montserrat	11	6	7	...	...	9	78.6	46.2	53.8	...	...	75.0
Netherlands Antilles	36	45	24	52	30	...	19.5	24.3	12.8	27.7	15.8	...
Panama Canal Zone	27	26	28	16	8	...	73.0	50.0	65.1	38.1	19.0	...
Puerto Rico	3,597	3,120	2,800	2,487	2,137	1,812	158.7	138.1	121.8	107.1	90.5	77.1
St. Kitts-Nevis-Anguilla	19	22	27	70	47	23	34.5	40.7	49.1	125.0	82.5	39.7
St. Lucia	67	118	120	75	67	...	75.3	142.2	142.9	88.2	77.9	...
St. Pierre and Miquelon	36	10	15	17	9	7	720.0	200.0	300.0	340.0	180.0	140.0
St. Vincent	33	29	15	37	35	...	42.3	38.2	19.5	46.8	43.8	...
Surinam	120	119	135	187	126	...	52.7	50.0	54.4	72.2	46.7	...
Virgin Islands, U.K.	7	...	...	2	2	...	87.5	...	...	28.6	28.6	...
Virgin Islands, U.S.A.	7	8	9	15	6	12	29.2	27.6	30.0	48.4	18.2	37.4

... Data not available.

[a] State of Guanabara and capitals of other States, with exceptions. Data of reported cases incomplete for 1960.

[b] Excluding Northwest Territories 1957 and 1958.

[c] Newly reported active cases.

[d] Reporting area.

[e] Does not include data for Alaska and Hawaii.

TABLE 15. DEATHS FROM TUBERCULOSIS WITH RATES PER 100,000 POPULATION IN THE AMERICAS, 1956-1961

Area	Deaths											
	Number						Rate					
	1956	1957	1958	1959	1960	1961	1956	1957	1958	1959	1960	1961
Argentina	3,844	...	...	...	...	...	19.7	...	...	...	...	...
Bolivia	...	...	...	...	...	...	...	...	...	...	...	...
Brazil [a]	...	8,522	7,973	8,434	...	...	...	87.4	79.7	84.2	...	...
Canada	1,256	1,183	1,027	959	823	769	7.8	7.1	6.0	5.5	4.6	4.2
Chile	4,129	4,110	3,776	4,073	4,032	4,112	59.5	57.7	51.7	54.6	52.9	52.5
Colombia	3,487	3,614	3,662	3,841	4,074	4,066	26.9	27.3	27.1	27.8	28.8	28.2
Costa Rica	196	217	165	163	151	105	19.8	21.0	15.3	14.5	12.9	8.6
Cuba	...	1,175	1,076	1,146	...	...	...	18.4	16.5	17.2	...	...
Dominican Republic	767	614	476	512	...	457	29.4	22.7	17.0	17.7	...	14.8
Ecuador	...	1,420	1,454	1,220	...	...	...	36.1	35.9	29.1	...	...
El Salvador	363	406	432	384	408	367	16.0	17.3	17.7	15.2	15.6	14.7
Guatemala	1,439	1,272	1,306	1,207	1,266	1,237	43.0	36.9	36.8	33.1	33.6	31.8
Haiti	...	...	...	...	...	...	...	...	...	...	...	...
Honduras	278	286	244	297	265	236	16.2	16.2	13.3	15.7	13.6	12.5
Jamaica	323	241	185	...	...	...	20.7	15.5	11.7	...	...	...
Mexico	8,434	9,494	9,399	9,168	9,719	...	27.6	30.2	29.1	27.5	27.8	...
Nicaragua	88	72	97	113	123	104	6.8	5.4	7.0	7.9	8.3	6.8
Panama	292	267	266	238	288	241	30.8	27.4	26.6	23.2	27.3	21.7
Paraguay [b]	242	219	220	244	292	275	...	28.6	27.7	28.7	32.4	23.1
Peru [c]	2,584	3,224	2,627	3,182	...	...	100.2	118.5	83.6	89.4	...	...
Trinidad and Tobago	169	139	110	116	95	86	22.7	18.1	14.0	14.3	11.4	10.0
United States of America	14,137	13,390	12,417	11,474	10,670	9,938	8.4	7.8	7.1	6.5	6.0	5.4
Uruguay	...	599	519	507	...	...	...	22.0	18.8	18.2	...	...
Venezuela	1,723	1,751	1,547	1,466	1,411	1,312	27.8	26.9	23.2	21.2	19.6	17.3
Antigua	21	12	7	9	3	...	39.6	23.1	13.2	16.7	5.5	...
Bahama Islands	21	13	20	12	22	...	19.4	13.3	19.8	11.7	21.0	...
Barbados	43	25	18	16	16	13	18.9	11.2	7.9	7.0	6.9	5.5
Bermuda	4	–	2	1	1	1	9.5	–	4.9	2.4	2.4	2.3
British Guiana	107	139	77	66	...	...	21.4	26.8	14.4	...	...	...
British Honduras	19	14	14	21	16	8	23.2	16.9	16.3	23.9	17.6	8.5
Dominica	37	27	32	19	29	...	57.8	47.4	55.2	32.2	48.3	...
Falkland Islands	...	–	2	–	–	...	...	–	100.0	–	–	...
French Guiana	7	7	12	8	11	...	23.3	23.3	38.7	25.8	35.5	...
Grenada	...	18	5	7	10	...	...	21.2	5.8	8.0	11.2	...
Guadeloupe	...	73	38	55	59	...	...	29.1	14.8	20.8	21.9	...
Martinique	82	96	108	76	92	...	32.4	37.2	40.9	28.0	33.2	...
Montserrat	...	6	4	...	5	2	...	46.2	30.8	...	41.7	16.7
Netherlands Antilles	...	3	4	5	...	...	...	1.6	2.1	2.7	...	...
Panama Canal Zone	6	2	1	1	–	–	10.9	3.8	2.3	2.4	–	–
Puerto Rico	825	741	667	679	...	...	36.4	32.8	29.0	29.2	...	...
St. Kitts–Nevis–Anguilla	9	6	11	14	14	...	16.4	11.1	20.0	25.0	24.6	...
St. Lucia	41	48	41	39	15	12	46.1	57.8	48.8	45.9	17.4	13.8
St. Vincent	...	...	...	...	...	...	...	...	...	...	...	...
St. Pierre and Miquelon	...	2	3	5	1	3	...	40.0	60.0	100.0	20.0	60.0
Surinam	28	37	30	20	22	...	12.4	15.5	12.1	7.7	8.1	...
Virgin Islands, U.K.	1	1	–	–	2	...	12.5	14.3	–	–	28.6	...
Virgin Islands, U.S.A.	2	4	3	2	...	...	8.3	13.8	10.0	6.5	...	...

– None.
. . Data not available.
[a] State of Guanabara and capitals of other States, with exceptions.
[b] Area of information.
[c] Principal cities.

ernments in the development of national pilot projects. Projects of this kind were already in operation in Argentina, Guatemala, Mexico, and Peru in 1962, and plans were developed for similar projects to be initiated in 1963 in Bolivia, Brazil, Chile, Colombia, the Dominican Republic, Honduras, and Panama.

In Argentina, with assistance from PAHO/WHO and UNICEF, the National Antituberculosis Center continued to develop its case-finding, control, and teaching activities. Up to 31 December the Center had made 57,703 tests with PPD, 29,874 BCG vaccinations, and 51,178 photofluorographic examinations; 345 new cases were discovered in the demonstration area. By the end of October 541 cases were under control and treatment, of which 30 per cent were treated in hospitals in a three-month basic period of hospitalization. The first training course for physicians was held from May to December, with 9 of the 10 fellows completing the course successfully.

Studies undertaken in the Bolivian Highlands indicated that tuberculosis was a serious public health hazard in that area. The Government requested the cooperation of the Organization and UNICEF to establish a pilot project to determine the prevalence, to institute control measures, and to train national personnel in tuberculosis control methods. Initial steps were taken to begin assistance in 1963.

Assistance was also given to the Government of Brazil in the preparation of a plan to initiate a pilot tuberculosis control project in the State of Rio Grande do Norte, with the assistance of UNICEF. This program, planned to start in 1961 as a tuberculosis prevalence survey, was delayed due to difficulties in obtaining a mobile X-ray unit, which was scheduled for delivery early in 1963.

In Chile a pilot project on tuberculosis control was proposed for La Graña and La Cisterna communes, south of Santiago. The project would emphasize intensive ambulatory and domiciliary treatment and would work out the methods of control which could most efficiently be applied to the remainder of the country.

The Organization has been cooperating with the Government of Colombia in the development of its tuberculosis control service since 1961. In 1962 particular advances were made in improving communications and in setting up uniform standards and a more effective records system. A pilot project was drawn up for the area around Santa Marta. The project will place particular emphasis on ways to motivate ambulatory tuberculosis patients and contacts to continue taking the drugs for an adequate period. UNICEF and AID assistance have been requested.

The Dominican Republic received assistance in preparing a plan of operations for a pilot project in San Cristóbal, scheduled to begin in 1963 with UNICEF assistance.

An evaluation was made of the work carried out in the Departments of Escuintla, Santa Rosa, and Sacatepéquez, Guatemala, to provide the basis for a new plan of operations. Administrative and economic difficulties, however, delayed activity in this project.

An emergency program was prepared for Haiti, but only limited BCG vaccination activities were carried out.

The Organization assisted in the preparation of a plan of operations for a pilot project to control tuberculosis in the Department of Comayagua, Honduras. The Government began operation of this project even before the arrival of supplies and equipment provided by UNICEF.

The arrival in Mexico of equipment supplied by UNICEF made it possible to complete studies in Mexicali and start demonstrating different control techniques in a pilot project in the State of Querétaro. The Organization provided the services of a specialized consultant.

In Panama an intensive case-finding and treatment program was carried out during 1962 as part of the Central Area public health project. A scheme relying heavily on village leaders was adopted to assure maximum participation of a predominantly rural population and maximum cooperation on the part of patients, suspects, and contacts under treatment or supervision. Its success encouraged the Government to use the same approach in other fields of public health.

Assistance was given to the Ministry of Health of Paraguay in the preparation of a plan to activate the control of tuberculosis in one pilot area, utilizing the network of public health services.

The project for tuberculosis control in the Health Area of Tacna, Peru, proceeded as planned. Courses to train personnel were carried out and a health education program was initiated. In October a prevalence survey was begun as a preliminary to the control program. Most of the equipment to be provided by UNICEF arrived. National legislation providing funds for tuberculosis control in the country was enacted early in 1962.

From one pilot project in operation a few years ago, 11 projects were either operating or soon to begin operating by the end of 1962. Thus 11 countries had followed the first recommendation of Resolution XXXVI of the XIII Meeting of the PAHO Directing Council:

> "that Member Governments carry out tuberculosis surveys in their respective territories in order to gain a better knowledge of the incidence and prevalence of the infection and the disease, for which purpose it is essential to properly organize a more intensive search for cases still undetected and ensure the timely reporting of all cases."

Stimulated by the PAHO El Paso Field Office, the El Paso-Juárez Binational Committee Against Tuberculosis continued to set an example, and binational com-

mittees were established by the border twin cities of Tijuana-San Diego and Mexicali-Imperial Valley.

Plans to hold a seminar in 1963 in Argentina were advanced. The purpose of the seminar is to discuss ways and means both to utilize the new technical developments in tuberculosis prevention and to stimulate action in country projects. This seminar will be attended by experts on tuberculosis control, epidemiologists, and public health administrators of the South American countries. Plans were begun for another seminar in 1964 for the Middle American and Caribbean countries and territories.

At the XVI Pan American Sanitary Conference, the need to train personnel for tuberculosis control work, in view of the scarcity of experts in this field, was the subject of extensive discussions. The Conference then requested (Resolution XXXII) that the Director of the Pan American Sanitary Bureau take all possible measures to assist the Governments in the preparation of specialized personnel required for tuberculosis control programs. This training was being provided in pilot projects and through provision of fellowships and travel grants.

Last but not least, it must be remembered that national tuberculosis control programs are not complete unless attention is given to animals as a source of human infection. At the Pan American Zoonoses Center, expansion of the laboratory facilities was proposed to permit large-scale typing of mycobacteria. If financial aid is found for this project, it will be possible to study the role of bovine infection in human tuberculosis in Latin America.

OTHER COMMUNICABLE DISEASES

Influenza

The year 1962 began with mild outbreaks of Type B influenza in the United States and Canada, outbreaks which were the tail-end of the epidemics that had occurred in these countries in the last two months of 1961. From the antigenic viewpoint the viruses isolated did not differ significantly from those which predominated in 1959; they were difficult to isolate in chicken embryo and tissue cultures were used for the purpose. In April, two strains of Type B virus and one strain of Type A2 were isolated from sporadic cases in Brazil.

The WHO influenza program received assistance in the Region of the Americas from influenza centers in Argentina, Brazil, Canada, Chile, Jamaica, Puerto Rico, and the United States of America. The WHO International Influenza Center for the Americas functions within the Respirovirus Unit of the Communicable Disease Center in Atlanta, Georgia. The Pan American Sanitary Bureau continued to keep health authorities and interested institutions informed of the epidemiological situation by issuing an occasional bulletin entitled *Information on Influenza.*

Measles

The importance of measles as a cause of death, of respiratory and nervous complications, and of mental impairment has led the Organization to give all possible support to the studies underway in several countries, in accordance with the recommendations of the International Conference on Measles Immunization (Washington, D. C., 1961).

In 1962 controlled studies on the subcutaneous administration of live attenuated virus (Edmonston B and Enders strains) were carried out in Rio de Janeiro, Brazil, and in Santiago, Chile. Over 500 children were vaccinated; some experienced slight febrile reactions but this did not seem to affect the acceptability of the vaccine. Immunological tests on blood samples taken from the vaccinated children were underway at year's end; it was also expected to obtain information on the resistance conferred against the natural infection, which similar tests in the United States of America and in Africa had shown to be very high (about 95 per cent). Experience with attenuated, live poliovirus vaccines has drawn attention to the possible importance of contaminating viruses that might appear in measles vaccines owing to their presence in the tissue culture of chicken embryo cells used as the substrate for the multiplication of the measles virus. This problem was on the verge of being solved at the end of 1962, and it was anticipated that the vaccine would soon be available for general use.

Poliomyelitis

The interchange of information and deliberations of experts who met at two international conferences on live poliovirus vaccines (Washington, D. C., 1959 and 1960), the knowledge acquired through world-wide application of such vaccines, and the adoption of strains developed by Sabin for preparation of the vaccines gave great impetus to immunization with the oral vaccine. The initial difficulties caused by contamination of the vaccine with virus SV40 (carcinogenic in hamsters and tissue cultures) were eliminated by most production laboratories.

Some 500 cases of poliomyelitis were recorded during an outbreak that began in British Guiana in December 1962 and lasted into 1963. The Organization assisted the local health authorities in making an appraisal of the situation and in planning a vaccination program for chil-

dren under the age of six. With the collaboration of AID, 120,000 (84.6 per cent) children were vaccinated.

Several cases of paralytic poliomyelitis, associated with the administration of Type 3 oral vaccine to adults occurred in the United States of America. Although it was not possible to confirm that the virus of the vaccine was the causal factor, the Advisory Committee to the Surgeon General of the U.S. Public Health Service recommended keeping this slight risk in mind when administering the vaccine to persons over 30 years of age. The Committee also recommended community immunization programs with the three types of Sabin oral vaccine, especially for children in the most vulnerable age groups. Adult vaccination was recommended when the natural risk of contracting the disease was great—as was the case for parents of small children, pregnant women, travellers to areas where the probability of contagion was high, and during epidemics.

Brazil, Chile, Cuba, Panama, Uruguay, and a number of communities in United States carried out mass oral vaccination programs during the year. There was also a pilot project in Argentina, preparatory to a large-scale vaccination program. The Organization cooperated in these programs by facilitating the acquisition of vaccine through its procurement service, by solving urgent problems in emergency situations, and by providing technical advisory services for conducting programs.

Encephalitis

Several epidemics of encephalitis, for some of which etiological information was obtained, occurred in Southeastern United States and the Caribbean Area during the second half of 1962.

Starting in July, human cases of encephalitis began to occur in four counties bordering on Tampa Bay, Florida. The epidemic reached its peak in September. In a total 455 human cases with varied symptomatology, moderate central nervous symptoms were frequent and 20 deaths were recorded. Serological tests confirmed the St. Louis virus as the etiological agent in a high ratio of the cases. There was also serological confirmation of recent or old infection in many birds caught in the area, and the same virus was isolated in many lots of the mosquito *Culex nigripalpus*. The presence of the virus of Eastern Equine Encephalomyelitis was confirmed in five horses in another part of Florida.

During September there was an equine encephalitis outbreak in the central region of Panama. Isolation of the Eastern Equine Encephalomyelitis virus and serological findings in several horses led to the belief that the outbreak was caused by that virus, but Venezuelan encephalitis virus was also isolated in the same area from the serum of persons suffering from a febrile disease, and the presence of St. Louis virus was verified in the blood of wild birds.

Toward the middle of October human encephalitis cases began to occur in the State of Zulia, Venezuela, and in the neighboring peninsula of La Guajira, Colombia. In both areas the outbreak reached epidemic proportions. Venezuela recorded 6,340 mild human cases and 397 cases with characteristic neurological symptoms; in the latter group, 42 were fatal. The epidemic abated toward the end of December. Studies by Venezuelan investigators resulted in the isolation of Venezuelan encephalitis virus from the blood and brain of both human cases and from donkeys. Although the exact number of human cases in La Guajira, Colombia, was not known, it was estimated to have been about 3,000 with a 1 per cent case-fatality rate. Venezuelan encephalitis virus was isolated from material taken from 18 human cases and 3 donkeys. The equine epizootic was intense. It was estimated that about 1,000 head of livestock, mainly donkeys, were affected, and that half of them died. Although only the Venezuelan virus was confirmed in the epidemic area of Zulia-La Guajira, the possibility that other etiological agents were involved in the outbreaks cannot be excluded.

Early in November an epizootic of equine encephalitis occurred in a limited area of Southeastern Jamaica and caused the death of 70 animals before it subsided in mid-December. During the latter part of this epizootic, there were also 11 human cases with 9 deaths. The Organization provided the services of a consultant who cooperated with the health authorities of Jamaica in a study of the situation. The outbreak was fought by a combination of mosquito control measures and equine vaccination. Eastern encephalitis virus, which previously had not been identified in the island, was verified as the etiological agent.

The epidemics clearly indicate the increased transmission of encephalitis virus in the Caribbean and Southeastern United States. Three different arboviruses were concerned in their etiology. These facts, associated with the increasing activity of such viruses in recent years, require the close attention of health authorities and the application of every possible effort to establish the etiological diagnosis of both human and animal cases. The human infection and disease are only side manifestations of the transmission of these arboviruses by undetermined mosquitoes to various mammals and birds (also for the most part undetermined) which act as a reservoir of infection, and to equine species, which are the visible indica-

tors of that activity. This complex ecological situation must be studied with care in each of the areas affected.

Hemorrhagic Fever

Ever since 1943 a well-defined area in the northwestern part of the Province of Buenos Aires, Argentina, has been afflicted by a predominantly autumn-winter epidemic disease known as Argentine hemorrhagic fever, as well as by the name of "corn-stubble disease" because migrant agricultural workers who harvest corn are the principal victims. The disease has assumed epidemic proportions in the autumn and winter of every year since 1958, with 6 to 20 per cent mortality. In 1958 the etiological agent was found to be an arbovirus (Junín virus) as yet not classified in the antigenic system of Casals. Microbiological, clinical, and epidemiological tests have clarified several aspects of the disease, and there are indications that small mammals in the corn fields act as reservoirs of the virus, which is transmitted by mites. To date no effective control measures are available. In 1962, to assist the Government of Argentina in studying and solving this problem, the Organization provided the services of a consultant who, after discussing the complex and little-known etiology of the disease with Argentine research workers and health authorities, made recommendations for advancing the research already started.

A clinically similar epidemic disease appeared in the Department of Beni, in Northeastern Bolivia, in 1959. From September 1959 to May 1962, 362 cases and 120 deaths were recorded. In the wake of the 1962 epidemic, the most severe to date, scientists of the National Institutes of Health (NIH) of the United States Public Health Service made a rapid epidemiological survey of the two most affected areas and verified the presence of Junín virus antibody in convalescent serum. This verification plus the antigenic similarity of the Junín virus to the Tacaribe virus, recently isolated in bats and mosquitoes in Trinidad, indicate that this virus group is transmitted by arthropods.

The Junín virus, which has proved to be capable of creating a serious health problem in some areas of Argentina and Bolivia, may well constitute a potential hazard to other areas, not only of these countries, but also of Paraguay and Brazil. Seasonal migration at harvest time and population movements in resettlement programs add still greater significance to the problem of hemorrhagic fever and other arbovirus diseases. The Organization has collaborated in studies of these diseases and in coordinating the efforts of the Governments and interested agencies to arrive at fuller knowledge and eventual control.

PLAGUE

Plague has been an important, albeit diminishing, problem of several of the Member Countries since the birth of the Pan American Health Organization. In the 60 years of its operations the Organization has assisted the Governments in the application of the classical control methods which have driven plague into the enzootic foci of today.

During 1962 plague did not appear in any new major areas in the Americas, but remained manifest in Brazil, Ecuador, Peru, and Venezuela. The zoonotic aspect of plague increased in importance because the reported incidence of human cases continued to climb (Table 16), reaching 527 cases by the end of the year. A higher number of cases in Ecuador and Peru contributed predominantly to the increased total.

TABLE 16. REPORTED HUMAN CASES OF PLAGUE IN THE AMERICAS, 1958-1962

Country	1958	1959	1960	1961	1962
Argentina	1	–	–	–	–
Bolivia	–	–	12	20	–
Brazil	25	16	28	106	36
Ecuador	22	40	77	140	326
Peru	49	33	139	68	164
United States of America	–	4	2	3	–
Venezuela	–	–	–	6	1
Total	97	93	258	343	527

– None.

The focus involving the Provinces of El Oro and Loja, in Ecuador, and the Departments of Amazonas, Cajamarca, and Piura, in Peru, again was an active plague ecological unit and contributed 222 cases to the annual total (Figure 6).

The epidemic that occurred in Manabí Province, Ecuador, in the last quarter of 1962, contributed 241 cases. There were 6 deaths in this year-end figure, as yet incomplete; the highest number of cases occurred in the Cantons of Manta (86), Portoviejo (26), and Sucre (74). Although this outbreak is centered around the port of Manta the risk to international shipping is relatively low, for all ocean-going ships anchor at a considerable off-shore distance because of the lack of port facilities. Other cases were known to have occurred within an area of 40 to 50 kilometers from the Manta-Portoviejo axis, but the true

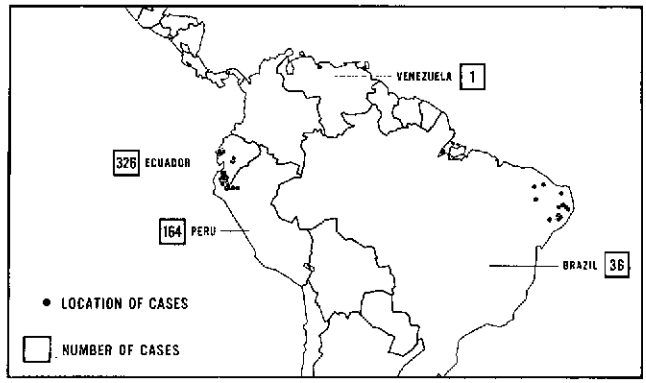


FIG. 6. REPORTED CASES OF PLAGUE IN THE AMERICAS, 1962.

total may never be known as some cases may not have been reported to the health authorities.

A third focus of plague in Ecuador exists in the Province of Chimborazo, where 21 of the 27 reported cases occurred in the Canton of Alausí. In the last five years plague was reported only once (10 cases in 1960) from this Canton, all other cases having occurred in the Cantons of Riobamba and Guano.

In the past, cases of plague have been reported from the Departments of Chuquisaca and Santa Cruz in Bolivia. In 1962 plague was suspected in the Department of Beni, which if true would portend a serious retrogression in plague-containment efforts because a Beni focus could well lead to the entrance of plague into the extensive area and rodent population of the Amazon Basin. Investigations during the year did not reveal any evidence of plague in this Department, but plans were made for a more thorough study, including sampling of wild rodents, early in 1963.

A study of documentation and statistics of plague in the Americas was made in 1962 by the Organization. The report, in provisional form, was submitted to the first meeting of the PAHO Advisory Committee on Medical Research, which commented that the "documentation provided . . . a unique review of the existing situation in the Hemisphere and an outline of research plans" and recommended that "on completion of the report on plague for other areas in the Americas, the document should be published."

Study outlines prepared by the Organization in 1962 for collaborative international-national investigations on plague on the Ecuador-Peru border included study of the ecology of the various species of rodents and Lagomorpha involved in the plague outbreaks; systematic wholesale studies on the occurrence of plague in the various species of rodents and Lagomorpha; studies of susceptibility to plague infection; distribution of the various flea species; occurrence of plague in the various species of fleas, common rats and house-mice, and domesticated guinea pigs; and epidemiological observations.

PARASITIC DISEASES

Parasitic diseases remained an important public health problem in most of the American countries. The Organization provided assistance to countries with respect to Chagas' disease, onchocerciasis, schistosomiasis, leishmaniasis, hydatidosis, ancylostomiasis, cysticercosis, filariasis, trichinosis, toxoplasmosis, and fascioliasis. Malaria is discussed separately in this Chapter.

Chagas' Disease

As part of its medical research program, the Organization called a meeting of an Advisory Group on Research in Chagas' Disease in Rio de Janeiro Brazil, from 4 to 7 June 1962, to evaluate the present status of knowledge of the disease, define the most important fields to be studied, and indicate the type of research best suited for the solution of the problem. The Group's report was presented to the PAHO Advisory Committee on Medical Research.

The Advisory Group recommended fields of study and their priority as follows: perfection and standardization of diagnostic procedures; a broad survey to evaluate the true extent and magnitude of the problem; ecology of vectors; chemotherapy; prophylaxis; basic research on correct identification of trypanosomes similar to *Trypanosoma cruzi* and on the nutrition, metabolism, and immunological behavior of this parasite; and studies on the pathogenesis of the disease. The Advisory Committee on Medical Research agreed with the above list of priorities and recommended the establishment of centers to produce and control antigens for laboratory diagnosis and the promotion of centers to maintain strains of trypanosomes, under known conditions, and facilitate their exchange.

The Organization signed an agreement with the Faculty of Medicine of the University of Chile, by which the Department of Parasitology would undertake studies for the preparation of a standard antigen for use in the complement fixation test and assume responsibility for distributing the antigen to countries that request it. Negotiations were begun to establish a similar agreement with another institution, which would also serve as a reference and training center for the serological diagnosis of Chagas' disease.

Onchocerciasis

Based on recommendations of its Advisory Committee on Medical Research, WHO prepared a general program for research on onchocerciasis. As part of this program, population surveys were conducted in representative areas of endemicity in Guatemala and West Africa to evaluate the importance of the ophthalmological aspects of onchocerciasis.

Sites for the study in Guatemala had been selected during a preliminary survey carried out in 1961. In 1962 the Organization provided a consultant who, in collaboration with national technical personnel, sampled the population in three different areas to study the correlation between the types of eye lesions found in those areas and onchocercal infection, nutritional status, and genetic factors. The data collected were still under study at WHO headquarters at the end of the year.

Schistosomiasis

Schistosomiasis remained a public health problem of major proportions in some areas of Brazil, the Dominican Republic, St. Lucia, Surinam, Puerto Rico, and Venezuela.

During the first semester of 1962 the WHO Bilharziasis Advisory Team visited all the countries and territories in the Americas where schistosomiasis is known to exist or where ecological characteristics are predisposing to the disease, except the Dominican Republic. The Team analyzed current problems and programs in each area, providing advice when appropriate and collecting a considerable amount of data.

The PASB/WHO Working Group for the Development of Guidance for Identification of American Planorbidae, established in 1961, was successfully active in 1962. One of the initial tasks preliminary to preparing a guide was to determine which of the hundred species described were valid species as opposed to nominal species which must be regarded as synonyms. Financial assistance from WHO permitted a member of the Working Group to visit several European museums in search of type specimens, and live specimens recently collected by other members of the Working Group were contributed for comparisons with type specimens. In all, 68 species were investigated, and some of the discrepancies which had confronted the Working Group in November 1961 were clarified in 1962.

Other members of the Working Group collected living specimens from a number of areas in South America, the Caribbean, and Southern United States. Studies were also made to determine normal variations in various species. One species new to science, *Australorbis intermedius*, collected from Valparaíso, in the State of São Paulo, Brazil, was described in 1962 by a member of the Working Group. A member found that *A. glabratus*, the most important intermediate host of *Schistosma mansoni* in the Western Hemisphere, had a very wide range of susceptibility to infection. Specimens collected from 23 localities, when exposed to the same strain of parasite, varied from 0 to more than 50 per cent infectivity.

The Working Group will report their findings as a "Guide to the Identification of American Planorbidae Involved in Schistosomiasis." Work on the monograph proceeded throughout 1962.

ZOONOSES

To assist the countries of the Americas with their zoonotic problems during 1962, the Organization provided the services of medical epidemiologists, public health veterinarians, microbiologists, and statisticians at the Headquarters, Zone, and country project levels, plus the services of the Pan American Zoonoses Center.

The growing list of zoonoses, when parasites and viruses are included, numbers over 200 diseases and infections transmissible between animals and man. Not all the zoonoses exist in the Americas, but even those known in the area constitute a list of separate problems whose solutions go far beyond the program activities and budget limitations of the Organization. The Organization endeavored, nevertheless, to answer all technical inquiries and requests for assistance in this field as received from Member Governments. For many of the diseases the assistance took the form of providing technical advice, antigens, strains for the production or testing of biologicals, minimum standards and protocols, and the outline of control or prevention procedures.

Considerable effort was also expended in helping the countries to improve their disease-reporting systems so as to include the zoonoses as much as possible. Reporting on the zoonoses leaves much to be desired (Table 17). Yet even with the statistics on the prevalence of anthrax, brucellosis, and rabies as incomplete as they are, it is known, if only from clinical observation, that zoonotic diseases are widely prevalent in many countries of the Western Hemisphere.

Knowledge to date indicates that certain zoonoses, listed and described briefly in Figure 7, are of particular health and economic importance.

Animal Vectors of Human Disease

The number and nature of the zoonoses puts their control beyond current public health resources. Even the determination and delineation of incidence and prevalence

TABLE 17. REPORTED CASES OF SELECTED ZOONOSES IN MAN AND ANIMALS IN THE AMERICAS, 1961 AND 1962[a]

Country	Anthrax				Brucellosis				Rabies			
	1961		1962[b]		1961		1962[b]		1961		1962[b]	
	Man	Animals	Man	Animals	Man	Animals	Man	Animals	Man	Animals	Man	Animals
Argentina	176	...	52	[c, d]	1,133	...	566	[c, e]	22	1,252	45	...
Brazil	...	[f]	...	...	...	[g]	...	...	...	[h]	...	...
Canada	1	...	–	[i]	109	[j]	100	...	–	784	–	1,081
Chile	256	...	314	...	6	...	...	...	5	554	3	442
Colombia	2	...	5	...	9	...	9	...	45	...	33	...
Costa Rica	7	26	...	17	–	825	...	727	–	–	–	6
Cuba	...	...	...	...	16[b]	...	35	...	1	...	–	–
Dominican Republic	–	...	...	...	1	...	...	...	2	3	...	...
Ecuador	...	...	...	...	–	...	...	...	16	155	20	122
El Salvador	18	51	...	...	12	74	...	...	9	168	7	251
Guatemala	10	1,071	...	...	2	357	...	...	3	57	3	147
Haiti	72[b]	...	39[c]	...	...	...	...	...	6[b]	1[b]	–[c]	1[c]
Honduras	–	253	...	...	8	2,574	...	...	3	154	2	14
Mexico	...	...	...	...	2,061	...	...	...	42	...	35	...
Nicaragua	...	836	...	...	...	15	...	...	...	170	–	45
Panama	–	...	1[c]	...	1	422	–[c]	...	–	1	–	...
Paraguay	18	...	...	...	6	...	...	...	2	44	...	...
Peru	85	...	...	...	1,478	...	960	...	17	...	11	...
United States of America	14	65[k]	6	...	636	61,686[k]	397	...	3	3,599	2	3,548
Uruguay	60	...	40[c]	...	–	...	–[c]	...	–	–	–[c]	[c]
Venezuela	14	...	3	...	–	...	...	...	6	...	13	169
British Guiana	...	...	...	...	...	...	...	...	–	8	–	...
British Hondu as		...	...	...	–	...	...	...	–	4	...	...
Puerto Rico	–	...	–	...	–	...	–	...	–	29	–	21

– None.
... Not available.
[a] Based on official notification to the Health Services; data received at PASB through 22 March 1963.
[b] Provisional.
[c] Based on incomplete information.
[d] 46 new foci of infection.
[e] 1 new focus of infection.
[f] 37 new foci of infection.
[g] 17 outbreaks.
[h] 223 outbreaks.
[i] 1 outbreak.
[j] 1.7 per cent of tested cattle.
[k] Infected herds.

of the zoonoses existant in the Americas has not been possible. Efforts must be made, however, to determine and elucidate these individual disease problems and equate the public health responsibilities therein in proper priority. Except for certain disease problems described elsewhere in this Report, the Organization's assistance has been chiefly on development of better diagnostic services and disease reporting systems, and on the conduct of surveys to determine how many and where zoonotic diseases exist. Only on the basis of such information can adequate program plans and priorities be decided.

Determination of the animals involved and the diseases they transmit, directly or indirectly, to the human population is a multidiscipline operation that must include properly trained public health veterinarians. The need for attention to the animal disease aspect of the zoonoses and for collaboration with veterinarians in private practice, Ministers of Agriculture, etc., is the major reason why public health veterinarians have been added to the staff of Ministries of Health. Training of personnel and guidance in program development have been included in the assistance provided by the Organization.

DISEASES	PRINCIPAL ANIMALS INVOLVED	MAIN MODE OF HUMAN INFECTION	GEOGRAPHICAL DISTRIBUTION
VIRUS DISEASES			
ENCEPHALITIS (ARTHROPOD-BORNE)	BIRD, HORSE, MULE, RODENTS	MOSQUITO BITE	WIDESPREAD
PSITTACOSIS	PARROT, PARAKEET, PIGEON, POULTRY	INHALATION, CONTACT	WIDESPREAD
RABIES	BAT, CAT, DOG, FOX, SKUNK, WOLF	ANIMAL BITE	WIDESPREAD
JUNGLE YELLOW FEVER	MONKEY, OTHER VERTEBRATES	MOSQUITO BITE	CERTAIN JUNGLE AREAS
RICKETTSIAL DISEASES			
Q-FEVER	CATTLE, DOG, GOAT, RAT, SHEEP, WILD ANIMALS	INHALATION, TICK BITE	WIDESPREAD
SPOTTED FEVER (ROCKY MOUNTAIN, BRAZILIAN, COLOMBIAN)	WILD RODENTS, OTHER ANIMALS	TICK BITE	BRAZIL, CANADA, COLOMBIA, MEXICO, PANAMA, UNITED STATES
TYPHUS FEVER (MURINE)	RAT	FLEA BITE	WIDESPREAD
PROTOZOAL DISEASES			
LEISHMANIASIS	CAT, DOG, RODENTS	*SANDFLIES* CONTACT (?)	*CENTRAL AND* SOUTH AMERICA
TRYPANOSOMIASIS (CHAGAS' DISEASE)	CAT, DOG, RODENTS	REDUVIDAE BUGS, CONTAMINATED SKIN WOUNDS AND MUCOUS MEMBRANE	CENTRAL AND SOUTH AMERICA

DISEASES	PRINCIPAL ANIMALS INVOLVED	MAIN MODE OF HUMAN INFECTION	GEOGRAPHICAL DISTRIBUTION
BACTERIAL DISEASES			
ANTHRAX	CATTLE, GOAT, HORSE, SHEEP, SWINE, WILD ANIMALS	CONTAMINATED WOOL, HAIR, HIDES, AIR, FOOD, WATER	WIDESPREAD
BRUCELLOSIS	CATTLE, GOAT, SHEEP, SWINE	OCCUPATIONAL EXPOSURE, MILK, MEAT OR OTHER CONTAMINATED FOOD	WIDESPREAD
LEPTOSPIROSIS	CATTLE, DOG, RODENTS, SWINE	CONTACT OF SKIN OR MUCOUS MEMBRANE WITH CONTAMINATED WATER OR DUST	WIDESPREAD
PLAGUE	RODENTS	FLEA BITE	AREAS IN ARGENTINA, PERU, UNITED STATES, BRAZIL, VENEZUELA, ECUADOR, BOLIVIA
SALMONELLOSIS	CATTLE, CAT, DOG, POULTRY, RAT, SHEEP, SWINE	INFECTED FOOD	WIDESPREAD
TUBERCULOSIS, BOVINE	CATTLE, CAT, GOAT, SWINE	CONTACT, MILK AND DAIRY PRODUCTS	WIDESPREAD
TULAREMIA	BIRDS WILD ANIMALS	TICK, SKIN CONTACT, WATER	KNOWN IN CANADA, UNITED STATES
HELMINTH DISEASES			
HYDATIDOSIS	DOGS, FOXES, RODENTS	CONTACT, CONTAMINATED WATER AND FOOD	PRINCIPALY SOUTHERN SOUTH AMERICA, NORTHERN NORTH AMERICA
TAENIASIS (CYSTICERCOSIS)	CATTLE, SWINE	INFECTED MEAT	WIDESPREAD
TRICHINOSIS	RODENTS, SWINE, WILD CARNIVORES	INFECTED MEAT	WIDESPREAD

FIG. 7. ANIMALS INVOLVED, MODE OF HUMAN INFECTION, AND GEOGRAPHIC DISTRIBUTION OF MAJOR ZOONOSES IN THE AMERICAS.

Zoonoses and Food Hygiene

The Organization continued collaborating with the Massachusetts Institute of Technology (U.S.A.) where a new course on Graduate Training in Food Science and Technology for Veterinarians was established in 1962. The Organization provided one fellowship for attendance at the first course.

The Organization continued to expand its collaboration with countries interested in improving their food hygiene services. In Brazil a country-wide survey of the livestock industry and the diseases involved was underway. A survey was completed of slaughterhouses in all localities of more than 20,000 population in Colombia, where the Government promulgated new food control regulations. Ecuador expanded its meat hygiene services, as did Peru where work on a new food code was in the last phase. Increased attention was given to slaughterhouse and meat hygiene programs in the Mexico-United States border area.

The greatest increase in food hygiene activity took place in Central America (especially in Panama). This work is particularly beneficial to this region where many persons live on a low protein diet and where the countries involved are in need of increased production for export. All those countries (except El Salvador) are now exporting meat to the Caribbean Area and to the United States.

The Organization published in Spanish the booklet *Post Mortem Examination of Bovine Reactors to the Tuberculin Test*[3] and translated for publication in Spanish the American Public Health Association's eleventh edition of *Standard Methods for the Examination of Dairy Products.*

Benefits in protein food conservation and in improved economic status have been gained by the countries through the Organization's work in rabies, brucellosis, tuberculosis, and other zoonoses. Benefits of this type cannot be considered without realizing the important help pro-

[3] *Scientific Publication PAHO* **68,** 1962.

vided to the countries by the Pan American Foot-and-Mouth Disease Center, whose activities are reported further on in this Chapter.

Rabies

The incomplete information in Table 17 indicates that rabies did not diminish in 1962. Most likely the incidence, prevalence, and distribution of the disease increased, and the following discussion relies heavily on supplementary information from PAHO field staff.

Argentina experienced severe outbreaks in the Buenos Aires and Córdoba areas, where the number of rabid dogs captured rose from 267 in 1958 to 1,632 in 1962; Uruguay, which had been free of the disease, diagnosed rabies in dogs said to have entered the country from neighboring areas; in Brazil the high incidence reported in previous years had not abated and a reorganization and expansion of rabies control facilities was taking place. It has been reliably estimated that there exist in Brazil approximately 14 rabies-positive dogs per 100,000 human population.

The countries of Central America and Panama, with coordinating service from the Organization, continued a collaborative antirabies program. This area reported 12 human cases and 463 animal cases in 1962, compared to 15 and 550 cases in 1961. For the second consecutive year Costa Rica reported no human cases. The incidence of the disease in Cuba and the Dominican Republic stimulated intensification of the antirabies campaign in those countries. In Mexico the problem had not abated and a serious situation existed in a number of areas; in northern Baja California, for example, the rabies problem became so acute that military and police personnel were assigned to help reduce the large stray-dog reservoir of the disease.

The Organization's services in rabies for the Mexico-United States border area were intensified after the III International (Mexico-United States) Rabies Conference (Mexico City, November 1961). Across-the-border programs were planned and local agreements reached. The coordinated binational activity brought more progress against rabies in the border area in 1962 than had ever before been achieved.

In Mexico, the Organization provided assistance for efforts to re-establish the production of effective live-attenuated, rabies vaccines for use in animals, and subsequently received samples for reference testing. A training course on the use of the fluorescent antibody for the diagnosis of rabies was held in Mexico City (see Public Health Laboratories, Chapter II).

Diligent action by the Costa Rican and Nicaraguan Governments brought under control a border rabies outbreak, in May, with no human cases. The study of sylvatic rabies was continued in Guatemala and British Honduras. Rabies was confirmed in one species of bat and one opossum. In addition, British Honduras reported 23 rabies-positive bats during 1962.

THIS RABID OPOSSUM, CAPTURED IN BAKING POT, CAYO DISTRICT, BRITISH HONDURAS, IS PART OF THE WILD ANIMAL RESERVOIR OF RABIES IN CENTRAL AMERICA.

The Organization assisted Brazil in its control activities, including participation in a State-by-State survey of rabies. From January to October the Instituto Pasteur of Rio de Janeiro attended 15,471 persons who had been exposed to the disease and started treatment of 8,053, of whom, 1,375 abandoned treatment. Persons bitten by animals with a positive laboratory diagnosis totalled 1,092.

Brucellosis

Brucellosis probably causes more human morbidity and more economic losses than any other of the zoonoses in the Americas. It has been estimated that human cases in the Western Hemisphere surpass 250,000 annually. Even with incomplete reporting, it can be noted from Table 17 that the cases reported for 1961 by five countries (Argentina, Canada, Mexico, Peru, and the United States) totalled 5,417; the two countries with fewer cases, Canada and the United States, have conducted animal brucellosis eradication programs for a number of years.

In 1962 assistance in brucellosis problems was provided to Member Governments by Organization consultants and by the Pan American Zoonoses Center. Attention to brucellosis increased and progress was made in reducing the incidence of the disease, especially infection by *Brucella abortus*. The Government of Mexico showed increasing interest in the development of personnel and

facilities to control brucellosis, and made plans for a pilot animal brucellosis eradication program in an area in Baja California. El Salvador, Nicaragua, and Panama attained in 1962 considerable reduction of the disease from previous levels. The antizoonoses services of the Ministry of Health of the Dominican Republic were reorganized, and a brucellosis coordinating committee for the Ministries of Health and of Agriculture was established.

In Colombia studies were made of the magnitude of the brucellosis problem, of the services needed for a control program, and of improving quarantine measures for imported sheep and goats. A country-wide survey of animal diseases was begun in Brazil, and the facilities for inter-ministry collaboration against brucellosis were strengthened. In Argentina the pilot area eradication program continued, with laboratory assistance and services provided by the Pan American Zoonoses Center.

Throughout the year the Organization continued, mainly through the Pan American Zoonoses Center, to supply *Brucella* standard strains, vaccines, and antigens to enable the countries to produce the test vaccines and antigens. The Center also continued the survey work designed to evaluate and standarize brucellosis antigens and tests in the Americas.

Pan American Zoonoses Center

The Pan American Zoonoses Center in Azul, Buenos Aires, Argentina, is operated by the Organization and financed by the Government of Argentina, PAHO, WHO/TA, and research and training grants from various sources. The following are highlights of the activities conducted during 1962.

Research

A comparative study was carried out on *Brucella* antigens used in the plate and tube agglutination tests. The study of 32 antigens from 8 countries revealed wide variations, especially among the reagents destined for use with human sera. Carefully controlled studies indicated that foot-and-mouth disease vaccines, in use in several countries, caused no appreciable effect on the sero-agglutination titer for brucellosis in animals previously vaccinated with Strain 19 vaccines. This finding helped to clarify a much-debated point of importance for brucellosis control programs.

Substantial progress was made in screening compounds in the search for an improved product to eliminate *Echinococcus granulosus* from dogs. Preliminary results with two of the drugs were such as to warrant more extensive testing of their use against this tapeworm, the adult form of the parasite which causes hydatidosis. This work was supported by a grant from the National Institutes of Health of the U.S. Public Health Service. The finding of the *Echinococcus* tapeworm in numerous specimens of the pampas gray fox from Buenos Aires Province, Argentina, provided evidence that these wild carnivores are involved in the spread of hydatidosis. Continuing studies are expected to provide more information. A modified slide latex screening test for the diagnosis of hydatid disease was developed in cooperation with the Communicable Disease Center, USPHS, Atlanta, Georgia.

Studies on the epidemiology of leptospirosis led to the discovery of *Leptospira pomona* infection in the pampas cavy, *Cavia pamparum*. The investigation was carried out in connection with an outbreak of the disease in cattle at a large ranch in Northeastern Argentina. Some 10 per cent of the 282 cavies studied on three occasions during one year were serologically positive to *L. pomona*, and the causative agent was isolated from urine or kidney tissue of 11 of the animals. This was the first reported isolation of *L. pomona* from wild cavies and the first evidence incriminating these animals in the epizootiology of bovine leptospirosis. The fact that the pampas cavy is distributed throughout the most important cattle areas of Argentina and Uruguay indicates the need for further studies to define its role as a reservoir of leptospirosis transmissible to domestic livestock and to the rural human population.

Work continued on the study of the antibody response to human pre-exposure vaccination against rabies, on the comparative potency of liquid and lyophilized phenol-killed vaccines for human use, and on the keeping quality of modified live-virus vaccines. Serological surveys of Q fever in man and domestic animals, using the Luoto capillary tube test, were carried out through the cooperation of national institutions in six countries.

Since the control of many zoonoses is complicated by the existence of wild animal reservoirs, a research project was initiated to study possibilities of reducing wild fox populations through an artifically induced reduction of the reproduction rate. Various gametocides were tested in small laboratory animals to determine toxicity and effective dosage levels. Census calculations of the fox population were made for two field study areas. Work was carried out on application of the lens technique for determining the age of the pampas gray fox. Planning and preliminary preparations were made to start in 1963 an inter-American repository of human and animal sera for use in sero-epidemiological studies of the zoonoses.

Training

An official of the Ministry of Agriculture, Mexico, completed a 12-month postgraduate program at the Center, and special study programs were begun by post-

FIGHTING LEPTOSPIROSIS IN ARGENTINA—INVESTIGATION BY THE PAN AMERICAN ZOONOSES CENTER, IN COOPERATION WITH THE GOVERNMENT OF ARGENTINA, HAS DEMONSTRATED CONCLUSIVELY THAT THE RODENT *Cavia pamparum* (LIKE THE ONE HELD BY THE GAUCHO IN THE PICTURE) IS IMPLICATED IN THE INFECTION OF CATTLE WITH *L. pomona*.

doctoral fellows from the Veterinary Research Center of the Ministry of Agriculture and Livestock Breeding, Venezuela, the Veterinary Diagnostic Laboratory of the Ministry of Agriculture, Dominican Republic, and the California Polytechnic College. In collaboration with the Government of Argentina a special two-week course on the preparation and standardization of antigen and of Strain 19 brucellosis vaccine was conducted for eight fellows from Argentina, Uruguay, and Venezuela.

The Center provided the following educational services to Argentina: Round-table sessions on the theory and practice of research and on zoonosis control measures, with special reference to brucellosis, rabies, hydatosis, and leptospirosis, were held at the Center for several days for seven students of the National School of Public Health. The fifth-year class of the School of Medicine of the University del Salvador, in Buenos Aires, spent a week at the Center for instruction and observations on zoonoses problems and control techniques. Three veterinarians of the Ministry of Agriculture were assigned to the Center for a month, for laboratory and field studies on the zoonoses. An investigator from the Department of Infectious Diseases of the Buenos Aires Medical School, and a microbiologist from Hoechst Laboratories, Buenos Aires, studied laboratory techniques for leptospirosis. Practical training in their respective fields of work was given to an animal colony technician and a library assistant from the Buenos Aires Provincial Health Service.

Technical Services

Field demonstrations and evaluation studies on vaccines against rabies, anthrax, and leptospirosis were continued in Argentina and Paraguay in collaboration with national health services. Further progress was made in the demonstration projects to eradicate bovine brucellosis and tuberculosis from a group of ranches. The Argentine brucellosis control pilot program, begun in 1961, continued through 1962, with 115,724 bovine serum samples tested and 34,193 calves vaccinated. The Center provided technical advisory service and carried out the laboratory phases of the work.

Rabies vaccines from Argentina, Bolivia, Brazil, Colombia, Ecuador, and Peru were tested for potency; brucellosis vaccines were tested for Argentina and Mexico; and *Brucella* antigen was tested for Argentina. Reference diagnostic services were provided for human and animal brucellosis, rabies, anthrax, leptospirosis, and Q fever, on samples received from Argentina, Chile, and Venezuela. Table 18 shows the number and type of samples processed in the Center's laboratories during 1962.

Biological material sent to 13 countries in the Americas and to 2 in Europe included cultures, sera, and antigens for work on anthrax, brucellosis, hydatidosis, leptospirosis, Q fever, rabies, and trichinellosis. Foundation breeding stock of different species of laboratory animals was supplied to institutions in Argentina and Uruguay.

Scientific Publications

Four issues of the quarterly bulletin *Zoonoses* were published in Spanish, and four research papers published during 1962 in various journals dealt with brucellosis, anthrax and leptospirosis. Eight papers were in press at the end of the year.

TABLE 18. SAMPLES PROCESSED AT THE PAN AMERICAN ZOONOSES CENTER LABORATORIES, 1962

Type of sample	Number of samples processed	
	From external sources	From Center's research
Material for diagnosis		
Whole animals	5	2,463
Other specimens	116,018[a]	8,275
Biological products for testing	67	85
Etiological agents for identification	–	3
Zoological specimens	–	308
Total	116,090	11,134

– None.
[a] Includes 115,724 specimens from the Argentine Brucellosis Control Pilot Program.

Personnel and Physical Facilities

An animal ecologist and a parasitologist, financed by grant funds, were added to the international staff of three scientists and one administrative officer. Local personnel, including laboratory, field, general service, secretarial, and administrative categories, totalled 39 at the end of 1962, or one more than in 1961.

Specially-designed kennels to house some 70 dogs infected with *Echinococcus granulosus* were completed. An incineration unit was also completed and put in operation at the farm.

Pan American Foot-and-Mouth Disease Center

Foot-and-mouth disease in the Continent in 1962 remained confined to South America. The losses caused by the disease to the national agricultural economy and to the supplies of animal food products in the affected countries did not change significantly throughout the year. In spite of this stationary situation there was an increased awareness of the need to deal with the problem and in several areas considerable advances were made in the implementation of more effective campaigns.

Argentina strengthened its campaign by recruiting more personnel and by extending the area of compulsory vaccination; Uruguay took steps to initiate a national campaign; Venezuela applied emergency measures to deal with a serious outbreak caused by a strain of virus different from the strains hitherto encountered in that country; and Ecuador successfully suppressed the first appearance of Type O infection.

Almost without exception, the countries free of foot-and-mouth disease in the Hemisphere continued to enforce strict cattle importation restrictions to maintain a barrier against the introduction of infection. Panama and the Central American countries, most threatened because of their geographical proximity to infected Colombia, were increasingly concerned over the possibility of spread of the disease and held during the year a series of discussions on the best means to minimize the danger.

An event that may be of far-reaching significance was the increased participation of the United States of America in foot-and-mouth disease programs in South America. In January 1962, because meat from Argentina, Brazil, and Uruguay had been refused entry, the President of the United States sent a scientific mission to those countries to study their foot-and-mouth disease problem. After a visit to the United States of the counterpart mis-

sion appointed by the President of Argentina, both countries agreed to conduct a joint program of research on processed beef and an epizootiological survey of Tierra del Fuego. Subsequently, the Government of the United States of America, acting through the Agency for International Development, made a grant to the Pan American Sanitary Bureau to implement some of the recommendations of the U.S.A.-Argentine Joint Scientific Commission. The Pan American Foot-and-Mouth Disease Center provided consultant services to the mission during the preliminary studies and will participate in the program, scheduled to begin early in 1963.

Research Program

The research program continued to stress the development of better vaccines to immunize against foot-and-mouth disease. These vaccines are prepared with either inactivated virus or with modified live virus.

Inactivated-virus vaccines. The main problem is the production of virus to prepare the inactivated vaccine. An important activity of the Center is the provision to national laboratories of strains of virus that have been adapted to grow in different culture media. In 1962 the Center maintained 7 different virus strains in tongue-epithelium cultures and 8 strains in cultures of kidney cells. A total of 30 samples of adapted virus were issued to various laboratories.

In connection with its field program the Center produced inactivated-virus vaccines, using virus obtained from tongue-epithelium cultures, on a pilot-plan scale. The production incorporated the results of research work on the use of adjuvants to increase the efficacy of the vaccines. The bulk of 40,630 doses of vaccine used during the year was trivalent vaccine providing protection against Types O, A, and C viruses.

Modified live-virus vaccines. During the past few years the Center's attempts to develop a modified live-virus vaccine against foot-and-mouth disease were chiefly confined to work with one of the three virus types occurring in South America. As a result of the experience so gained more rapid progress is now being made in the development of modified strains of the other two types. Experience has also shown that although vaccination with a modified live-virus vaccine gives stronger immunity, such vaccination does not remove the necessity of selecting appropriate strains to overcome immunogenic differences caused by virus subtypes. For this reason the adaptation and modification of two strains of each of the three immunogenic types have been proceeding using three host systems: rabbits, mice, and chick embryos.

Most success during the year occurred with a Type A strain modified by passage in chick embryos. Using this strain and a Type O strain developed earlier, 7,147 doses of monovalent vaccine were used in field trials in the neighborhood of the Center.

As part of a joint research program of the Pan American Foot-and-Mouth Disease Center and the Ministry of Agriculture of Venezuela experiments were conducted at the Veterinary Research Center, Maracay, with modified Type A strain. The experiments showed that the selection of a virus, of an appropriate passage in chick embryos, for vaccination of cattle in Venezuela gave results as satisfactory as those previously obtained in experimental and field work in Brazil.

Application of tissue-culture techniques. In addition to establishing techniques for research and training in 1962 the Center continued research on the selection of suitable cells and culture media to give the best results under local conditions. Toward this end, tissue and virus were cultured in kidney cells from the bovine fetus, the calf, the pig, the rat, and the rabbit.

To avoid having to use primary cultures, various attempts were made to establish cell lines from tissues. The cell lines established failed to maintain their susceptibility to the virus. This difficulty was recently overcome by receipt at the Center of the baby hamster kidney-cell line, BHK 21, developed in the Department of Virology of the University of Glasgow and shown to be susceptible to the virus of foot-and-mouth disease in the British Foot-and-Mouth Disease Research Institute.

Virus samples received at the Center for routine identification have been comparatively rich in subtypes. The final establishment of the identity of new subtypes is done in collaboration with the World Reference Laboratory for Foot-and-Mouth Disease in England, and in 1962 two South American subtypes sent there by the Center were confirmed in their specificity and were appropriately identified.

The Center continued research to perfect a vaccine potency test in which young adult mice are used instead of cattle. Other investigations carried out in 1962 helped to clarify the interpretation of antibody determination tests and to increase their sensitivity. Techniques for the demonstration of infected cells by the use of fluorescent antibody were established during the year.

Training

The seventeenth training course organized by the Center was on Vesicular Stomatitis and Other Vesicular Diseases. It was held in Mexico City, from 29 October to 10 November, in collaboration with the Ministry of Agriculture of the Government of Mexico. Fellows from Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Nicaragua, Panama, Peru, the United States of America, and Venezuela attended the course. Other participants came from the Ministry of Agriculture of Mexico; the

Trinidad Regional Virus Laboratory of the University College of the West Indies; the University of Wisconsin, U.S.A.; the Joint Mexican-American Commission for the Prevention of Foot-and-Mouth Disease; the International Regional Organization for Health in Agriculture and Livestock (OIRSA) and the Food and Agriculture Organization of the United Nations.

Vesicular stomatitis is a virus disease that affects, chiefly, cattle, horses, and swine. The disease occurs in Southern United States of America, Mexico, Central America, Panama, and in Northern South America as far south as Peru. Vesicular stomatitis, which can be a serious economic problem in dairy cattle, also presents differential diagnosis problems in countries free of foot-and-mouth disease because of the clinical similarity of both diseases.

In 1962 the Center provided training on laboratory techniques and the field operation of foot-and-mouth disease campaigns to 5 veterinarians from Bolivia, 3 from Brazil, 1 from Peru and 2 from Venezuela. Some of these fellows also visited Argentina, Ecuador, and Venezuela.

Reference and Diagnostic Services

Of 784 samples of vesicular epithelium received from Argentina, Bolivia, Brazil, Costa Rica, Ecuador, El Salvador, Honduras, Nicaragua, Panama, Peru, Uruguay, and Venezuela, 594 were positive for foot-and-mouth disease (an over-all percentage of 85.7) and 78 were positive for vesicular stomatitis. Only vesicular stomatitis virus was isolated from the samples sent by Panama and Central America.

In connection with its research program the Center examined 2,024 additional samples, prepared subtype specific sera from 23 virus strains, and tested 3,225 serum samples for antibodies. Reference strains of virus and samples of sera were supplied to 19 different institutes in 7 countries, to assist national laboratories to perform their own diagnostic work.

Consultant Services

Consultants were stationed in Bogotá, Colombia, and Lima, Peru, throughout 1962. Staff members of the Center visited Argentina, Brazil, British Guiana, Chile, Costa Rica, Curaçao, El Salvador, French Guiana, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Surinam, the United States of America, and Uruguay. The Center continued to provide technical assistance, especially in the control of vaccine production, to the national foot-and-mouth disease campaign in Argentina.

In collaboration with the Ministry of Agriculture of Uruguay the Center arranged an intercountry meeting in Montevideo, in February 1962, in which Argentina, Brazil, Chile, and Paraguay participated. A number of important measures were agreed upon and shortly afterwards Uruguay began enforcing legislation for a compulsory vaccination campaign. Later in the year Argentina and Chile established a permanent commission to preserve, and try to extend, the areas in the south of both countries considered to be free of foot-and-mouth disease.

The Center prepared for Bolivia a plan for a campaign against foot-and-mouth disease that included field and laboratory operations. The Organization awarded fellowships to two veterinarians for training in virus typing and vaccine production techniques and to three veterinarians to study organization and implementation of field programs.

In collaboration with the Ministry of Agriculture of Brazil a pilot program of mass vaccination was started in Itanhandu, an area in the State of Minas Gerais, using inactivated-virus vaccine produced by the Center. The third period of vaccination, of approximately 10,000 cattle, was completed by the end of the year with very satisfactory results.

The consultant of the Center assigned to Bogotá, with officials of the Ministry of Agriculture and a veterinarian of the AID mission in Colombia, visited the principal livestock-raising areas of the country and prepared a draft plan of a national foot-and-mouth disease campaign for submission to the appropriate authorities. This plan was still under study at year's end. Because during 1961 the disease spread southward through the Department of Nariño, toward the border with Ecuador, the Center assisted the veterinary services of Ecuador in the preparation of a vaccination program for the country's border Provinces. Unfortunately the disease entered Ecuador in January 1962, coincident with the start of the campaign, but the outbreaks were successfully controlled by the measures instituted. No case has been reported from the north of Ecuador since March 1962.

A severe outbreak was caused by Type A virus in the State of Zulia, Venezuela. The inactivated-virus vaccine produced in Venezuela gave little protection against this field strain because of immunologic subtype differences. At the time of the outbreak, a Type A strain being tested as a modified live-virus vaccine gave sufficient protection, and emergency production was immediately started in the Veterinary Research Center in Maracay. Vaccination in the field began at the end of October and the most extensive field trial of a modified live-virus vaccine against foot-and-mouth disease in South America was thus initiated. The results to date confirm the success of previous experiences with this type of vaccine.

In 1958 the Center prepared a plan of action to be

followed in case of an outbreak of foot-and-mouth disease in a country hitherto free. In 1962 the Center brought the plan up to date [4] and presented it for consideration to Panama, the Central American countries, and Mexico—an area, free of the disease, which maintains a regional organization, OIRSA, for dealing with problems of plant and animal health. Staff of the center attended several meetings organized by OIRSA, including that of a special commission composed of representatives of Canada, the United States or America, the Joint Mexican American Commission for the Prevention of Foot-and-Mouth Disease, the Food and Agriculture Organization of the United Nations, and the Pan American Foot-and-Mouth Disease Center. The meeting was held in Mexico City in November under auspices of the First Pan American Congress of the International Office of Epizootics (OIE). The policy to be followed was defined and recommendations were made for presentation to the Council of Ministers of Agriculture of OIRSA countries.

Scientific Publications

Eight scientific papers were completed during the year, and a report on the technical meeting on foot-and-mouth disease held in Montevideo in February was published.[5] The Center distributed 12 bibliographic bulletins, 12 bulletins of abstracts, and 4 epizootiological leaflets during the year.

Physical Facilities

The Government of Brazil continued its program to build permanent accommodations for the Center. A new building for laboratories and auxilliary services was inaugurated by the Minister of Agriculture in December and construction of an annex to that building, financed by an AID grant, was started before the end of the year.

Financing of the Center

The Center has always been financed by the Program of Technical Cooperation of the Organization of American States (OAS/PTC). Two periods of guaranteed financing were completed in 1962. The Inter-American Economic and Social Council decided at its October 1962 meeting in Mexico City to maintain the Center within the PTC, but also to invite OAS member countries to make direct financial contributions to augment the Center's budget.

The OAS/PTC 1962 budget for the Center was $537,808. In June the Agency for International Development, by an agreement signed with the Pan American Sanitary Bureau, made a grant of $237,000 to the Center, for the period from 1 July 1962 to 30 June 1964. Buildings constructed for the Center in 1962 by the Ministry of Agriculture of Brazil cost Cr$27,500,000 and the maintenance allocation amounted to Cr$5,000,000.

[4] *Scientific Publication PAHO* **67.1,** 1962.
[5] *Miscellaneous Publication PAHO* **69,** 1962.

V. EDUCATION AND TRAINING

FELLOWSHIPS

This report covers the calendar year from 1 January to 31 December 1962 and therefore differs from previous reports, which covered the period 1 December of the preceding year to 30 November of the year shown.

The fellowship program continued to develop in 1962 as an integral part of the projects and programs of the Organization, in accordance with the priorities established by its Governing Bodies. Despite the fact that the countries of the Continent each year expand their national facilities for professional education, they still require international assistance to augment the education and specialized training of personnel in health services and medical teaching institutions. As a result, the Member Governments continued to increase their requests for fellowships, but budgetary limitations prevented the Organization from meeting all requests and at the end of 1962 the fellowship applications left pending for consideration in 1963 totalled 220.

The number of fellowships awarded in 1962 was 530, or 2.5 per cent more than the 517 granted in 1961. In addition, 44 extensions were approved at the request of the institutions responsible for training the fellows in question. This total represents 2,308 fellowship-months, or an average of 4.3 months per fellowship. This average, lower than the one in 1961 (6 months), is explained by the unusually large number of fellowships awarded for attendance at special short courses in sanitation and in nursing sponsored by the Organization in 1962. The 198 short-term fellowships for such special courses (Table 19) represented 37 per cent of all fellowships awarded in 1962, while in 1961 they represented only 24 per cent. In 1962, therefore, the number of this type of fellowships was 62 per cent higher than in 1961.

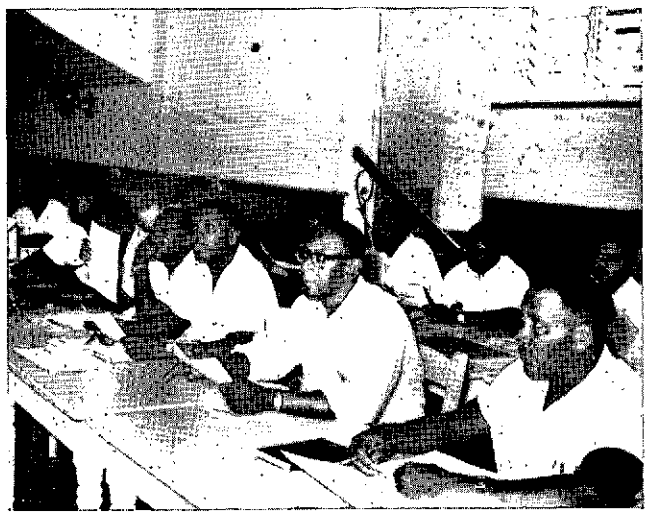
As in previous years, there was a predominance of fellowships for academic studies (228), which in 1962 amounted to 43 per cent of the total. Long-term academic fellowships have the highest priority because they enable professional staff of national health services to specialize, giving them an opportunity to obtain a Master of Public Health or similar degree.

Travel grants, which accounted for 20 per cent of the total, were generally awarded to enable senior medical officers and teachers to observe the most recent advances in their respective fields of activity. In 1961 such grants represented the relatively high proportion of 34 per cent of the total, and in 1962, in accordance with established policy, the proportion was reduced to its normal level of roughly one-fifth of total grants.

The distribution of fellowships by field of study is shown in Table 20. Although awards for environmental sanitation were only 26 per cent of the total, they represented an increase of 52 per cent, for they increased from 91 in 1961 to 139 in 1962. The increase was the result of fellowships awarded for special courses sponsored by the Bureau—on waterworks design, in Mexico; on ground water utilization, in Costa Rica; and for senior public health inspectors, in Barbados.

The Bureau also sponsored four courses on nursing in the Caribbean Area in 1962, which explains the 43 per cent increase (from 72 in 1961 to 103 in 1962) in fellowship awards to nurses. Nursing awards in 1962 accounted for 19 per cent of total fellowships.

The distribution among the other fields of study was similar to that of 1961. Awards in the field of communicable diseases amounted to 21 per cent, as compared to 25 per cent in 1961, due to a decrease in demand for training in malaria. Fellowships for medical science and education represented 7 per cent; those for other health services, 12 per cent; and for clinical medi-



ADVANCED TRAINING FOR PUBLIC HEALTH INSPECTORS IN THE CARIBBEAN AREA HOLDING CERTIFICATES OF THE ROYAL SOCIETY OF HEALTH

TABLE 19. FELLOWSHIPS AWARDED IN THE AMERICAS IN 1962: 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 PASB		Regular academic courses	Travel grants	
	Special	Academic			
Argentina	8	3	8	2	21
Bolivia	2	10	6	5	23
Brazil	8	10	8	11	37
Canada	–	–	1	5	6
Chile	5	–	7	9	21
Colombia	13	16	14	3	46
Costa Rica	3	–	2	2	7
Cuba	2	3	3	1	9
Dominican Republic	5	8	10	3	26
Ecuador	2	6	7	–	15
El Salvador	5	2	4	5	16
Guatemala	3	–	4	1	8
Haiti	1	2	7	1	11
Honduras	3	2	5	1	11
Jamaica	3	–	8	14	25
Mexico	1	2	7	6	16
Nicaragua	3	3	6	–	12
Panama	4	2	4	4	14
Paraguay	3	3	3	3	12
Peru	12	–	15	1	28
Trinidad and Tobago	16	–	1	1	18
United States of America	2	–	–	13	15
Uruguay	1	1	8	–	10
Venezuela	15	4	9	3	31
British Territories	69	–	4	10	83
Surinam and the Netherland Antilles	9	–	–	–	9
Total	198	77	151	104	530

– None.

cine, 2 per cent. The number of fellowships awarded for studies in public health administration (12 per cent) may seem rather low, but it should be borne in mind that some fellowships classified in other fields of specialization included comprehensive training in public health administration.

Table 21 supplements the information given in Table 20 and shows the distribution of fellowships by field of study, type of fellowship, and country of origin. Under public health administration are shown the 19 fellowships granted for the First Course on Health Planning, held at the Latin American Institute of Economic and Social Planning in Santiago, Chile, under auspices of ECLA and PAHO.

Table 22 shows the countries and Regions in which the fellows studied. In this connection the Organization continued the policy of sending most fellows to Latin American countries where language, health problems, and possibilities of solution were similar to those of the fellows' countries of origin. Sixty per cent of the fellows studied in Latin America, 13 per cent in the United States of America and in Canada, 18 per cent (principally in short courses for nurses and sanitary inspectors) in Jamaica, Trinidad, and the British Territories in the Hemisphere, and 9 per cent in the other WHO Regions. This last group included fellowships for courses or Inter-Regional visits organized by WHO Headquarters in Geneva (Tables 23 and 24).

The distribution of fellowships by profession is shown in Table 25. As in prior years, the largest proportion of fellowships (28 per cent) was awarded to physicians, although the proportion was higher in 1961 (38 per

TABLE 20. FIELD OF STUDY AND COUNTRY OF ORIGIN OF FELLOWS WHO RECEIVED AWARDS IN THE AMERICAS IN 1962

1 January-31 December

Field of study	Country of origin of fellows																										
	Argentina	Bolivia	Brazil	Canada	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	El Salvador	Guatemala	Haiti	Honduras	Jamaica	Mexico	Nicaragua	Panama	Paraguay	Peru	Trinidad and Tobago	United States of America	Uruguay	Venezuela	British Territories	Surinam and the Netherlands Antilles	Total
Health organization																											
Public health administration	2	2	3	–	–	1	1	1	3	2	1	3	–	4	–	2	1	2	2	11	–	1	4	2	–	–	48
Hospital and medical administration	–	–	–	–	1	1	–	–	1	–	–	–	–	–	2	–	–	–	–	–	–	1	–	–	–	–	6
Other	–	–	–	–	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
Sanitation																											
Sanitary inspection	–	2	–	–	–	4	–	1	4	–	1	1	2	1	2	2	1	1	2	–	6	–	1	3	28	–	62
Sanitary engineering	3	1	3	–	2	15	3	–	4	2	6	1	3	2	–	2	3	4	4	7	1	–	–	10	1	–	77
Nursing																											
Nursing education	2	1	2	–	1	1	2	2	3	2	1	–	–	–	3	–	3	1	–	–	10	3	3	–	48	4	92
Public health nursing	–	–	1	–	–	1	–	–	–	1	–	–	–	1	–	–	–	1	–	–	1	2	2	–	1	–	11
Maternal and child health	–	1	–	–	1	2	–	–	2	–	–	–	1	–	–	–	–	3	–	–	–	–	–	–	–	–	10
Other health services																											
Mental health	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1
Health education	1	–	2	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5
Occupational health	1	1	1	–	3	2	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	2	–	–	11
Nutrition	–	3	3	–	–	1	–	–	2	–	1	–	–	–	–	–	–	–	–	1	–	1	–	1	–	–	13
Health statistics	1	1	3	–	–	6	–	2	1	1	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	–	17
Dental care	–	1	–	3	–	1	–	–	–	1	1	–	–	1	–	–	1	–	1	–	–	–	–	–	–	–	10
Rehabilitation	–	–	3	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7
Control of pharmaceutical preparations	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Communicable diseases																											
Malaria	2	3	2	–	–	4	–	–	–	3	–	1	4	–	9	4	1	1	3	2	–	–	–	1	2	5	47
Tuberculosis	–	2	–	–	1	–	–	1	–	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–	–	–	6
Zoonoses	–	–	1	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–	5
Foot-and-mouth disease	–	5	3	–	–	2	1	–	–	1	1	1	–	1	–	–	1	1	–	1	–	1	–	4	–	–	23
Leprosy	–	–	–	–	1	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
Other communicable diseases	–	–	1	–	1	1	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–	1	2	–	11
Laboratory services[a]	3	–	–	–	–	–	–	–	1	–	–	–	–	–	1	2	–	–	–	1	–	–	–	1	1	–	10
Veterinary public health	–	–	–	–	–	–	–	1	1	1	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	5
Medical science and education[b]	3	–	7	1	4	4	–	–	2	–	2	1	1	–	1	2	1	–	–	1	–	4	–	3	–	–	37
Clinical medicine	3	–	2	–	1	–	–	–	–	–	–	–	–	–	2	–	–	–	–	2	–	–	–	1	–	–	11
Total	21	23	37	6	21	46	7	9	26	15	16	8	11	11	25	16	12	14	12	28	18	15	10	31	83	9	530

– None.

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

[b] Of these, 9 fellowships were awarded to professors of schools of public health, 3 to professors of dental schools and 25 to professors of schools of medicine.

TABLE 21. FIELD OF STUDY, TYPE OF TRAINING AND COUNTRY OF ORIGIN OF FELLOWS WHO RECEIVED AWARDS IN THE AMERICAS IN 1962

1 January-31 December

Field of study and type of training	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	Surinam and the Netherlands Antilles	
Public health administration																											
Sponsored courses[a]	1	1	1	–	–	1	1	1	1	1	1	1	–	1	–	1	1	1	1	2	–	–	1	1	–	–	19
Academic courses	1	1	–	–	–	1	–	–	3	1	1	2	–	2	2	–	–	1	1	9	–	–	3	–	–	–	28
Travel grants	–	–	2	–	1	–	–	–	1	–	–	–	–	1	–	1	–	–	–	–	–	2	–	1	–	–	9
Sanitation																											
Sponsored courses[a]	3	2	1	–	–	12	1	–	6	1	1	1	2	1	2	–	2	2	4	4	6	–	–	8	24	–	83
Academic courses	–	1	2	–	2	6	–	–	–	1	2	1	3	2	–	3	2	–	–	3	–	–	1	5	2	–	36
Travel grants	–	–	–	–	–	1	2	1	2	–	4	–	–	–	–	1	–	3	2	–	1	–	–	–	3	–	20
Nursing																											
Sponsored courses[a]	–	–	1	–	–	1	–	2	1	1	1	–	–	–	1	–	1	1	–	–	10	–	1	–	45	4	70
Academic courses	1	1	1	–	–	1	2	–	2	2	–	–	–	1	–	–	2	1	–	–	1	–	4	–	2	–	21
Travel grants	1	–	1	–	1	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	5	–	–	2	–	12
Maternal and child health																											
Sponsored courses[a]	–	–	–	–	–	1	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	3
Academic courses	–	1	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	2	–	–	–	–	–	–	–	–	5
Travel grants	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
Other health services																											
Sponsored courses[a]	2	4	9	–	2	9	–	–	2	2	2	–	–	1	–	–	1	–	1	1	–	–	–	2	–	–	38
Academic courses	1	2	2	1	4	1	–	2	1	–	–	–	–	–	–	1	–	–	–	1	–	–	–	2	–	–	18
Travel grants	–	–	1	4	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	9
Communicable diseases																											
Sponsored courses[a]	–	5	4	–	2	5	1	2	1	3	1	1	1	2	–	2	1	1	–	3	–	2	–	6	–	5	48
Academic courses	4	–	–	–	1	2	–	1	2	3	–	–	3	–	5	1	1	–	2	1	–	–	–	1	–	–	27
Travel grants	1	5	3	–	–	–	–	–	–	–	1	1	–	–	10	4	–	1	1	1	–	–	–	1	5	–	34
Medical science and education																											
Sponsored courses[a]	2	–	2	–	1	–	–	–	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	8
Academic courses	1	–	2	–	–	3	–	–	1	–	1	1	–	–	1	2	1	–	–	1	–	–	–	1	–	–	15
Travel grants	–	–	3	1	3	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	4	–	1	–	–	14
Clinical medicine																											
Sponsored courses[a]	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	1	–	–	6
Academic courses	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Travel grants	–	–	1	–	1	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	4
Total	21	23	37	6	21	46	7	9	26	15	16	8	11	11	25	16	12	14	12	28	18	15	10	31	83	9	530

– None.

[a] Organized or assisted by PAHO/WHO.

TABLE 22. COUNTRY OF ORIGIN AND COUNTRY OR REGION OF STUDY OF FELLOWS WHO RECEIVED AWARDS IN THE AMERICAS IN 1962

1 January-31 December

Country of origin of fellows	Country of study in the Region of the Americas																			Other Region of study				
	Argentina	Brazil	Canada	Chile	Colombia	Costa Rica	Ecuador	El Salvador	Guatemala	Honduras	Jamaica	Mexico	Panama	Peru	Trinidad and Tobago	United States of America	Uruguay	Venezuela	British Territories	Surinam and the Netherlands Antilles	Africa	Eastern Mediterranean	Europe	South-East Asia	Western Pacific
Argentina	–	4	–	6	1	–	–	–	–	–	–	3	–	–	–	4	–	2	–	–	–	–	3	–	–
Bolivia	1	3	–	6	–	1	1	–	1	–	–	2	–	3	–	2	–	1	–	–	–	1	3	1	–
Brazil	3	3	–	6	7	4	–	1	4	1	–	4	2	3	–	14	–	1	–	–	–	–	7	1	–
Canada	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	6	–	–	–	–	1	1	1	–	–
Chile	4	3	1	–	1	1	–	–	–	–	–	3	1	2	–	10	–	1	–	–	–	–	7	–	–
Colombia	–	9	–	11	–	4	–	–	1	–	–	10	1	–	–	8	–	4	–	–	–	–	3	–	–
Costa Rica	–	–	–	1	–	–	–	–	–	–	–	2	–	–	–	4	–	–	–	–	–	–	–	–	–
Cuba	–	–	–	1	–	–	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–	–	2	–	–
Dominican Republic	1	4	–	1	1	–	–	–	3	–	–	11	–	–	–	5	–	2	–	–	–	–	–	–	–
Ecuador	–	6	–	3	–	1	–	–	–	–	–	2	–	–	–	2	–	1	–	–	–	–	–	–	–
El Salvador	–	–	–	1	2	2	–	–	2	–	–	3	–	–	–	6	–	1	–	–	–	–	1	–	–
Guatemala	–	–	1	1	–	1	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–	1	1	1	–
Haiti	–	–	5	–	–	–	–	1	–	–	1	5	–	–	–	1	–	3	–	–	–	–	–	–	–
Honduras	–	2	–	2	1	2	–	–	–	–	–	3	–	1	–	1	–	–	–	–	–	–	1	–	–
Jamaica	–	–	1	–	–	–	–	–	–	–	–	1	–	–	9	12	–	–	3	–	–	–	–	–	–
Mexico	–	2	–	4	–	2	–	3	1	1	–	–	1	2	–	5	–	1	–	–	–	–	1	–	–
Nicaragua	–	2	–	1	–	3	–	1	1	–	–	2	–	–	–	2	–	1	–	–	–	–	–	–	–
Panama	–	–	–	2	2	–	–	–	1	1	–	4	–	–	–	5	–	3	–	–	–	–	–	–	–
Paraguay	–	2	–	3	1	–	–	–	–	–	–	3	–	–	–	2	–	3	–	–	–	–	–	–	–
Peru	–	9	–	9	–	–	–	–	–	–	–	5	–	–	–	4	–	–	–	–	–	1	2	1	–
Trinidad and Tobago	–	–	1	–	–	–	–	–	–	–	–	–	–	–	10	1	–	–	6	–	–	–	–	–	–
United States of America	–	–	–	1	1	1	–	–	1	–	–	2	–	2	–	–	–	–	–	–	–	–	9	1	3
Uruguay	–	1	–	5	–	1	–	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–
Venezuela	2	5	–	5	2	3	–	1	1	–	1	9	–	–	–	9	1	–	–	–	–	–	3	–	–
British Territories	–	–	1	–	–	–	–	–	–	–	2	–	–	–	9	7	–	–	64	2	–	–	–	–	–
Surinam and the Netherlands Antilles	–	–	–	–	–	–	–	–	–	–	5	–	–	–	3	–	–	–	1	–	–	–	–	–	–
Total	11	55	10	69	19	26	1	7	16	3	9	85	5	14	31	113[a]	1	24	74	2	1	4	44	5	3

– None.

[a] 41 studied in Puerto Rico.

TABLE 23. FELLOWSHIPS AWARDED IN THE AMERICAS IN 1962 FOR COURSES ORGANIZED OR ASSISTED BY PAHO OR WHO,[a] BY FIELD OF STUDY, PROJECT, AND COUNTRY OF ORIGIN OF FELLOWS

1 January-31 December

Field of study and project	Country of origin of fellows																									Total
	Argentina	Bolivia	Brazil	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	Surinam and the Netherlands Antilles	
Public health administration																										
AMRO-281	1	1	1	–	1	1	1	1	1	1	1	–	1	–	1	1	1	1	2	–	–	1	1	–	–	19
Sanitation																										
AMRO-1	1	2	–	–	5	–	–	3	1	–	–	2	–	–	–	1	1	2	–	–	–	–	3	–	–	21
AMRO-95	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	6	–	–	–	24	–	32
AMRO-270	2	–	1	–	7	1	–	3	–	1	1	–	1	–	–	1	1	2	4	–	–	–	3	–	–	28
AMRO-276	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	2
Nursing																										
AMRO-28	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	3
AMRO-177	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
AMRO-233	–	–	–	–	–	–	–	1	–	1	–	–	–	–	–	1	1	–	–	–	–	–	–	–	–	4
AMRO-245	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	10	–	–	–	45	4	60
Mexico-14	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
Maternal and Child Health																										
AMRO-268	–	–	–	–	1	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	3
Other health services																										
AMRO-10	1	1	1	–	6	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10
AMRO-54	–	1	3	–	1	–	–	2	–	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	9
AMRO-72	1	1	3	–	1	–	–	1	1	1	–	–	1	–	–	1	–	1	–	–	–	–	–	–	–	12
AMRO-191	1	1	1	2	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	8
Interregional, EURO-210	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
Communicable Diseases																										
AMRO-77	–	2	2	–	2	1	–	–	1	1	1	–	1	–	–	1	1	–	2	–	1	–	3	–	–	19
AMRO-81	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
AMRO-110	–	1	–	1	–	–	1	–	–	–	–	–	1	–	1	–	–	–	–	–	–	–	–	–	–	5
AMRO-134	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1	–	5	7
AMRO-137	–	2	–	–	2	–	–	–	2	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	–	8
AMRO-191	–	–	2	–	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–	6
Inter-Regional-107	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	2
Inter-Regional-922	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Medical science and education																										
AMRO-191	1	–	–	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	4
Clinical medicine																										
Chile-39	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	1	–	–	5
Inter-Regional, EURO-52	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Total	11	12	18	5	29	3	5	13	8	7	3	3	5	3	3	6	6	6	12	16	2	2	19	69	9	275

– None.

[a] See table 24 for description of courses organized or assisted by the Pan American Sanitary Bureau or the World Health Organization.

TABLE 24. COURSES AND STUDY TRAVEL, ORGANIZED OR ASSISTED BY PAHO OR WHO, FOR WHICH AWARDS WERE MADE IN 1962

Field of study and project number	Course or study travel	Place	Date
Public health administration			
AMRO-281	Health planning course	Latin American Institute for Economic and Social Planning, Santiago, Chile	Oct.-Dec. 1962
Sanitation			
AMRO-1	Sanitary engineering course	School of Public Health, University of São Paulo	Jan.-Dec. 1962
	Sanitary engineering course	School of Engineering, National University, Mexico City	Feb.-Dec. 1962
	Sanitary inspectors course	School of Public Health, University of Chile, Santiago	June-Dec. 1962
	Sanitary inspectors course	School of Public Health, Ministry of Public Health and Welfare, Mexico City	Feb.-Dec. 1962
AMRO-95	Sanitary inspectors course	Barbados	Sept.-Dec. 1962
AMRO-270	Course in design of water supply structures	Mexico City	Sept.-Dec. 1962
AMRO-276	Symposium on sewage	Cincinnati, Ohio	June 1962
Nursing			
AMRO-28	Advanced nursing education	School of Public Health, University of Chile, Santiago	Feb.-Dec. 1962
AMRO-177	Home nursing services	Copenhagen	April-May 1962
AMRO-233	Nursing administration and supervision course	Guatemala City	May-Nov. 1962
AMRO-245.1	Nursing administration and supervision course	Trinidad	March-April 1962
AMRO-245.2	Nursing administration and supervision course	Barbados	May-June 1962
AMRO-245.3	Nursing administration and supervision course	St. Kitts	July-Sept. 1962
Mexico-14	Nursing administration and supervision course	School of Nursing, National Institute of Cardiology, Mexico City	July-Dec. 1962
Maternal and child health			
AMRO-268	Clinical and social pediatrics course	International Children's Center, Caracas, Venezuela	Oct.-Nov. 1962
Other health services			
AMRO-10	Vital statistics	School of Public Health, University of Chile, Santiago	June 1962-Feb. 1963
AMRO-54	Nutrition course for physicians	INCAP, Guatemala City	June-Sept. 1962
	Nutrition	INCAP, Guatemala City	Jan.-Dec. 1963
AMRO-72	Public health dentistry course	School of Public Health, University of São Paulo	Jan.-Dec. 1963
	Short dental health course	School of Public Health, University of São Paulo	May-Aug. 1962
	Short dental health course	Bogotá, Colombia	Oct.-Nov. 1962
AMRO-191.7	Occupational health	Finland, Soviet Union, Sweden, Switzerland, Yugoslavia	Sept.-Oct. 1962
Inter-Regional, EURO-210	Medical rehabilitation	Denmark, Norway, Sweden	Oct. 1962-June 1963
Communicable diseases			
AMRO-77	XVII Foot-and-mouth disease training course	Mexico City	Oct.-Nov. 1962
	Foot-and-mouth-disease training	Pan American Foot-and-Mouth Disease Center, Brazil	Aug.-Nov. 1962
	Foot-and-mouth disease training	National Aftosa Institute, Peru	Oct. 1962-Feb. 1963
AMRO-81	Zoonoses	Pan American Zoonoses Center, Azul, Argentina	Sept. 1962-Sept. 1963
AMRO-110	Epidemiology and tuberculosis control	Fanfani Institute, Rome	Jan.-July 1962
	Epidemiology and tuberculosis control	Fanfani Institute, Rome	Oct.-Dec. 1962

TABLE 24. COURSES AND STUDY TRAVEL, ORGANIZED OR ASSISTED BY PAHO OR WHO, FOR WHICH AWARDS WERE MADE IN 1962—Continued

Field of study and project number	Course or study travel	Place	Date
AMRO-134	V Malaria course for sector chiefs	Malaria Eradication Training Center, Kingston, Jamaica	April-June 1962
	XVI Malaria course for physicians and engineers	Malaria Eradication Training Center, Kingston, Jamaica	Jan.-April 1963
AMRO-137	Medical entomology	School of Public Health, University of São Paulo	July-Dec. 1962
AMRO 191.8	Natural foci infection course	Soviet Union	Aug.-Sept. 1962
Inter-Regional, 107	Enteric disease course	Communicable Disease Center, Atlanta, Georgia	Aug.-Oct. 1962
Inter-Regional, 922	Trachoma course	Aligarh, India	Oct.-Dec. 1962
Medical science and education			
AMRO-191.5	Medical rehabilitation	Soviet Union	April 1962
Clinical medicine			
Chile-39	Medical use of radioisotopes course	School of Public Health, University of Chile, Santiago	July 1962-Jan. 1963
Inter-Regional, EURO-52	Anesthesiology course	Copenhagen	Jan.-Dec. 1962

cent). On the other hand, fellowships awarded to engineers and nurses increased from 12 per cent and 14 per cent in 1961 to 16 per cent and 20 per cent in 1962. There were no important changes in the percentages for other professions. Of the total fellowships awarded, 82 per cent went to professionals and 18 per cent to non-professionals (one half of the latter group were sanitary inspectors).

Although more fellowships were awarded in 1962 than in 1961, the 1962 program cost $175,265 less (Table 26), because of the larger proportion of short-term fellowships.

The number of fellows sent by other Regional Offices of WHO to study in the Americas in 1962 was 153, or 14 per cent more than in 1961. The increase came mainly from the South-East Asia, European, and Eastern Mediterranean Regions. Half of these fellowships were awarded for observation visits (Table 27), 44 per cent for academic studies, and 6 per cent for short courses (malaria). Sixty-two per cent of these studies and visits were carried out in the United States of America and in Canada and the remainder in the countries of Latin America (Table 28).

The above data only account for activities related to the 530 fellowships awarded during 1962, including the placements and supervision of 153 non-AMRO fellows studying in this Region. It does not, however, reflect the activities involved in the continuing supervision of those fellowships awarded in 1961, whose studies extended into 1962. Tables 29 and 30, combined, show a total of 962 PAHO and WHO fellows who studied during 1962, irrespective of the date of award: 904 from all Regions studied in the Americas—555 in Latin American countries (61 per cent) and 349 in the United States and Canada (39 per cent)—the remaining 58 were fellows from the Region of the Americas who studied in other Regions. Of the fellows from the Region of the Americas who studied in Latin America, the United States of America, or Canada, 45 per cent were enrolled in long-term academic courses.

TABLE 25. PROFESSION OR OCCUPATION OF FELLOWS WHO RECEIVED AWARDS IN THE AMERICAS IN 1962

1 January-31 December

Occupation	Number
Physician	146
Dentist	15
Engineer	83
Veterinarian	33
Nurse	107
Other profession	52
Sanitary inspector	45
Other nonprofessional personnel	49
Total	530

Assistance to Other Fellowship Programs

Active collaboration and technical advisory services continued to be given to the fellowship program of the

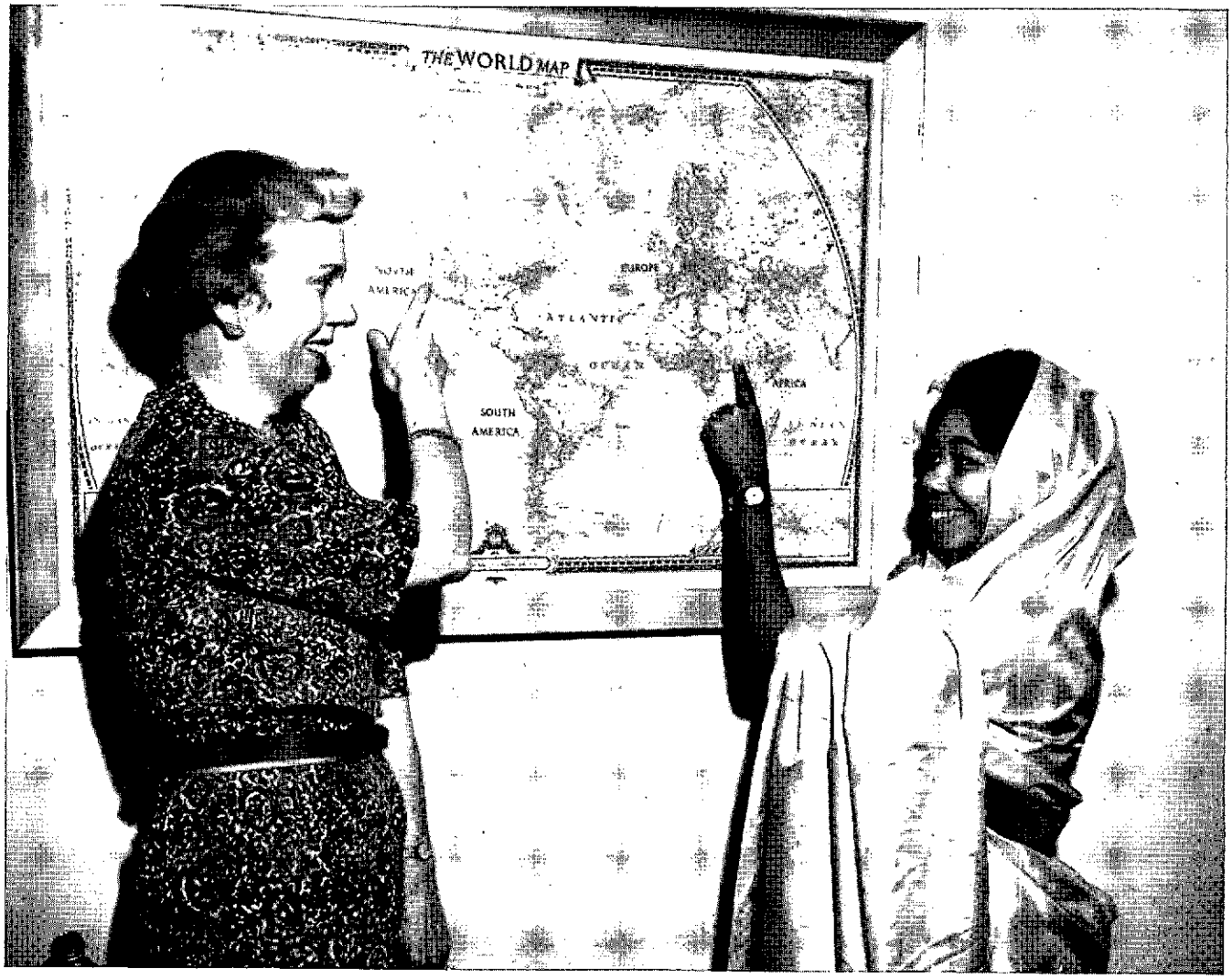
TABLE 26. EXPENDITURES ON FELLOWSHIPS IN THE AMERICAS, BY SOURCE OF FUNDS, 1961 AND 1962[a]

U. S. dollars

Year	PAHO				WHO		Total
	Regular funds	Special Malaria Fund	Special Water Fund	Other funds	Regular funds	Technical Assistance funds	
1961	594,470	46,200	–	12,217	316,730	111,332	1,080,949
1962	258,087	34,510	103,295	43,577	296,085	170,130	905,684

– None.

[a] Figures represent amounts obligated in each year.



A FELLOW FROM AFRICA IS WELCOMED AT PAHO HEADQUARTERS IN WASHINGTON, D. C.

TABLE 27. FELLOWS FROM OTHER REGIONS WHO STUDIED IN THE AMERICAS IN 1962, BY FIELD OF STUDY AND TYPE OF FELLOWSHIP

1 January-31 December

Field of study and type of fellowship	Region of origin and number of fellows					Total
	Africa	Eastern Mediterranean	Europe	South-East Asia	Western Pacific	
Public health administration						
Academic courses	6	1	1	–	2	10
Travel grants	–	3	3	–	1	7
Sanitation						
Courses organized or assisted by PAHO/WHO	–	–	–	1	–	1
Academic courses	3	4	–	2	–	9
Travel grants	1	–	1	–	–	2
Nursing						
Academic courses	3	4	6	3	5	21
Travel grants	–	1	2	–	1	4
Maternal and child health						
Academic courses	–	1	–	–	–	1
Travel grants	–	–	1	–	–	1
Other health services						
Academic courses	1	1	2	5	2	11
Travel grants	–	1	6	–	4	11
Communicable diseases						
Courses organized or assisted by PAHO/WHO	4	3	–	4	6	17
Academic courses	–	1	–	1	1	3
Travel grants	1	5	3	14	6	29
Medical science and education						
Academic courses	–	–	–	3	–	3
Travel grants	1	3	4	–	–	8
Clinical medicine						
Travel grants	–	3	9	–	3	15
Total	20	13	38	33	31	153

– None.

TABLE 28. REGION OF ORIGIN AND COUNTRY OF STUDY IN THE AMERICAS OF NON-AMRO FELLOWS, 1962

1 January-31 December

Region of origin	Country of study												
	Brazil	Canada	Chile	Colombia	Guatemala	Haiti	Honduras	Jamaica	Mexico	Peru	Trinidad	United States of America	Venezuela
Africa	4	9	–	–	–	–	1	3	3	–	1	6	1
Eastern Mediterranean	1	10	–	2	1	–	2	4	5	–	–	19	4
Europe	2	7	1	–	1	1	–	1	4	–	–	35	1
South-East Asia	–	2	–	8	–	–	1	1	11	–	–	23	7
Western Pacific	1	6	–	1	1	–	1	4	5	1	–	25	3
Total number of study visits	8	34	1	11	3	1	5	13	28	1	1	108	16

– None.

TABLE 29. TOTAL PAHO AND WHO FELLOWS WHO STUDIED IN LATIN AMERICA IN 1962, BY FIELD OF STUDY

1 January-31 December

Field of study	Number of Fellows[a]		
	From Region of the Americas	From all other Regions	Total
Public health administration	80	7	87
Sanitation	112	1	113
Nursing	120	–	120
Maternal and child health	21	–	21
Other health services			
Mental health	1	–	1
Occupational health	1	–	1
Nutrition	19	1	20
Health statistics	25	–	25
Dental care	13	–	13
Rehabilitation	2	–	2
Communicable diseases			
Malaria	41	31	72
Tuberculosis	3	–	3
Zoonoses	4	–	4
Foot-and-mouth disease	25	–	25
Leprosy	5	–	5
Other communicable diseases	5	1	6
Laboratory services	6	–	6
Veterinary public health	5	–	5
Medical science and education	15	2	17
Clinical medicine	6	3	9
Total	509	46	555

– None.

[a] Includes fellowships awarded prior to 1 January 1962.

Government of Venezuela. In 1962 technical supervision was provided to 65 fellows (47 in the United States of America and 18 in Latin America), and programs of study were prepared for many of them. In addition, most of these fellows were interviewed once or twice during the year, either at their place of study or in Washington at PAHO Headquarters.

Collaboration and technical advisory services were also given to the fellowship program of the OAS in evaluating 249 applications for study in various fields of medicine. This figure represents a 57 per cent increase over the 158 requests examined in 1961. Many OAS fellows were also interviewed at their place of study.

Other activities

The preparation of study and travel-grant programs for staff of PAHO Zone Offices, WHO Headquarters, and other WHO Regional Offices who came to the Americas on study leave or on official mission increased markedly during the year. In 1961 only 10 such programs were prepared, but in 1962 there were 22 (8 for nurses). Moreover, at the request of the respective authorities, special study programs were prepared for 7 officials of several Governments of the Americas.

In compliance with a resolution passed by the Technical Assistance Board, questionnaires were sent to countries to obtain information on the present utilization of former fellows. The information was requested to make an evaluation of fellowships granted since 1958 under the Expanded Program of Technical Assistance. Regretably, only half of the 70 questionnaires were completed and returned. An analysis of the 35 replies showed that 98 per cent of the former fellows were serving in accordance with the training they had received under their fellowships. Efforts are continuing to obtain the other 35 questionnaires.

TABLE 30. TOTAL PAHO AND WHO FELLOWS WHO STUDIED IN CANADA, THE UNITED STATES OF AMERICA, AND OTHER REGIONS IN 1962, BY FIELD OF STUDY

1 January-31 December

Field of study	Number of Fellows[a]		
	From Region of the Americas	From all other Regions[b]	Total
Public health administration	12	31	43
Sanitation	48	25	73
Nursing	38	42	80
Maternal and child health	4	1	5
Other health services			
Mental health	4	5	9
Health education	6	9	15
Occupational health	11	1	12
Nutrition	2	1	3
Health statistics	7	10	17
Dental care	5	5	10
Rehabilitation	1	2	3
Control of pharmaceutical preparations	1	2	3
Communicable diseases			
Malaria	3	6	9
Tuberculosis	8	4	12
Zoonoses	1	–	1
Poliomyelitis	–	3	3
Other communicable diseases	13	16	29
Laboratory services	5	6	11
Veterinary public health	–	1	1
Medical science and education	23	19	42
Clinical medicine	6	20	26
Total	198	209	407

– None.
[a] Includes fellowships awarded prior to 1962.
[b] Study in Canada and the United States only.

Comparison with prior data

The annual report on fellowship awards for 1962 was, for the first time, prepared for a calendar year. To maintain continuity, the data for December 1961 were compiled separately and are shown in Table 31.

MEDICAL EDUCATION

In 1962 the Pan American Sanitary Bureau held its first travelling seminar to observe organization and administration in schools of medicine. The group included 11 deans of medical schools and staff members directly responsible for medical education programs from Argentina, Bolivia, the Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Peru, and Venezuela. Accompanied by Headquarters' staff, the group visited the School of Medical Sciences of the National University of Cuyo, Mendoza, Argentina, the School of Medicine of Riberão Prêto of the University of São Paulo, Brazil, and the School of Medicine of the University of Concepción, Chile. These schools were selected because they had development plans underway and because their positive and negative characteristics would provide educational experience for the visiting group.

At each school visited the dean described the general orientation of the University and the specific aims of the School of Medicine, and faculty members reported on the thinking prevalent at the School, what was being done, and the objectives of the curriculum. The participants

TABLE 31. FELLOWSHIPS AWARDED DURING DECEMBER 1961, BY COUNTRY OF ORIGIN AND FIELD OF STUDY

Country of origin	Field of study								
	Public health administration	Sanitation	Nursing	Nutrition	Dental health	Statistics	Medical education	Clinical medicine	Total
Argentina	2	–	1	–	–	–	–	–	3
Bolivia	–	1	–	2	–	–	–	–	3
Colombia	1	3	1	–	1	–	–	–	6
Cuba	2	–	–	–	–	–	–	–	2
Dominican Republic	–	–	–	–	–	1	–	–	1
Ecuador	–	–	–	–	–	–	3	–	3
El Salvador	–	–	–	–	–	1	–	–	1
Guatemala	–	1	–	–	–	1	–	–	2
Haiti	–	3	–	–	–	–	–	–	3
Mexico	–	3	–	–	–	–	–	1	4
Nicaragua	–	–	–	–	–	1	–	–	1
Panama	–	–	–	–	–	–	1	–	1
Peru	3	1	2	–	–	–	–	–	6
Uruguay	–	–	–	1	–	–	–	–	1
Total	8	12	4	3	1	4	4	1	37[a]

– None.
[a] Of this total, 12 fellows studied in the United States of America and 25 in Latin America; 22 took academic courses and 15 made observation trips.

then had an opportunity to observe teaching or administration. On the last day of each visit a session was held with the faculty at which the travelling group presented its comments and observations.

On completion of the seminar the participants' evaluation was that the procedure had been of great educational value and that group visits were more productive than individual visits.

Training of Teaching Staff for Medical Schools

To analyze the problems relating to medical training in Latin America the Organization convened, from 7 to 9 February 1962, an advisory group of medical educators that established a series of priorities and recommendations. The group pointed out that one area which still required urgent measures was the development of a large-scale intensive program to train teaching personnel for the medical schools of Latin America, utilizing the existing resources in the Region. It was therefore decided to strengthen several institutions in Latin America to enable them to expand or initiate activities to develop into centers for training teachers for other schools of medicine. It was thought that, in addition to training in their special fields of interest, teachers should be given general instruction in medical teaching and in administration, to prepare them better to assume leading positions in their own schools.

A study of medical training institutions in Latin America was undertaken to determine which of them might offer the best conditions for teacher training. Fifteen medical schools in Argentina, Brazil, Chile, El Salvador, Guatemala, and Mexico were visited, and interviews were held with administrative staff and teachers of the medical schools of the Universities of Buffalo, Colorado, and Illinois, in the United States of America. In addition, short-term consultant services in medical pedagogy were provided to the School of Medicine of the University of Chile at Santiago. The consultant not only gave advice to the school authorities but also participated in a workshop on the methodology of teaching that had been organized by the University.

Advisory Services

A short-term consultant provided advisory services in Jamaica to the Faculty of Medicine of the University College of the West Indies for the reorganization of the Department of Preventive Medicine. Short-term consultants and Headquarters staff provided advisory services to the School of Medicine of the Greater National University of San Marcos, in Lima, Peru, and to the School of Medicine of the University of Santo Domingo of the Dominican Republic. A long-term consultant was as-

signed to Santo Domingo to provide continuing advisory services on the reorganization of teaching of the basic sciences and to participate directly in teaching physiology.

In Central America advisory services on a program of clinical teaching were given to the School of Medicine of the University of El Salvador, and two consultants and Headquarters staff participated in a seminar on clinical teaching organized by the School. Technical advisory services were also given to the medical schools of Costa Rica, Haiti, and Honduras.

Research

A document on "Needs in Research Training and Medical Education in Latin America" was presented at the first meeting of the PAHO Advisory Committee on Medical Research. As a result of the priority assigned by the Committee to the training of research workers, a program for the development of permanent institutional resources for research training and for exchange of research personnel in the health sciences in Latin America was prepared.

Final analyses were completed of data from the 1957 survey of the teaching of the basic sciences in Latin America, carried out by the Pan American Sanitary Bureau in collaboration with the Latin American Association of Physiological Sciences. Data from 68 medical schools were published in the June 1962 issue of the *Boletín* of the Pan American Sanitary Bureau.

Other Activities

Headquarters staff members represented the Organization at the III Conference of Latin American Schools of Medicine (Viña del Mar, Chile, 26 November-1 December 1962) at which the Pan American Federation of Societies of Schools of Medicine was established, and participated in the drafting of the statutes that will govern the Federation.

Various publications relating to medical training, including *Internationally Acceptable Standards of Medical Education*,[1] were distributed to the schools of medicine in Latin America.

Medical Education Information Center (MEIC)

The XIV Meeting of the participating agencies of the Medical Education Information Center, for which the Pan American Sanitary Bureau serves as headquarters and provides secretariat services, was held at the center of operations of the Educational Council for foreign Medical Graduates, in Evanston, Illinois, from 2 to 3 April 1962. At this meeting it was decided to include data on dental education in the MEIC quarterly report. A summary of existing programs of assistance to medical education in Latin America by the 13 MEIC participating agencies in the United States and 1 in Brazil was prepared by Bureau staff and distributed at the meeting. The assistance provided by the 1962 programs included visiting professors, international affiliation between medical schools, institutional grants to complement faculty salaries, research or projects grants, and the organization of international and national conferences and seminars.

In the first nine months of the year, 217 teachers and investigators from Latin America took part in the fellowship and travel-grant programs of 11 organizations in the United States of America. Of these fellows, 157 were from schools of medicine, 4 from schools of public health, 32 from schools of nursing, and 24 from schools of dentistry.

New editions of the series of MEIC directories on Schools of Medicine, of Public Health, and of Nursing were prepared and distributed. A valuable improvement to the Directory of Schools of Nursing was the inclusion of data on the number of teaching staff members, total enrollment, number of first-year admissions, and number of past-year graduates. Preliminary work was done on a ten-year fellowship report (1953-1962) for presentation to the next annual meeting of the Center.

VETERINARY MEDICAL EDUCATION

The demand for veterinarians, which increased steadily in the last decade as new posts for public health veterinarians were established in many national health services, continued to increase in 1962 and, although six new schools of veterinary medicine had been established since 1952, could not be met fully. Meanwhile, through consultation, fellowships, and technical assistance, the Organization continued to cooperate with schools of veterinary medicine in the American countries in the teaching of preventive medicine and public health.

The role of veterinarians and veterinary schools in the public health programs of their respective countries has been stressed since deans of most of the schools of veterinary medicine in the Americas met under auspices of the Organization (Kansas City, Missouri, 16-22 August 1959)

[1] *Wld Hlth Org. techn. Rep. Ser.* **239**, 1962.

and made a formal decision to include preventive medicine and public health as major subjects in the curricula. Individual schools have made changes and begun improvements towards this end; and when requested, the Organization has given all aid possible within its technical and budgetary limitations.

NURSING EDUCATION

Following the principle that women who have been educated and adequately prepared for leadership in the field of nursing and are familiar with their own countries are the persons who can best decide the direction nursing education should take, the Organization has provided every possible opportunity for them to meet and discuss common problems. The most recent opportunity was the Seminar on Advanced Nursing Education held at Montego Bay, Jamaica, from 4 to 10 November 1962.

The great deterrent to realistic planning in nursing continued to be the lack of factual information. In planning nursing education to meet the needs of each country, clear balance between needs and available resources in nursing had seldom been struck, mainly because the two factors had largely remained unknown. A turning point was reached in 1962. Prior to this, three surveys on nursing had been conducted by Brazil, Chile, and Panama, but the cost of such surveys was forbidding for many countries. During 1962, however, with the assistance of nursing advisers provided by the Organization, less pretentious but valuable surveys were begun in Bolivia, Ecuador, and several countries of Central America, utilizing the services of nurses from many national agencies. It was anticipated that within a year or two most of the countries in Latin America would have a sounder basis for national planning for nursing education.

To collaborate with the various countries in nursing education programs the Organization maintained 18 nurse educators in as many projects in Argentina, Bolivia, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, Guatemala, Jamaica, Mexico, Nicaragua, Peru, Uruguay, and Venezuela. In addition, nurses assigned to the Zone Offices also provided advisory services to the remaining countries, and a short-term consultant organized a series of three six-week courses for selected nurses from the English-speaking islands of the Caribbean. In several of the 18 projects, both basic and advanced nursing education programs were underway: 12 included programs in advanced nursing education, 14 in basic nursing education, and 4 also involved the training of auxiliary nursing personnel. So that these projects might continue after international assistance is withdrawn, the main concern of advisers was to prepare national nurses who would be able to assume full responsibility for administering, teaching, and further developing the educational programs established.

In Argentina, in 1962, continued consultation to the nursing education program of the National University of Córdoba was considered unnecessary, and the nursing adviser was assigned to the school of nursing of the University of Buenos Aires.

Since 1949, the Organization had sponsored five nursing congresses with ever-increasing participation of the national nurses' association of the country in which the congress was held. Indicative of the growing maturity of the professional group in Latin America was the fact that the sixth in the series was carried out with very little assistance from PASB, having been organized almost entirely by the Government of Panama and the Panamanian Nurses Association.

PAHO/WHO consultants have increasingly encouraged national organizations to turn for aid in matters related to the professional aspects of nursing to the International Council of Nurses, with which PASB has maintained close relation. Liaison with nurses from the staffs of other agencies with international nursing programs was intensified during 1962. A number of meetings considered fellowship programs, evaluation of educational credentials of foreign students, exchange professorships in nursing, improvement of maternity care services, developments in international activities of the United States Public Health Service, the Agency for International Development, and the Peace Corps.

A document on the Organization's policy on nursing education was drawn up by Headquarters' staff and reviewed by nurse educators in the field. The final document will also include the policy in the preparation of midwifery personnel.

Several publications were added to the growing library of professional nursing literature in Spanish. These included a report of the public health nursing seminar held in San Salvador, El Salvador, from 5 to 18 November 1961 [2], *Report of Seminar on Advanced Nursing Education* [3] (published also in Spanish), and a report on the survey of schools of nursing in Latin America.[4] The Organization purchased 300 copies of *Enfermería de Salud Pública* [5] and distributed them to selected schools

[2] *Reports on Nursing PAHO* **1**, 1962.

[3] *Reports on Nursing PAHO* **2**, 1962.

[4] *Scientific Publication PAHO* **62**, 1962.

[5] Freeman, Ruth B. Spanish translation. 492 pp. illus. (*Public Health Nursing Practice*. 435 pp. 2nd. ed. 1957.)

THE MODERN NURSE RECEIVES A WELL-ROUNDED EDUCATION—*left:* STUDENT NURSE OF THE NATIONAL UNIVERSITY OF THE LITTORAL, ARGENTINA, AT WORK IN A LABORATORY CLASS; *below:* IMPROVED SERVICE TO OTHERS IS STILL THE ULTIMATE GOAL.

of nursing in Latin America. In addition, the Directory of Schools of Nursing in Latin America was brought up to date in October 1962.

PROFESSIONAL EDUCATION IN PUBLIC HEALTH

Advance work was started for the Third Conference of Deans of Schools of Public Health in Latin America, to be held in São Paulo, Brazil, from 22 to 28 September 1963 on "The Teaching of Public Health Administration in Schools of Public Health." Arrangements were made for several international authorities on the subject to serve as consultants. Also in preparation for this meeting, staff members of the Organization collaborated with the Committee on Statutes appointed by the Directors of Schools of Public Health of Latin America to study the legal aspects of establishing an association or federation.

Preparations were also begun for the Travelling Seminar on Organization and Administration of Schools of Public Health, for deans of schools of public health of Canada and the United States of America, to be conducted in Europe from 20 April to 19 May 1963.

A consultant from Brazil was recruited to advise the School of Public Health of Mexico on the curriculum for the recently established second year of study. Recruitment assistance was also given to the School of Public Health of Puerto Rico in connection with obtaining qualified personnel for several vacant posts.

Advisory services were rendered to all the Schools of Public Health in Latin America, and books, pamphlets, and technical reports in Spanish, French, and English were provided to these schools as well as to schools in Canada and the United States of America.

The report of the Second Conference of Directors of Schools of Public Health in Latin America (Puerto Azul, Caracas, Venezuela, 1961) was published in the March 1962 issue of the PASB *Boletin*, and in more extensive form as a special publication.[6]

LIBRARY

The activity of the Library included the acquisition and processing of bibliographical materials and reference services.

More than 12,920 pieces of literature were received in 1962. Of these, 1,783 books, 286 pamphlets, 4,208 issues of periodicals, 3,450 WHO documents and publications, and 101 manuscripts were processed and added to the collection; the remainder were sent to the National Library of Medicine of the United States and to libraries of medical schools in Latin America.

The Library responded to 3,276 requests for information from PASB staff members and from investigators studying international health. Lists of references on 71 topics were compiled. The photocopying service continued to be a useful adjunct in bridging the distance between the inquirer and the collection: 3,318 pages were supplied in this way. The total circulation of materials numbered 5,146.

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[6] *Scientific Publication PAHO* **60**, 1962.


Informe anual
Annual report
HECHOS
MALARIA
Aniversario
La Sífilis
Odontología Sanitaria
INFORME DEL SEMINARIO EN ENFERMERIA DE SALUD PUBLICA
TARIFAS DE AGUA

VI. INFORMATION AND PUBLICATIONS

SPECIAL PUBLICATIONS

The Special Publications series included a total of 47 publications, with 5,271 pages and a total of 167,600 copies printed (Tables 32 and 33). The 1962 publications represented an increase of 14 titles (2,082 pages) over 1961.

The 32 publications in the Scientific and Miscellaneous series were selected in an attempt to meet the need for current technical literature on public health. In 1962 the Portuguese version of *Control of Communicable Diseases in Man* (9th edition, American Public Health Association (APHA), 1960) was published in a 10,000-copy edition, for distribution both in Brazil and in Portuguese-speaking areas of other Regions of WHO. This is the third Portuguese edition of this handbook printed by PASB (7th and 8th editions printed in 1952 and 1957).

The fourth in the series of compilations of scientific papers of the Institute of Nutrition of Central America and Panama was published in the 383-page volume *Publicaciones científicas del INCAP—Recopilación No. 4.* Previous compilations had been published as supplements to the PASB *Boletín.*

A major work in the field of dental public health—*Odontología sanitaria*—was published in a 614-page edition through a grant made by the W.K. Kellogg Foundation. The translation of the text, written originally in Portuguese, was made by ex-fellows of the School of Hygiene and Public Health of the University of São Paulo, who volunteered their services.

A new series of training guides in environmental sanitation was begun during the year. By special arrangements with the U.S. Communicable Disease Training Center, four guides were selected for translation into Spanish and adapted by PASB-selected technicians to reflect prevailing conditions in Latin America: *Moscas de importancia para la salud pública y su control* (Flies of Public Health Importance and Their Control); *Introducción al estudio de los artrópodos de importancia en salud pública* (Introduction to Arthropods of Public Health Importance); *Piojos de importancia en salud pública y su control* (Lice of Public Health Importance and Their Control); and *La eliminación de basuras y el control de insectos y roedores* (Sanitation in the Control of Insects and Rodents of Public Health Importance).

TABLE 32. SUMMARY BREAKDOWN OF SPECIAL PUBLICATIONS, 1962

Publications	Number	Pages	Pressrun
Scientific publications	22	2,272	58,100
Miscellaneous publications	10	371	92,900
Official documents	12	2,529	12,300
Other	3	99	4,300
Total	47	5,271	167,600

In nursing, three new publications appeared: the volume *Encuesta sobre las escuelas de enfermería de la América Latina,* compiling the results of the PASB-conducted survey of nursing schools in Latin America, and the first two titles in the new series of Reports on Nursing: *Informe del Seminario en Enfermería de Salud Pública* (El Salvador, 1961), and *Seminar on Advanced Nursing Education* (Jamaica, 1962). The Spanish edition of the latter report was prepared for publication in 1963.

The volume *Las enfermedades venéreas—Apuntes sobre tratamiento moderno,* issued in 5,000 copies, is the Spanish edition of the USPHS publication *Notes on Modern Management of VD.* Also issued in Spanish was the technical manual *La inspección post mortem de bovinos reactores a la prueba de tuberculina.*

Two publications in the health education field appeared during the year: *Liderato y la comunidad,* a United Nations study on community leadership, and *Estudios sobre educación sanitaria,* comprising articles on the objectives and methods of health education and the health worker as a factor in sociocultural change.

The publication *Atención médica—Bases para la formulación de una política continental* compiled the report and documents of the PAHO Advisory Group on Medical Care and of the Technical Discussions on this subject held at the XVI Pan American Sanitary Conference.

The report and selected papers of the Second Conference of Directors of Schools of Public Health in Latin America was also published in Spanish.

Statistical publications issued in 1962 included the second report of the Regional Advisory Committee on

TABLE 33. SPECIAL PUBLICATIONS ISSUED, 1962

Serial No.	Title	Pages	Pressrun
	Scientific Publications		
51	Profilaxia das doenças transmissíveis (9th ed.)	292	10,000
59	Publicaciones científicas del Instituto de Nutrición de Centro América y Panamá—Recopilación No. 4	383	6,000
60	Segunda Conferencia de Directores de Escuelas de Salud Pública de América Latina (Puerto Azul, Caracas, Venezuela, 1-11 de november 1961)	59	2,000
61	Moscas de importancia para la salud pública y su control (Guías de adiestramiento—Saneamiento del medio)	47	4,000
62	Encuesta sobre las escuelas de enfermería de la América Latina	64	3,000
63	Odontología sanitaria, M. M. Chaves	614	3,500
64	Summary of Four-Year Reports on Health Conditions in the Americas, 1957-1960	122	2,000
64	Resumen de los informes cuadrienales sobre las condiciones de salud en las Américas, 1957-1960	129	2,000
65	Regional Advisory Committee on Health Statistics—Second Report (Washington, D. C., 11–13 June 1962)	24	300
65	Comité Regional Asesor sobre Estadísticas de Salud—Segundo Informe (Washington, D. C., 11–13 de junio de 1962)	25	500
66	Regional Advisory Committee on the International Classification of Diseases—Second Report (Washington, D. C., 14 June 1962)	17	300
66	Comité Regional Asesor sobre la Clasificación Internacional de Enfermedades—Segundo Informe (Washington, D. C., 14 de junio de 1962)	19	500
67.1	Plan of Action in the Event of an Outbreak of Foot-and-Mouth Disease (in press) Manual of Procedures to the Plan of Action (in press)	65 (est.)	1,000
67.1	Planes de acción a seguir en caso de un brote de fiebre aftosa (in press) Manual de procedimientos para los planes de acción (in press)	65 (est.)	1,000
68	La inspección *post mortem* de bovinos reactores a la prueba de tuberculina	36	5,000
69	Introducción al estudio de los artrópodos de importancia en salud pública (Guías de adiestramiento—Sancamiento del medio)	36	3,000
70	Atención médica—Bases para la formulación de una política continental	109	2,000
71	Las enfermedades venéreas—Apuntes sobre tratamiento moderno	42	5,000
72	Liderato y la comunidad—Estudio de las Naciones Unidas sobre el desarrollo de la comunidad	28	2,000
73	Estudios sobre educación sanitaria: Educación sanitaria, sus objetivos y métodos; El trabajador de salud pública como factor de transformación sociocultural	33	2,000
74	Piojos de importancia en salud pública y su control (Guías de adiestramiento—Saneamiento del medio)	19	3,000
75	La eliminación de basuras y el control de insectos y roedores (Guías de adiestramiento—Sancamiento del medio)	44	2,000
	Miscellaneous Publications		
57	On Health and Wealth (reprint)	16	5,000
62	Rabies—Tratment of Man (reprint)	1	10,000
62	Rabia—Tratamiento humano (reprint)	1	50,000
63	Facts on health problems (3rd printing)	59	2,000
63	Hechos sobre problemas de salud (3rd printing)	64	1,500
69	Reunión Técnica Antiaftosa (Montevideo, 1962)	126	1,000
70	PAHO—what it is . . . what it does . . . how it works . . .	28	10,000
70	La OPS—Su finalidad . . . sus actividades . . . su estructura . . . (in press)	28	10,000
71	XX Curso Internacional de Malaria y Sancamiento Ambiental (Escuela de Malariología y Sancamiento Ambiental, Maracay, Venezuela)	16	400
72	Malaria in the Americas (in press)	32	3,000

TABLE 33. SPECIAL PUBLICATIONS ISSUED, 1962—Continued

Serial No.	Title	Pages	Pressrun
	Official Documents		
39	Financial Report of the Director and Report of the External Auditor, 1961	70	350
39	Informe Financiero del Director e Informe del Auditor Externo, 1961	70	350
40	Proposed Program and Budget of the Pan American Health Organization, 1963-1964	326	300
40	Proyecto de Programa y Presupuesto de la Organización Panamericana de la Salud, 1963-1964	326	300
41	Proceedings, XIII Meeting, Directing Council of the PAHO, Regional Committee of the WHO for the Americas	482	1,000
41	Actas, XIII Reunión del Consejo Directivo de la OPS, XIII Reunión del Comité Regional de la OMS para las Américas	537	1,000
42	Basic Documents (4th edition)	106	500
42	Documentos Básicos (4th edition)	112	500
43	Quadrennial Report of the Director, 1958-1961	97	2,000
43	Informe Cuadrienal del Director, 1958-1961	103	2,000
44	Annual Report of the Director, 1961	144	2,000
44	Informe Anual del Director, 1961	156	2,000
	Other		
Informes sobre enfermería No. 1	Informe del Seminario en Enfermería de Salud Pública (San Salvador, El Salvador, 5-18 de noviembre de 1961)	65	3,000
Report on Nursing No. 2	Report of Seminar on Advanced Nursing Education (Montego Bay, Jamaica, 4-10 November 1962)	33	300
—	Tarifa especial (Portuguese) (Special rates for WHO publications)	1	1,000

Health Statistics, the second report of the Regional Advisory Committee on International Classification of Diseases, and the *Summary of Four-Year Reports on Health Conditions in the Americas, 1957-1960,* in English and Spanish, for presentation at the XVI Pan American Sanitary Conference.

Informational pamphlets included a new edition of *PAHO—what it is . . . what it does . . . how it works . . .* and the illustrated booklet *Malaria in the Americas.* As in previous years, the prospectus for the XX International Course on Malaria and Environmental Sanitation (Maracay, Venezuela) was published in Spanish.

In the Official Documents series the 12 basic reference texts published included the English and Spanish editions of: *Basic Documents of PAHO* (4th edition); *Proposed Program and Budget Estimates, 1963-1964; Financial Report of the Director and Report of the External Auditor, 1961; Proceedings of the XIII Meeting of the Directing Council* (Washington, D. C., 1961); *Annual Report of the Director, 1961;* and *Quadrennial Report of the Director, 1958-1961.*

BOLETIN DE LA OFICINA SANITARIA PANAMERICANA

The *Boletín de la Oficina Sanitaria Panamericana,* published regularly since 1922, celebrated its 40th Anniversary. The 12 issues of 1962, with a monthly pressrun of 10,000 copies, contained a total of 1,214 pages. The May issue (480th) was dedicated to the Anniversary. The December issue, with 132 pages, commemorated the 60th Anniversary of the founding of the Pan American Sanitary Bureau on 2 December 1902.

In 1962 the *Boletín* published 90 articles in Spanish and 4 in Portuguese; 70 were original articles (one appeared simultaneously in an outside publication of a different language) and 24 were reprinted from other journals.

A total of 127 articles were received in 1962: 66 were approved for publication and 50 were rejected; the remainder were still under consideration at year's end.

Summaries of 190 articles originally published in

other journals appeared in the "Actualidades médicas y de salud" (Medical and Health News) section, which included reviews of 22 recently published books on public health. The *Boletín* continued to provide a variety of general information, such as a Calendar of International and National Meetings (Spanish and English) and a list of publications reviewed by the PASB Library.

Of the 746 pages devoted to articles during 1962, 127 were dedicated to communicable diseases, 86 to public health administration, 79 to professional education, 67 to environmental sanitation, 59 to dental health, and the remainder to other subjects of public health interest.

PUBLIC INFORMATION

Mass-Media Coverage of Activities

Press

Public awareness of PAHO/WHO contribution to health improvement in the Americas increases in direct proportion to the news coverage of PASB activities. During 1962, 73 press releases were issued in English, 57 in Spanish, and 47 in Portuguese, or 11, 10 and 8 more than in 1961. For the first time a release was issued for French Canadian and Haitian editors. The events most widely reported in the Hemisphere press were World Health Day, the XVI Pan American Sanitary Conference, and the 60th Anniversary of the Pan American Sanitary Bureau. These events also received wide editorial support.

Feature stories issued during 1962 were: "April 7 is World Health Day"; "Trachoma: Greatest Threat to Man's Sight"; "Western Samoa Becomes New WHO Member"; "Under Health's Flag, International Experts Work for World Health"; and "In the Western Hemisphere, 60 Years of International Health." Most feature stories were distributed as mats of 200 to 400 words plus a photograph which, reproduced on perforated cardboard matrices, can be placed directly on presses.

The Pan American Union's magazine *Americas* devoted an entire issue to the work of the Bureau. Supplementing the regular circulation of *Americas*—which totals 52,000, 25,000, and 5,000 copies in English, Spanish, and Portuguese—PASB bought and distributed directly 12,000 additional copies in English, 25,000 in Spanish, and 5,000 in Portuguese.

Radio and Television

As in previous years, the facilities of the Pan American Union, the United Nations Radio, and the Voice of America were used for recording interviews with Bureau officials and important visitors.

The widest radio coverage of the year occurred during the XVI Pan American Sanitary Conference, held at Minneapolis, Minnesota. An interview with the Director was carried over a network of some 30 radio stations, and almost all stations in Minneapolis reported daily on Conference sessions. Timed releases were issued prior to World Health Day and the XVI Pan American Sanitary Conference.

Wide television coverage was given to the XVI Pan American Sanitary Conference. Among the events televised were the inaugural session, election of officers, admission of Jamaica to full membership in the Pan American Health Organization, and re-election of the Director of the Pan American Sanitary Bureau.

The U. S. Information Agency's program *Panorama Panamericano* carried World Health Day and PASB 60th Anniversary interviews with the Director and Assistant Director of the Bureau. *Panorama Panamericano* is a weekly newsreel that goes out in Spanish and Portuguese to some 15 million viewers in Latin America.

Other Information Activities

In answer to individual inquiries, 3,711 kits, each containing four pieces of either general or specific literature on PASB or WHO work, were distributed and 2,200 letters were answered. Films were loaned to a variety of interested groups, and staff of the Public Information Office addressed civic organizations, college and university students, and missionary and other groups in Washington, New York, and Philadelphia.

TABLE 34. ARTWORK AND OTHER VISUAL AIDS SUPPLIED IN 1962

Item	Quantity
Photographic prints	1,171
Drawings copied	1,121
Silkscreen reproductions	750
Projection slides	696
Maps, charts, graphs, and designs	568
Signs and captions lettered	93
Maps mounted	28
Exhibits displayed	26
Forms designed	16
Building plans	11
Publications designed	3
Posters	2
Total	4,485

A *Public Information Newsletter* was begun. Some 4,000 copies were distributed to college professors, workers in public health departments, and members of United Nations Associations and of National Citizen groups.

A flyer entitled *The Busiest Border*, describing the work of the El Paso Field Office and the United States-Mexico Border Public Health Association, was issued at the time of the Association's 1962 annual meeting in Nuevo Laredo, Mexico. The flyer *Then and Now* was reissued.

Reprints of the following articles on health work were obtained for distribution: "Modern Medicine Comes to Africa," from *Catholic Digest;* "Science Aids Africa's Progress," *Science Service Magazine;* "The World Wants Water," *Cast Iron Pipe News;* "Doctor to the World," *Time magazine;* "Health for a Hemisphere," *New York World-Telegram & Sun;* "Bureau Works for Better Health in Americas," *AMA News.*

The information program for Bureau Staff included special observances of World Health Day and of the 60th Anniversary of the Pan American Sanitary Bureau, and the sending of letters to their homes pointing up UN Day, UNICEF Greeting Cards, and the WHO malaria eradication stamp campaign.

VISUAL AIDS

A wide variety of visual aids to public health work was prepared in 1962 (Table 34).

VII. ADMINISTRATION AND ORGANIZATION

ORGANIZATIONAL STRUCTURE AND ADMINISTRATIVE DEVELOPMENTS

The year 1962 marked substantial progress in the rationalization of the administrative processes of the Organization. This activity, initiated in 1961, entailed analyses of structure, procedures, techniques, and performance. As a consequence, the Headquarters administrative structure was streamlined, procedures were revised, new techniques were introduced, and changes were made in the staffing pattern of all units. At the executive level, the XVI Pan American Sanitary Conference approved the creation of the post of Deputy Director, replacing that of Assistant Director, and the post of Assistant Director, replacing the post of Secretary General. Worthy of mention among the changes in administrative services were the merging of the General Services and Supply Sections and the elimination of the Management Section and the Administrative Consultative Service Unit, their responsibilities having been reassigned to other sections.

The streamlining in process in Washington was followed by that undertaken in the field. On 1 May 1962, there was introduced in Zone IV a program directed toward the return of the administrative operation to Headquarters, for absorption into the central processes. This program was extended to Zone V on 1 June and to all other Zones on 1 November.

A program for direct country-to-Washington administrative relations was introduced in Colombia and Peru on 1 August, as part of a general effort at further decentralization of technical responsibility while centralizing administrative functions. The procedure was a test for introducing similar programs in other countries. By year's end, plans were underway to extend the program to other countries, and details of the eventual elimination of administration in the field were being arranged with the Zone Offices. The target for completion of these processes was set for the end of 1963, taking into consideration the need for reassignment of persons affected by the changes or, if possible, keeping them on until they find work elsewhere.

Definitive review was made of the program of consultative service in the field of public administration to the Ministries of Health. Plans were laid for a modest extension of the existing program. Accordingly, from 3 to 7 December 1962 a second seminar was held in Bogotá, Colombia, for the countries of South America, the first having been held in November 1960 at San José, Costa Rica, for the countries of Central America.

Permanent Headquarters

Work proceeded on plans for the permanent headquarters building for the Pan American Health Organization, and many of the problems involving financing, government regulations, structural specifications, and space assignment were resolved.

During the year, approval was received from the various governmental agencies as to permissible height and other specifications of the building. When the proposed architectural plans were submitted to a firm of professional construction estimators their analysis revealed that additional funds would be required. In response to this need, the W. K. Kellogg Foundation generously increased its original loan of $3,750,000 to $5,000,000. This "loan," granted under condition that it be repaid within 20 years in the form of expanded or additional PAHO health programs in the Hemisphere, reaffirms the goodwill of the Kellogg Foundation, for the loan becomes an outright donation to improve the health of the people of the Americas. The program activities designated as "repayment" of the loan are included in the PAHO regular budget as the Special Fund for Health Promotion.

Budget and Finance

The budgetary resources of the Organization for 1962 totaled $14,584,812 (Table 35). The 1962 comprehensive budget represented an increase of 19.4 per cent over that of 1961, with the PAHO regular budget having increased 9.2 per cent. More than half of the increase in the PAHO regular budget was required to meet increased costs.

The funds available in 1962 from grants exceeded by about $740,000 the original estimate. The principal items of this increase included $175,000 (largely NIH grants) for INCAP, $65,000 from AID (for planning), $260,000

TABLE 35. FUNDS BUDGETED FOR PAHO AND WHO AND ADMINISTERED BY PASB, 1962

Source of funds	1962	Increase from 1961 to 1962
	U. S. dollars	*Per cent*
Pan American Health Organization		
Regular budget	5,240,000	9.2
Other:		
Special Malaria Fund	3,085,198	10.4
Special Community Water Supply Fund	411,700	85.6
Organization of American States: Technical Cooperation Program	537,808	2.7
Grants and other contributions	937,647	158.1
INCAP: regular budget, grants, and other contributions	702,613	33.2
World Health Organization		
Regular budget	2,275,420	19.0
Technical Assistance Program	1,321,666	23.2
Malaria Eradication Special Account	72,760	–
Total	14,584,812	19.4

– None.

from NIH for epidemiological studies, and $134,000 from AID for technical surveys and studies by the Pan American Foot-and-Mouth Disease Center. Another important budget development was the approval of the first project under the United Nations Special Fund, for which funds will be available over a five-year period, starting in 1963. The total expenditure of funds administered by the Pan American Sanitary Bureau during 1962 is shown in Table 36.

On the basis of its regular income, PAHO suffered a setback in its financial situation in 1962 because payment of current quotas and those pending from previous years reached only 83.3 per cent of the assessed budget for 1962. The pattern of payments continued the cyclical trend of the past several years; from 1955 through 1962, payments in odd years exceeded expenditures and in every even year fell below anticipated receipts.

In spite of the continued attention given throughout the year to the matter of quota collections (Table 37), the $3,940,234 paid for 1962 current-year quotas were only 76.66 per cent of the assessed budget. Collections on arrears were $348,550, or 25.8 per cent of the arrears.

Because of the 1962 deficit, the Working Capital Fund decreased to $1,418,649 at the end of the year. The $300,000 budgeted to augment the Working Capital Fund was transferred to other parts of the budget, with approval of the Executive Committee, to meet the increased salary scale established by the United Nations and adopted by WHO and PAHO.

The special funds for malaria and water supply were adequate to carry out the planned programs, mainly because of the generous contributions of the Government of the United States. WHO regular and WHO Technical Assistance funds, as well as those from OAS, were available as indicated in Table 34. Health activities were also

TABLE 36. EXPENDITURE OF FUNDS ADMINISTERED BY THE PAN AMERICAN SANITARY BUREAU, 1962

U. S. dollars

Pan American Health Organization	
Regular budget	4,751,018
Other:	
Special Malaria Fund	2,843,785
Special Community Water Supply Fund	354,018
Building Fund	113,410
Grants and other contributions	630,964
Organization of American States Technical Cooperation Program	525,589
INCAP regular budget	149,668
Grants and contributions	524,315
Total	9,892,767
World Health Organization	
Regular budget	2,275,054
Technical Assistance Program	1,298,864
Special Account for Smallpox Eradication	5,760
Total	3,579,678
PAHO/WHO total	13,472,445
Procurement services in the Americas for Governments, public institutions, etc.	247,151
Grand total	13,719,596

TABLE 37. PAHO QUOTA CONTRIBUTIONS, DUE AND RECEIVED, 1961 AND 1962

U. S. dollars

Payments	Due on 1 January 1961	Received by 31 December 1961	Per Cent	Due on 1 January 1962	Received by 31 December 1962	Per Cent
Current	4,700,000	3,971,013	84.49	5,140,000	3,940,234	76.66
Arrears	1,458,685	836,532	57.35	1,351,140	348,550	25.80
Total	6,158,685	4,807,545	78.06	6,491,140	4,288,785	66.07

supported by international and bilateral funds, especially from UNICEF, IADB, and AID.

Budget and financial systems and procedures were almost completely revised in 1962 or planned for 1963—principally in program, or functional, budgeting—using averages to estimate personnel costs and simplifying forms and processing of payrolls, vouchers, earning and accounting records. WHO Headquarters approved a consolidated accounting system which will reduce the number of records and bank accounts maintained by PASB.

The rationalization of budgeting and accounting procedures involved the transfer of payrolls and related accounting for international staff from the Zone Offices to the Bureau. Other accounting functions were transacted directly between Washington and staff in two countries on a trial basis.

The new approach to budget and accounting achieved equivalent accuracy, financial control, and clarity of presentation while eliminating a large volume of detail. For example, average personnel costs used in budgeting were based on actual staff, so that the total estimates would be the same as under the previous system, but without detailed post-by-post costs.

Under the new allotment system, officials responsible for program operations received their allotment authority expressed in terms of units required to carry out the work, such as number and type of posts, number of fellowship-months, and days of duty travel, eliminating the accounting problems arising from differences in costs of posts due to seniority, number of dependents, home leave, etc. Further benefits are that the analysis of financial requirements is simplified and that any available funds can be redeployed to meet urgent needs of programs which lack funds.

A report on program budgeting for application to the budget of the Organization was presented to the Executive Committee in April 1962. The paper drew attention to modern concepts of budgeting, relating investment more closely to program objectives rather than to the means available to attain the objectives. A two-way draft classification plan was presented, with a vertical display of specific program subjects grouped under major headings and a horizontal distribution by ways of arriving at program objectives as defined in the Basic Documents of the Organization. Both should assist in assessing the direction of effort of the Organization as a whole, as well as in planning and guiding day-to-day operations.

Personnel

The highest level of employment in the history of the Pan American Sanitary Bureau was reached during 1962. The total employment of the Organization was in the range of 975–1,025, with the heaviest employment of short-term consultants for any year. At year's end, including all contracts terminating at the close of business 31 December 1962, the Organization had a staff of 975, of whom 950 were regular staff members and 25 were short-term consultants and temporary employees. The turnover rate continued at a level of approximately 10 per cent in the regular and term-contract categories.

Significant changes in the conditions of employment were introduced during 1962 through changes in the Staff Rules, which included revision of the professional salary scale (the first in 11 years) and a new pattern for the post adjustment system. There were also an increase in the allowance for dependent spouse, from $300 to $400 per annum; an extension and liberalization of reimbursement of educational expenses and education grant travel; and changes in provisions concerning travel for medical care.

The difficulties of recruitment of professional staff were neutralized to some extent by the above changes, however, it was evident that there was a continuing short supply of skills in the various areas in which the Organization was competing for talent. As immediate steps, the roster of candidates for professional positions was broadened

and contacts were intensified with the Association of American Medical Colleges and other organizations to facilitate the recruitment program. In the clerical and stenographic areas, relief was obtained in some measure by the employment of personnel from the Zone areas and by the initiation of an in-service training program for employees in these categories.

As part of the program of rationalization of the administrative processes the Personnel Section was completely reorganized during the course of the year and, in great measure, restaffed. Internal processes were reviewed for every subunit of the section, resulting in the adoption of new procedures for virtually every work desk. In an effort to cope with the centralization of the administrative detail of the various Zone Offices, personnel files were reviewed and completely reorganized and forms were redesigned to facilitate processing of documentation. On 1 May the Section assumed responsibility for the issuance of personnel documentation for the professional staff of Zones IV and V and for the staff assigned to the Institute of Nutrition of Central America and Panama and the Pan American Foot-and-Mouth Disease Center. Most of the personnel documentation for Zones I, II, III, and VI was issued by the Section on 1 November 1962.

With the revision of the professional salary scale mentioned above, the post adjustment schedules were revised to incorporate three classes of post adjustment into the base salary. The new salary and post adjustment schedules were implemented as of 1 January 1962. As a result of this action, the post classifications for all countries were revised to correspond with the Geneva base 110/100.

There were 19 upward and two downward changes in post adjustments during 1962 in the Americas. Eleven countries were surveyed on a time-to-time basis and one on a place-to-place basis. In addition, rental surveys were carried out for Haiti and for Washington, D. C. Complete revisions were made of local salary scales in six cities, and local salary scales in Lima, Kingston, and El Paso were extended to include additional grade levels. A total of 184 position classification actions processed during the year included 15 requests for reclassification, of which 11 were approved. Six vacant posts were redescribed and reallocated to a lower grade level. Also, in an effort to obtain more expeditious and comprehensive service, the medical referee for the Americas was changed.

Services and supply

During 1962 there was a slight increase in procurement activity, compared with 1961. Procurement represented $1,994,985 for 1962 as against $1,738,066 for 1961; 1,831 purchase orders were executed.

With the merging of the former Supply and General Services Sections into the Services and Supply Section a closer control of office supplies and equipment was established; an immediate objective was to reduce the cost of supplies by purchasing in bulk, and a long-range objective is to standardize office equipment. Medical supply procurement procedures were standardized with those of WHO, Geneva.

The study of procurement services rendered to Governments, requested by the 46th Executive Committee, resulted in replies from a number of Governments. A report will be submitted to the Executive Committee at its April 1963 meeting.

The offer of the Western Electric Company to make its electronic larynx available at cost when purchased through PAHO and WHO, resulted in PAHO being designated the purchasing office for orders made by Ministries of Health of Member Governments. Since this program has been in operation, 71 electronic larynges have been purchased and shipped.

Printing and duplicating contracts issued during 1962 totaled 1,178 for 27,000,000 impressions at a cost of $222,000.

Meetings and Translating Services

The increased number of meetings held in 1962 created difficulties unforeseen in the Section's planning for the year (Table 38).

The transfer of the XVI Pan American Sanitary Conference from its original site to Minneapolis, Minnesota, also made for a considerable additional workload in replanning and servicing the meeting at a location selected less than 90 days before the opening of the Conference.

The translating services devoted an important part of their time to the Conference and to the 46th and 47th meetings of the Executive Committee. These services also assisted in the preparation of documentation for other meetings convoked or sponsored by PAHO/WHO, of numerous consultants' reports, and of material for both periodic and special publications.

In addition to the translations made during the meetings, the following number of pages were translated into the languages indicated: 7,200 pages into Spanish, 1,298 pages into English, and 546 pages into Portuguese.

Apart from the documents distributed during the meetings of the Governing Bodies, 9,216 mimeographed documents were sent out for official meetings; and 751 official documents and other printed volumes, and 3,626 miscellaneous documents were also distributed during the year.

TABLE 38. INTERNATIONAL MEETINGS CONVOKED BY OR AT WHICH PASB WAS REPRESENTED, 1962

PAHO Advisory Group on Nutrition. Washington, D. C., 10-13 January
Twenty-ninth session of the WHO Executive Board. Geneva, 15-26 January
PAHO Advisory Group on Medical Education. Washington, D. C., 7-9 February
PAHO Advisory Group on Health Planning. Washington, D. C., 12-16 February
PAHO Advisory Group on Medical Care. Washington, D. C., 7-9 March
XX Annual Meeting of the United States-Mexico Border Public Health Association. Nuevo Laredo, Tamaulipas, Mexico, 9-13 April
46th Meeting of the Executive Committee of PAHO. Washington, D. C., 23-27 April
VI Regional Congress of Nurses for the Americas. Panama City, Panama, 5-12 May
Fifteenth World Health Assembly. Geneva, 8-25 May
X Meeting of Directors of National Malaria Eradication Services of Central America, Mexico, and Panama. Tegucigalpa, Honduras, 14-19 May
VIII Inter-American Tourist Congress. Rio de Janeiro, Brazil, 15-25 May
Thirtieth session of the WHO Executive Board. Geneva, 29-30 May
Meeting of the Advisory Group on Chagas' Disease Research. Rio de Janeiro, 4-7 June
Symposium on New Developments in Sewage Disposal. Cincinnati, Ohio, 4-9 June
VIII Congress of the Inter-American Association of Sanitary Engineering. Washington, D. C., 10-15 June
PAHO Advisory Committee on Medical Research. Washington, D. C., 18-22 June
1962 International Conference on Health and Health Education. Philadelphia, Pennsylvania, 30 June-7 July
VI Meeting of the Permanent Executive Committee of Pan American Highway Congresses. Mexico, D. F., 2-7 July
Inter-Regional Conference on Graduate Training in Health Education. Philadelphia, Pennsylvania, 8-14 July
Biennial Convention of the British Caribbean Veterinary Association. Georgetown, British Guiana, 5-11 August
XVI Pan American Sanitary Conference. Minneapolis, Minnesota, 21 August-3 September
47th Meeting of the Executive Committee of PAHO. Minneapolis, Minnesota, 3 September
First Annual Meeting of the Inter-American Economic and Social Council at the Expert Level and at the Ministerial Level. Mexico, D. F., 1-21 and 22-27 October
First Latin American seminar on teaching of dentistry. Bogotá, 4-19 October
Seminar on social research and problems of rural life in Central America, Mexico, and the Caribbean. Mexico, D. F., 17 October
Latin American Congress of Schools of Dentistry. Bogotá, 20-25 October
Seminar on Advanced Nursing Education. Montego Bay, Jamaica, 4-10 November
Seminar on mental health. Cuernavaca, Mexico, 23 November-3 December
III Conference on Latin American Schools of Medicine. Viña del Mar, Chile, 25-30 November
XIII Meeting of the Council of INCAP. San José, Costa Rica, 3-8 December
Seminar on the organization and administration of public health services. Bogotá, 3-7 December

GOVERNING BODIES

Pan American Sanitary Conference

The XVI Pan American Sanitary Conference of the Pan American Health Organization, which was also the XIV Meeting of the Regional Committee of the World Health Organization for the Americas, was held in Minneapolis, Minnesota, from 21 August to 3 September 1962. Dr. José Alvarez Amézquita, Secretary of Health and Welfare of Mexico, was elected Chairman of the Conference.

Representatives of 21 Member Governments (Bolivia was not represented; Jamaica was admitted as the twenty-second member of the Pan American Health Organization on 23 August), and of France, the Kingdom of the Netherlands, and the United Kingdom attended the Conference. Canada sent an official observer. Representatives of the United Nations, the UN Children's Fund, the Organization of American States, the Inter-American Development Bank, and of 13 nongovernmental organizations were also present.

The Director of the Pan American Sanitary Bureau was re-elected for a period of four years to begin on 1 February 1963. The Governments of Costa Rica and the United States of America were elected to the Executive Committee for a period of three years on the termination of the periods of office of Colombia and El Salvador.

In the discussions of the Quadrennial Report (1958-1961) and Annual Report (1961) of the Director of the Pan American Sanitary Bureau,[1] emphasis was placed on the continuing role of public health activities in the economic and social development of the Americas and on the importance of systematic planning to implement the health objectives of the Charter of Punta del Este.

The Conference approved $5,990,000 for the PAHO 1963 regular budget, which included $187,500 for a Special Fund for Health Promotion and $300,000 to increase the Working Capital Fund. This represented an increase of $750,000 over 1962. Also earmarked for the Region was income available through the channels of WHO, consisting of funds from the WHO regular budget,

[1] *Official Documents PAHO* **43** and **44**, 1962.

the Expanded Program of Technical Assistance, and the UN Special Fund. These funds, together with the Special Malaria Eradication Fund, grants for specific purposes and other contributions available through PAHO channels, made a grand total of $16,139,552 expected to be available for health work in the Region of the Americas during 1963.

The Conference also took note of the provisional draft of the proposed program and budget for PAHO for 1964, amounting to $6,560,000, which was to constitute the basis for the proposed budget for 1964 that would be presented to the XIV Meeting of the Directing Council.

The Conference requested the Directing Council to draw up procedures for the admission of States to membership in the Pan American Health Organization, and delegated to the Directing Council authority to deal with the admission of States to membership in the Organization during the interval between meetings of the Conference.

After reviewing the *Summary of Four-Year Reports on Health Conditions in the Americas, 1957-1960*,[2] the Conference recommended that Governments expand and strengthen their programs in vital and health statistics; encourage current, accurate, and complete reporting of morbidity and mortality from communicable diseases; establish or strengthen statistical departments in national health authorities; and support education and training programs in statistics. It also recommended that the Bureau continue to publish four-yearly reports on health conditions.

The Conference examined the report of the Director on the status of the continental plan of community water supply and sewage disposal and was informed that the United States of America would contribute, subject to Congressional approval, the sum of $300,000 toward the Special Community Water Supply Fund budget for 1963. For 1964 the United States of America, subject to Congressional approval, would pledge an outright contribution of $300,000 and would match contributions of other Governments on a dollar for dollar basis up to a maximum of $150,000. The Bureau was requested to continue to give the subject high priority and to amplify the assistance furnished to Governments.

Satisfaction was expressed with the close collaboration of the Bureau and the Inter-American Development Bank in water-systems activities and the Conference took note of the agreement between PAHO and the IADB concerning technical assistance. Member Governments were urged to incorporate water and sewage programs in long-range national plans, to make maximum use of local resources in their financing, to strengthen engineering services, and to undertake engineering review of plans for installations prior to construction or modification. The need for further study for the rapid implementation of rural water supply and sewage disposal programs was expressed, as well as the need for participation of health authorities in the planning and review of both rural and urban housing programs. The Director was requested to study the need for, and advisability of, establishing a service exclusively devoted to environmental health and sanitation problems at the highest executive level within the Bureau.

With reference to the Inter-American Investigation of Mortality, the Conference recommended that a similar investigation be undertaken of mortality of children between the ages of 1 and 14 years, that the Bureau proceed with the planning of epidemiological research on cancer and cardiovascular diseases, and that Governments promote the postgraduate training of pathologists for hospital and medico-legal services in medical schools.

On the clinical and pharmacological evaluation of exogenous agents, the Conference recommended that the Bureau study the problem and the organization of a system of collection and exchange of information and develop standard procedures for the registration and rapid compilation and analysis of data with respect to congenital or secondary effects. It was further recommended that Governments adopt measures to ensure the registration of congenital defects on certificates of fetal deaths and live births and notification of those discovered at a later date to the health authorities.

Having examined the report on the nutrition program in the Americas, the Conference recommended that the Bureau make an evaluation of the expanded nutrition programs in the Hemisphere and consider the possibility of increasing the resources devoted to training in nutrition. It was recommended that the nutrition programs of national health services be strengthened at the local level and that Governments carry out food consumption surveys for the preparation of national food programs as part of general development plans. The need for salt iodization as a means of endemic goiter control was reiterated.

The Conference noted that additional financing was needed to meet the revised cost estimates for the new PAHO headquarters building and authorized the Director to make an additional financial request of the W. K. Kellogg Foundation, to instruct the architects to prepare final plans and specifications, and subsequently to secure bids and award contracts for construction—provided the necessary financing was assured. The needed funds were subsequently granted by the Foundation.

Having considered the report of the Director on PAHO research policy and programs and that of the Advisory Committee on Medical Research, the Conference requested

[2] *Scientific Publication PAHO* **64**, 1962.

that all possible steps be taken to expand research and research training activities, and that annual reports on progress in research be submitted to the Directing Council and a progress report to the XVII Pan American Sanitary Conference in 1966.

The Conference examined the X Report on the Status of Malaria Eradication in the Americas, and expressed the wish that the assistance of UNICEF and AID to the continental program of malaria eradication be continued and, if possible, intensified until the eradication of malaria in the Americas is achieved. Attention was again called to the urgent necessity of eradicating malaria and the need for Governments to assign the necessary funds for that purpose. Taking note of the requirements of the Special Malaria Fund of PAHO for 1963, the Conference recommended that the provision of international assistance for malaria eradication in the Central American isthmus be made sufficiently flexible to make possible the transfer of financial and material resources from one country to another, depending on the technical requirements of the moment. Gratitude was expressed to the Government of the United States of America for its generous support of the Special Malaria Fund in 1963 and its offer of continued support in the future.

As regards the eradication of *Aëdes aegypti*, it was noted that 15 years had elapsed since the inception of the continental eradication program in 1947, and that many areas were still infested with the mosquito. The Conference invited the Governments of countries in which the vector had been eradicated to maintain active surveillance programs to prevent reinfestation, expressed satisfaction with the progress towards eradication currently being achieved in other countries, and called on the Governments of countries and areas still infested with *A. aegypti* to give the highest priority to completion of eradication campaigns.

The Conference also expressed satisfaction with the success achieved by various Governments in eradicating smallpox, urged the Governments of countries where foci of smallpox still existed to expand and accelerate their national smallpox eradication programs, and urged Governments of countries where smallpox had been eradicated to develop systems within national health services to assure the maintenance of adequate national levels of immunity and provide for continued surveillance against recurrence of the disease.

The Conference considered the subject of tuberculosis control in the light of PAHO reports and recommendations of the WHO Expert Committee and the WHO/UNICEF Joint Committee on Health Policy. It was recommended that Governments try to obtain special Alliance for Progress funds for coping with the complex problem of tuberculosis. The Director was requested to aid Governments in drawing up and implementing short-term plans based on local demonstration projects, to be supported by UNICEF funds, and long-term plans to be supported by domestic funds or from other sources, in accordance with the principles laid down by the WHO/UNICEF Joint Committee on Health Policy.

Considerable attention was devoted to the activities being carried out by the Pan American Sanitary Bureau under the Charter of Punta del Este. The Conference urged Governments to push forward with well-planned and coordinated programs to achieve the health objectives of the Charter, and requested the Director to continue and augment advisory services to Governments for this purpose. The Director was also invited to make every effort to secure extra-budgetary funds in support of training in planning for national and international staff, and to take the steps necessary to assure the involvement of the Bureau with respect to survey, planning, and program operation in social and economic development undertaken by the Organization of American States, the Inter-American Development Bank, the United Nations Economic Commission for Latin America, and other multilateral and bilateral organizations, in accordance with the Charter of Punta del Este. The Conference expressed its support of the steps taken by the Director with regard to advisory services to Governments, the formulation of planning methodology and the training of health planners, and called the attention of Governments to the need for formulating national health plans and for establishing planning units in Ministries of Health to assure the integration of health programs and plans into those for national, social, and economic development.

Other administrative and financial matters considered at the Conference included amendments to the Staff Rules of the Pan American Sanitary Bureau, the salary of the Director, the Emergency Revolving Fund, the collection of quota contributions, and allowances for members of the Executive Committee.

Technical Discussions. The Conference devoted October 30th to discuss "The Present Status of Medical Care in the Americas in Relation to Its Incorporation as a Basic Service in Integrated Health Programs." Working papers were presented on available basic information, on economic aspects of medical care, and on the effective utilization of health care resources.

The discussions brought out the following main points: It was not considered necessary to include health promotion and protection in the definition of "medical care" because they fell into the broader definition of "health care." It was felt that it was fundamental for health planning to form part of a national plan for economic and social development. It was agreed that health services should be planned and organized within countries

on a regional basis, with preventive and curative services under the authority of a single health administrator. It was noted that countries consistently devoted something near 5 per cent of gross national income to health services, even though methods of financing differed. As regards the training of personnel, it was felt that the entire course of study for medicine and other health professions should include greater attention to the social sciences and to preventive aspects.

The Conference chose the topic "Ideas for the Formulation of a Plan for the Control of Gastro-intestinal Diseases, including Environmental Sanitation measures, Epidemiology, Health Education, and Early Diagnosis and Treatment," for the Technical Discussions to be held in 1963 during the XIV Meeting of the PAHO Directing Council.

Executive Committee

At the 46th Meeting of the Executive Committee, held in Washington, D. C., from 23 to 27 April 1962, Argentina, Chile, Colombia, El Salvador, Nicaragua, Peru, and Uruguay were represented. Observers from Cuba, France, the Kingdom of the Netherlands, and the United States of America, as well as from the Organization of American States and the Inter-American Development Bank, were also present.

Among the items dealt with at this meeting were the following: Proposed Program and Budget of the Pan American Health Organization for 1963 (Resolution II recommended a budget ceiling of $5,990,000); Report of activities of PAHO under the Charter of Punta del Este; PASB organizational unit for planning; Recruitment and retention of staff; Emergency Revolving Fund; and national health committees.

The 47th Meeting was held in Minneapolis, Minnesota, U.S.A., on 3 September 1962, and representatives of the seven Member Governments—Argentina, Chile, Costa Rica (new Member), Nicaragua, Peru, United States of America (new Member), and Uruguay—were present. Observers from Colombia, Ecuador, and France also attended. The Representative of Nicaragua was elected Chairman and the Representative of Chile was elected Vice-Chairman. The Executive Committee agreed to entrust the task of establishing the date of the 48th Meeting, to be held in the second quarter of 1963, to the Chairman of the Committee and the Director of the Pan American Sanitary Bureau.

ZONE AND FIELD OFFICES

The continuing process of administrative rationalization was extended to the field in 1962. Payroll and related records for personnel in Zone IV were absorbed in the mechanized Washington system on a trial basis in May and those of Zone V in June. The system was extended to the remaining Zone Offices in November.

In August a trial program for decentralization of responsibilities was initiated in Zone IV, based on the establishment of country representatives in Colombia and Peru with responsibilities similar to those of WHO country representatives in other Regions. Plans were made to extend the system to Bolivia and Ecuador early in 1963 and to 10 other countries later in that year.

With the rationalization of the administrative process, it was possible to eliminate a number of professional and local posts in Zone Offices, with a consequent financial saving. At the same time, the Zone Representatives, relieved of some of the burden of administrative routine, were enabled to concentrate their efforts on high-level liaison with Governments for the planning, evaluation, and direction of programs and intercountry projects.

VIII. PROJECT ACTIVITIES

Project activities carried out in the Americas in 1962 with PAHO/WHO assistance are summarized in this Chapter. Country projects are arranged by alphabetical order of countries, followed by intercountry or interzone (AMRO) and by a few inter-Regional projects.

Below each project description, the source of funds is shown at the left and the cooperating agencies, if any, at the right.

Acronyms and Corresponding Agencies

ACC	American Cyanamid Company
AID	Agency for International Development
FAO	Food and Agriculture Organization
IADB	Inter-American Development Bank
ICNND	Interdepartmental Committee on Nutrition for National Defense
ILO	International Labor Office
KF	W. K. Kellogg Foundation
LL	Lederle Laboratories
NIH	National Institutes of Health of the United States Public Health Service
NRC	National Research Council
OAS	Organization of American States
OAS/PTC	Organization of American States, Program of Technical Cooperation
PAHO	Pan American Health Organization
PAHO/CWSF	Pan American Health Organization, Special Community Water Supply Fund
PAHO/SMF	Pan American Health Organization, Special Malaria Fund
PAU	Pan American Union
UN	United Nations
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations Children's Fund
USPHS	United States Public Health Service
WHO/MESA	World Health Organization, Malaria Eradication Special Fund
WHO/R	World Health Organization, Regular Budget
WHO/TA	World Health Organization, Technical Assistance

ARGENTINA-2, Smallpox Eradication

Objective: To vaccinate 80 per cent of the population of 16 Provinces of the country against smallpox in a short period of time.

Probable duration: 1954 (part of AMRO-60 up to 1958).

Assistance provided: Advice of Zone VI Office staff.

Work done: The total vaccinations given under the program up until October 1962 was 5,845,728, of which 508,459 were given between 1 January and 31 August. By the end of 1962, 80 per cent of the population had been vaccinated in 7 of the 16 Provinces included in the program, about 75 per cent in 2 others, and a smaller proportion in the remaining 7.

PAHO

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

Objective: To strengthen several schools of nursing in the country.

Probable duration: 1957-1966.

Assistance provided: Five nurse educators.

Work done: The schools of nursing of the Universities of Buenos Aires, Córdoba, Santa Fe, and Tucumán received specific counsel.

Direct consultation in the School of Nursing of the University of Buenos Aires, interrupted a year ago, was reinitiated in August. The revision of the curriculum was studied and a large-scope plan to strengthen the school was made.

In March, 72 students were registered in the three courses of the School of Nursing of the University of Córdoba. The rules and regulations of the School of Nursing and the new 4-year curriculum were approved by the university authorities. The faculty was increased to 12 teachers and the postbasic course in nursing administration ended with a total of 28 nurses. Direct consultation for this school ended in August, the nursing consultant being transferred to the School of Nursing of the University of Buenos Aires.

In the University of the Littoral, Rosario, the project covers a professional program now extended to 4 years, and a program for the training of auxiliary nursing personnel. The fourth year students in the professional program spent 3 months in the Hospital das Clinicas in São Paulo, Brazil, for their supervised experience in administration of hospital nursing services. Short courses in pediatric nursing and in administration were organized for graduate nurses now employed in the various health services of the Province.

A 3-year program of direct consultation was initiated in October in the School of Nursing of the University of Tucumán, the principal function of the six nursing instructors is to supervise the practical work of a total of 16 students. A large-scope plan to strengthen the school was studied.

WHO/TA

ARGENTINA-4, National Institute of Microbiology

Objective: To increase the efficiency of the Institute.

Probable duration: 1959-1964.

Assistance provided: Advisory services of Headquarters staff and two short-term consultants; one 7-month grant to study microbiology (laboratory services) in the United States of America.

Work done: A consultant advised the Government on the organization of the Institute and on developing the activities of the laboratories. Another consultant analyzed the known facts about Argentine hemorrhagic fever in Buenos Aires Province and discussed methods for research on the etiology, ecology, control, and treatment of this disease.

WHO/R

ARGENTINA-6, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Organization of medical education (health statistics)	United States of America	12
1	Public health administration (epidemiology).	United States of America	7

WHO/R

ARGENTINA-7, Public Health Services (El Chaco)

Objective: To organize the Provincial Health Service, facilitate the training of personnel, and bring up to date the legislation governing health care agencies, especially those concerned with environmental sanitation, communicable disease control, medical care, vital statistics, health education, and public health laboratories.

Probable duration: 1957-1966.

Assistance provided: A chief medical officer and a sanitary engineer; two 12-month grants to study health education in Chile; and one 10-month grant to study hospital administration also in Chile.

Work done: Four new health districts were established and put into operation in the interior of the Province. A decree was enacted regulating the organization of the

Provincial Ministry of Public Health, establishing regionalization, decentralizing activities, and granting it broad powers and responsibilities in health matters.

The drinking water network in the city of Resistencia was extended by 80 blocks. Greater yield was obtained from the out-patient clinics and beds of the General Hospital of the Province. An Intraprovincial Technical Committee was established to tackle the leprosy programs covering the Provinces of Corrientes, Formosa, and Misiones, in addition to that of El Chaco. Nutrition surveys were made in the Health Demonstration Area. A total of 166 persons attended training courses for local personnel.

WHO/TA

ARGENTINA-8, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1957-1969 (year the consolidation phase is expected to end).

Assistance provided: A malariologist and one 5½-month grant to study malaria eradication in Venezuela and Mexico.

Work done: Up to August 1962 no case of *Plasmodium falciparum* had been identified in the country for the preceding 12 consecutive months. Areas in the consolidation phase were increased in October when spraying was suspended in an area measuring 23,000 square kilometers in the Provinces of Jujúy and Salta, with approximately 280,000 inhabitants. In the Littoral Provinces of Corrientes, El Chaco, Formosa, and Misiones sprayings were suspended owing to lack of material resources. Additional aid was requested from UNICEF.

PAHO/SMF **UNICEF**

ARGENTINA-13, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Malaria eradication	Mexico, Venezuela	8
1	Nursing education	Brazil, Chile	4
1	Nursing education	Puerto Rico	12
1	Laboratory services (public health laboratory)	Brazil	7½

PAHO

ARGENTINA-18, Medical Education

Objective: To aid the medical schools to strengthen their programs, especially those related to the teaching of preventive medicine.

Probable duration: 1958-

Assistance provided: Printed material on the teaching of medicine.

WHO/R

ARGENTINA-20, Tuberculosis Control

Objective: To aid the Government in organizing and developing a national research and training center for tuberculosis control.

Probable duration: 1960-1965.

Assistance provided: Short-term consultants and technical personnel from the Office of Zone VI; one 1-month-and-3-week grant to study health statistics in Brazil.

Work done: The first training course was given for 10 doctors, 9 of whom finished. Progress was made in studies designed to discover the extent and characteristics of the disease in the Pilot Area; in the search for, location of, and treatment of the diseased (541 up until the end of October); in attention to contacts; in health education; and in active participation of the community. By 31 December 57,703 tuberculin tests had been made, 29,874 intradermal vaccinations with lyophilized BCG, and 51,178 miniature X-ray photographs. Three hundred and forty-five new cases of tuberculosis were located in the Health Demonstration Area.

WHO/R **UNICEF**

ARGENTINA-25, Training of Nursing Personnel

Objective: To train professional and auxiliary nursing personnel in order to improve public health services.

Probable duration: 1960-1965.

Assistance provided: A nurse educator and supplies and equipment.

Work done: Two courses were held in the Federal Capital: the second course in nursing supervision and administration (33 nurses finished) and the second course for nurses' aides (35 aides received certificates). In-service training was carried out for nursing personnel in the San Martín and Avellaneda polyclinics. In La Plata the first course for nurses' aides was finished with 29 students completing the course, and a program of in-service training was developed for the nurses at Gonnet Hospital. Thirty-two students completed the first course for nurses' aides in Cordoba, and the second course began with 42 students.

PAHO **UNICEF**

ARGENTINA-27, Training of Personnel for Mental Health Programs

Objective: To aid in establishing a pilot training center to prepare the following personnel for mental health services: teaching personnel to train others in methods of patient care, nurses specialized in mental health, doctors and nurses for rehabilitation programs, and auxiliary personnel.

Probable duration: 1962-

Assistance provided: Technical consultation by the Regional Adviser in Mental Health.

Work done: The Regional Adviser visited Buenos Aires and Mendoza and, in addition to giving technical advice, studied their mental health problem and the resources and facilities available.

PAHO

ARGENTINA-28, Leprosy Control

Objective: To organize and start a national program for leprosy control, including suitable evaluation standards.

Probable duration: 1960-

Assistance provided: A medical consultant specialized in leprosy and advice of Zone VI Office staff.

Work done: Operations began on 16 October 1962 in the pilot zone of Entre Ríos, with the relocation of cases already registered, search for new cases, and epidemiological investigation of sources. On 30 October 1962 the number of registered cases in the country was 11,696, of which 459 had been discovered since 30 October 1961.

WHO/R **UNICEF**

ARGENTINA-29, Promotion of Community Water Supplies

Objective: To assist in the preparation of plans for water supply systems.

Probable duration: 1961-

Assistance provided: Two consulting engineers and advice by personnel of Zone Office VI.

Work done: Assistance was given in studies for the preparation of water supply projects for the Provinces of El Chaco and San Juan, for their possible presentation to an international credit organization.

PAHO/CWSF

ARGENTINA-30, Sanitary Engineering Education

Objective: To collaborate with the School of Sanitary Engineering of the National University of Buenos Aires in training sanitary engineers and in improving the teaching of sanitary engineering courses.

Probable duration: 1961-

Assistance provided: Advice by personnel of Zone Office VI; laboratory materials, and equipment.

Work done: A plan to improve teaching at the School and expand its facilities was prepared for its possible presentation to the Special Fund of the United Nations. An agreement providing for future assistance was signed.

PAHO/CWSF

ARGENTINA-32, Health Statistics (Buenos Aires)

Objective: To promote the general development of health statistics in the Province of Buenos Aires.

Probable Duration: 1960-

Assistance provided: Advice of Zone VI Office staff.

Work done: Work progressed particularly in the fields of vital and hospital statistics.

PAHO

ARGENTINA-35, Public Health Services (San Juan)

Objective: To develop a program of integrated health services in the Province.

Probable duration: 1961-1965.

Assistance provided: A medical officer, a sanitary engineer, a legal and administrative consultant, and a nursing consultant.

Work done: The administrative decentralization of the northern area of the Province was completed and that of the central and western areas was begun. Competitions for posts of public health medical officer were held, and preparations for competitions for posts of public health assistant medical officer and dentist were about to be completed. A health center and hospital was remodeled and reorganized and another health center was inaugurated. The smallpox campaign was completed, protecting over 80 per cent of the population in the Province. The Chagas' disease campaign was begun; 8,599 houses were treated, of which 2,515 were in the second cycle of spraying. Sanitation activities were initiated in 7 health districts. In-service training was given to 111 nurses and to 23 members of the sanitation division. The bromatological laboratory was improved, its field of activities was enlarged and training of personnel was expanded.

PAHO **UNICEF**

ARGENTINA-51, *Aëdes aegypti* Eradication

Objectives: To eradicate *A. aegypti.*

Probable duration: 1950-1963.

Assistance provided: A medical officer and a sanitarian; supplies and equipment.

Work done: At the end of 1962 the campaign in Argentina was at its very final stage. The whole area presumably infested had been covered, and all of the 165 localities initially found positive were free of the mosquito. Only the third verification of a small town in Córdoba Province, the initial survey in one island in the Plate River estuary, and a special verification in about 70 localities in the tropical and subtropical areas of the country remained to be done in 1963 before *A. aegypti* might be considered eradicated from Argentina.

PAHO

BOLIVIA-4, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1954-1966 (year the consolidation phase is expected to end).

Assistance provided: A physician, an engineer, and two sanitary inspectors; antimalarial and antipyretic drugs and some laboratory material; also two 5-month grants to study malaria eradication (medical entomology) in Brazil.

Work done: The 7th cycle of spraying operations, begun in 1961, was completed, having covered a total of 125,359 houses; the 8th six-monthly cycle was completed with 129,268 houses sprayed and the 9th cycle, scheduled for spraying 32,361 houses in problem areas and in Zone I, which includes the Departments of Pando and Beni, was initiated.

A reorganization of the field department was carried out, to enter into effect in January 1963.

Beginning with the 9th six-monthly spraying cycle (September 1962 to February 1963) almost 70 per cent of the originally malarious areas of the country was in the consolidation phase. The remaining 30 per cent is considered a "problem area" and is being submitted to study and special attack methods.

The Department of Epidemiology was strengthened with additional evaluators, the consolidation area was divided into districts, the network of notification posts was gradually increased, and all malaria cases were investigated, classified, and radically treated.

PAHO/SMF **AID, UNICEF**

BOLIVIA-5, Nursing Education

Objective: To strengthen the National School of Nursing by training a group of nurse instructors and broadening the curriculum to include public health nursing and the principles of teaching and supervision.

Probable duration: 1953-1965.

Assistance provided: A nurse educator and a small amount of supplies and equipment; one 10-and-a-half-month fellowship to study pediatric nursing in Mexico.

Work done: Negotiations were underway with the University for the incorporation of the school of nursing. A National Committee on Nursing Education was organized and it planned and carried out the first local seminar on nursing. A plan for a 4-year program of basic nursing education integrating social and health aspects of nursing was developed. Collaboration was also given to the group conducting the survey of nursing needs and resources.

WHO/R

BOLIVIA-8, Smallpox Eradication

Objective: To complete the smallpox vaccination campaign, begun in 1957, in order to reach 80 per cent of the population of the country.

Probable duration: 1962-1966.

Assistance provided: Personnel from Zone Office IV; supplies and equipment.

Work done: Work was planned to begin in 1963.

WHO/TA

BOLIVIA-10, Public Health Services

Objective: To strengthen the national health services, gradually expand local services, and train technical personnel.

Probable duration: 1955-1967.

Assistance provided: A chief medical adviser, a sanitary engineer, a public health nurse, and a short-term consultant on occupational health; fellowships as follows:

Awards	*Field of Study*	*Country of Study*	*Months*
1	Environmental Sanitation	Chile	6
1	Environmental Sanitation	Chile	7

Work done: The Public Health Code was revised and brought up to date in order to raise it to the status of a law. Collaboration was given in the preparation of a program to develop local health services in the Third Health Region. A plan for smallpox eradication was prepared. Two seminars on nutrition were held, one as part of the national plan of rural development. A poliomyelitis vaccination campaign was undertaken in 14 localities and one area of the city of La Paz; 43.6 per cent of the 6-month to 4-year-old population were given the first dose, and 37.6 per cent the second dose. The sanitation part of the national rural development plan

was completed and an estimate made of the needs for drinking water supply and excreta disposal. Cooperation was given to the National Department of Nursing in a study aimed at improving nursing service at the La Paz General Hospital. Advice was given on the establishment of the National Institute of Occupational Health to promote the campaign against silicosis and other occupational diseases. The Government approved, entrusting the National Council of Public Health with the surveillance and control of drugs and all medical and surgical supplies, equipment, and instruments purchased for use by public institutions. Also enacted was a decree regulating the cultivation of coca, forbidding the undertaking of any new cultivation of this plant, and promoting the replacement of existing crops.

PAHO **AID, UNICEF**

BOLIVIA-11, Joint Field Mission on Indigenous Population

Objective: To promote the economic and social development, including the health aspects, of the indigenous populations of the Andean Highlands, so as to facilitate their integration into their national communities.

Probable duration: 1953-

Assistance provided: A medical officer.

Work done: The Department of Rural Development was organized in the Ministry of Rural Affairs and the bases of Pillapi, Otavi, Playa Verde, and Cotocá were transferred to this Department. A request was made to the Inter-American Development Bank to finance the Ten Year Program of Rural Development. The Bank was to provide funds for the creation of 3 bases in the next 2 years. The health supplies provided by UNICEF began to arrive.

WHO/TA **FAO, ILO, UN, UNESCO, UNICEF**

BOLIVIA-15, Promotion of Community Water Supplies

Objective: To collaborate with the Government in the reorganization of the national public water supply program and in the development of plans for municipal water supply systems.

Probable duration: 1960-

Assistance provided: Advice of Headquarters and of Zone IV Office staff.

Work done: Advisory services were given in connection with plans to expand the water supply systems of the 3 most important cities of the country and those of some of the mines in operation.

PAHO/CWSF

BOLIVIA-16, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Nutrition	Puerto Rico	12
1	Public health dentistry	Brazil	11

WHO/R

BOLIVIA-17, Nutrition

Objective: To aid the Interdepartmental Committee on Nutrition for National Defense in an investigation on nutrition.

Duration: 4 May to 31 July 1962.

Assistance provided: Travel and per diem of two short-term consultants.

Work done: The consultants collaborated with the Committee in the collection of data on the nutritional status of the population.

ICNND **FAO, UNICEF**

BOLIVIA-201, Fellowships

Awards	*Field of study*	*Country of study*	*Months*
1	Nutrition	Mexico	10½
1	Nutrition	Guatemala	11
1	Public health administration	Chile	10
1	Public health administration	Mexico	10½

WHO/TA

BRAZIL-3, Public Health Services (Northeast)

Objective: To give advice on the development of the general health services of certain areas of 9 States in Northeast Brazil.

Probable duration: 1951-1966.

Assistance provided: A medical officer, a medical statistician, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Public health services	Chile, Colombia, Peru, Puerto Rico	3
1	Nutrition and dietetics	Guatemala	11

Work done: Most of the State projects were reviewed, including those for Rio Grande do Norte, Sergipe, Piauí, and Pernambuco. New plans were prepared for Maranhão, Ceará, Paraíba, Alagoas, and Bahia, and Steps were taken toward the realization of programs for the entire Northeast Region. Local activities in these States are carried out through the Special Public Health Service

Foundation (SESP). An office of coordination was set up and is in operation.

WHO/R **AID, UNICEF**

BRAZIL-7, Nutrition

Objective: To develop a program of nutrition education and related activities in Northeast Brazil.

Probable duration: 1960-

Assistance provided: The services of one of the consultants assigned to project AMRO-165 and advisory services from Zone V Office staff.

Work done: Most of the attention during the year was devoted to the development of joint activities with UNICEF and FAO. As a result of joint discussions, programs were prepared for the State of Rio Grande do Norte and Paraíba.

PAHO **FAO, UNICEF**

BRAZIL-8, National Virus Laboratory Services

Objective: To assist in the establishment of laboratory facilities and in the training of personnel for virus diagnosis and research in the Oswaldo Cruz Institute.

Probable duration: 1959-1964.

Assistance provided: A virologist, laboratory supplies and equipment, and library journals.

Work done: Progress was made in the training of local staff and diagnostic work was performed, particularly with respect to enteroviruses. Research is in progress on continuous-culture cell lines, titration of attenuated virus in live poliomyelitis vaccines, and simplified techniques for isolating enteroviruses.

WHO/TA

BRAZIL-18, National Food and Drug Service

Objective: To assist the Ministry of Health to establish food and drug laboratories and a regulatory and field program for the control of food and drugs.

Probable duration: 1955-1965.

Assistance provided: Advice of Zone V Office staff.

Work done: Development of the laboratory service progressed, legislation was revised, and tables of food additives were prepared. A study was made of additional assistance, in the form of consultants and fellowships, for the further development of national control of foods, drugs, and biologicals.

PAHO

BRAZIL-24, Malaria Eradication (excluding the State of São Paulo)

Objective: To eradicate malaria.

Probable duration: 1957-1971 (year the consolidation phase is expected to end).

Assistance provided: Three malariologists, 2 sanitary engineers, a consultant in administrative methods, and 2 sanitary inspectors; antimalarial drugs, laboratory supplies, and 20,000 pounds of calcium arsenate for an experimental project to destroy bromeliads by aerial dusting; also, a 1-month grant to study of malaria eradication in Colombia.

Work done: Owing to the general increase in the prevalence of malaria observed in 1960 it was necessary to change the original plan to conduct the program by stages starting in a new group of States each year. Since all the States having endemic malaria were affected, it was decided to organize the eradication program simultaneously in all of them. The areas bordering on Argentina, Paraguay, and part of Bolivia were covered during 1962; there is a commitment to cover the areas bordering on British and French Guiana during 1963; and it was expected that by the end of 1964 the entire malarious area of the country would be under total coverage.

Investigations conducted jointly with the Government during 1961 disclosed that there are reasons to believe that strains of *Plasmodium falciparum* are highly tolerant or resistant to chloroquine in the Amazon Valley. In 1962 the resistance of *Anopheles aquasalis* to DDT in certain areas of the city of Belém, Pará, was confirmed. The principal malaria vector in the Amazon Valley and in most of the country, *A. darlingi*, continues to be susceptible to DDT .

During the first half of 1962 a total of 1,350,566 houses were sprayed, or 83.3 per cent of the amount planned. In the second half, up to September, a total of 976,932 houses were sprayed. Epidemiological operations proceeded somewhat slowly. Provisional figures indicate that between January and October 152,866 blood films were examined, of which 9,113 (5.9 per cent) were positive.

PAHO/SMF **AID**

BRAZIL-28, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Health education	United States of America	4
1	Health education	Puerto Rico	12
2	Medical education	Colombia, Mexico, Panama, Puerto Rico, United States of America	3
1	Medical education	United States of America, Venezuela	6½

1	Nursing education	Colombia, Costa Rica, Peru, United States of America	2
1	Public health administration	Bulgaria, Czechoslovakia, Denmark, Sweden, United Kingdom, Yugoslavia	4
1	Public health nursing	United States of America	12
1	Radiology (health physics)	United States of America	4
1	Rehabilitation	Argentina	8
2	Statistics	Chile	7½

PAHO

BRAZIL-35, School of Public Health (São Paulo)

Objective: To strengthen the School of 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 and supplies and equipment; a grant to help defray the cost of salaries of school officials on service at the Araraquara field training center and another to extend a 1961 fellowship for 10 months and 2 weeks, to study organization of public health teaching (health statistics) in California.

Work done: Advice was given in the carrying out of courses in public health, especially on health education. The School continued to be used by PAHO/WHO as an international training center for fellows from Latin America.

WHO/R

BRAZIL-37, Dental Health Education

Objective: To assist the School of Public Health of the University of São Paulo to develop a Regional training center in public health dentistry.

Probable duration: 1958-1963.

Assistance provided: Advisory services of Headquarters staff and a short-term consultant.

Work done: In addition to the regular 1-year public health course, for the first time a 9-week course for dentists working at the local level was offered. This course will be offered every other year. A full-time assistant professor was added to the staff of the Department of Biostatistics to be specially devoted to the dental training program. Plans were made to establish a training and research pilot area in the city of Campinas.

PAHO **KF**

BRAZIL-38, Smallpox Eradication

Objective: To organize laboratories for the production of sufficient lyophilized vaccine to meet the needs of smallpox eradication in Brazil, and to train personnel.

Probable duration: 1956-1967.

Assistance provided: Advice of Headquarters and Zone V Office staff; supplies and equipment for the production of dried smallpox vaccine by the Oswaldo Cruz Institute.

Work done: The laboratory was producing 1,250,000 doses of lyophilized vaccine per month before the dried vaccine equipment was in operation.

PAHO

BRAZIL-39, Public Health Services (Mato Grosso)

Objective: To develop the health services of the area of Dorados as a first step for the reorganization of the State health service.

Probable duration: 1960-1964.

Assistance provided: A public health nurse.

Work done: A 6-month training course for "visitadoras" was completed by 13 trainees who were distributed among 6 new health units organized in 1962. Four clinic attendants and 3 laboratory auxiliaries received in-service training from nursing personnel. At year's end there were 12 health units operating in addition to the Dorados training center. New services organized during the year in this center included a tuberculosis control register and clinic and a well-child clinic. Attendance at the Dorados center tripled from 1961 to 1962.

PAHO **UNICEF**

BRAZIL-41, Malaria Eradication (State of São Paulo)

Objective: Malaria eradication.

Probable duration: 1958-1967 (year the consolidation phase is expected to end).

Assistance provided: A sanitary engineer and two sanitary inspectors; entomological supplies and antimalarial drugs; a two-month grant for study of malaria eradication in Costa Rica, El Salvador, Guatemala and Honduras.

Work done: The fifth spraying cycle was completed in the area in the attack phase with the spraying of 380,623 houses, and the 6th cycle with 390,219 houses. Epidemiological operations were intensified in an area of 133,746 square kilometers, with 1,602,444 inhabitants, in the consolidation phase. From January to November

343,595 blood slides were taken in the entire State, of which 3,494 (1.0 per cent) were positive. Of this total, 89,936 slides, of which 3,201 (3.6 per cent) were positive, were obtained by passive case-finding, and 253,659 were obtained in active case-finding and of those 293 (0.1 per cent) were positive.

PAHO/SMF **AID**

BRAZIL-42, Rabies Control

Objective: To assist the national and State health services to establish or improve rabies control programs.

Probable duration: 1959-1965.

Assistance provided: Advice of Zone V Office staff.

Work done: Assistance was provided in the further development of the national rabies laboratory in the Oswaldo Cruz Institute. State rabies laboratories were improved and antirabies campaigns started, extended, or reinstituted. A study was begun of the rabies problem in the country as a whole.

WHO/R

BRAZIL-49, Promotion of Community Water Supplies

Objective: To aid in drawing up plans for water supply systems.

Probable duration: 1962-

Assistance provided: A short-term consultant and advisory services of Headquarters and Zone V Office staff.

Work done: Assistance was given in the preparation of water-rate schedules for Salvador, State of Bahia, and the State of Guanabara.

PAHO/CWSF

BRAZIL-51, Yellow Fever Laboratory

Objective: To support the Continent-wide campaign against yellow fever by providing laboratory diagnostic services and supplying yellow fever vaccine.

Probable duration: 1950-

Assistance provided: An annual grant.

Work done: The Oswaldo Cruz Institute produced 4,958,000 doses of yellow fever vaccine and provided viscerotomy services for Brazil and Peru.

PAHO

BRAZIL-55, Tuberculosis Control

Objective: To develop a pilot area for study and assessment of practical tuberculosis control methods and for training technical personnel; to collect epidemiological information to plan a Regional tuberculosis control project.

Probable duration: 1961-1965.

Assistance provided: Technical advisory services by Headquarters and Zone V Office staff.

Work done: Operations were delayed for lack of an X-ray mobile unit, but its delivery was scheduled for early 1963.

WHO/R **UNICEF**

BRAZIL-58, Live Poliomyelitis Virus Vaccine Studies

Objective: To assist in a pilot project to vaccinate with live poliomyclitis virus vaccine the child population of the municipality of Santo André, State of São Paulo.

Probable duration: 1961-1962.

Assistance provided: Advice of Headquarters staff.

Work done: Laboratory studies were made of blood and stool specimens from a random sample of the population under study (800 vaccinated children under 4 years of age and 100 unvaccinated children over 4 years of age who were in contact with vaccinated children).

PAHO **LL, USPHS**

BRAZIL-66, Research in Protein Foods

Objective: To assist the Institute of Physiology and Nutrition of the School of Medicine of the University of Recife in experimental work in vegetable foods rich in protein, and to study nutritional conditions in children.

Probable duration: 1962-

Assistance provided: Advisory services by Zone I Office staff.

Work done: The experiments proceeded in accordance with the plans approved for the NRC grant.

PAHO, NRC

BRAZIL-200, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
2	Nutrition	Guatemala	11
1	Radiation protection	Puerto Rico, United States of America	4
1	Vital statistics	Chile	7½

WHO/R

BRITISH GUIANA-5, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1958-1967 (year the consolidation phase is expected to end).

Assistance provided: An epidemiologist, a sanitary inspector, and assistance by Zone I Office staff; antimalarial drugs in tablet form and chloroquine and calcium triphosphate for the preparation of medicated salt; a 1-month grant to study malaria eradication in Surinam, and a 3-month grant to study malaria eradication (microscopy), also in Surinam.

Work done: Chloroquinated salt has been distributed continuously in the interior since early 1961, and by 1962 had reached all localities in the interior, but in Rupununi, in the south, it was discovered that the population was using cheaper, nontreated salt coming from Brazil. During the year, therefore, the processing plant of the National Malaria Eradication Service in Georgetown delivered 229,834 pounds of chloroquinated salt to commercial firms in the interior.

Outbreaks of actinic exfoliative dermatitis were diagnosed in consumers of chloroquinated salt in the interior for the first time. Chloroquine was suspected of being the cause of this phenomenon, but there was no absolute proof. Investigations on the matter were continuing.

The epidemic outbreak caused by *Anopheles aquasalis* discovered in the Demerara River, on the coastal area where malaria had been regarded as eradicated, was brought completely under control by the emergency spraying of 19,844 houses with DDT and the mass treatment of the inhabitants; but because it was necessary to concentrate personnel to control the outbreak the epidemiological evaluation in the interior was held up during part of 1962. Regular sprayings of the localities in the plains were continued to prevent reinfestation of the coast by *A. darlingi* from the interior.

Between January and November 45,022 blood films were examined, of which 250 were positive: 200 were identified as *Plasmodium falciparum*, 45 as *P. vivax*, and 5 were mixed. Nineteen of these films were from the area of the outbreak on the coast, and epidemiological investigations revealed that 17 of them were autochthonous *P. vivax* cases and 2 relapses. In the remainder of the maintenance area only 2 cases were found and classified, one as *P. vivax* imported from the interior and the other as a relapse. The other cases came from the interior.

PAHO/SMF **UNICEF**

BRITISH GUIANA-9, Nutrition

Objective: To establish a national nutrition program and to train professional and subprofessional personnel in the field of nutrition.

Probable duration: 1962-

Assistance provided: Advisory services were provided by the consultant of project AMRO-269.

Work done: A complementary study was made and a first draft for a nutrition program was prepared. Meetings were held with local authorities to integrate the nutrition activities with existing programs in health education and agriculture. The organization of a National Council with representatives from health education and agriculture was begun.

WHO/R **UNICEF**

BRITISH GUIANA-10, Public Health Services

Objective: To extend environmental sanitation and rural health services to the heavily populated coastal area.

Probable duration: 1962-1966.

Assistance provided: Advisory services of Zone I Office staff.

Work done: The Government signed the agreement for a health program in which primary consideration was given to the improvement of environmental sanitation with emphasis on potable water supplies and adequate sewage disposal, expansion of health education activities, extension of maternal and child care, communicable disease control, and statistics. The implementation of these activities in health centers and the training of personnel awaited the recruitment of a public health consultant.

WHO/R **UNICEF**

BRITISH HONDURAS-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1952-1965 (year the consolidation phase is expected to end).

Assistance provided: An epidemiologist, a sanitary inspector, and special financial assistance to support the program after the disaster caused by hurricane Hattie on 30 October 1961. UNICEF undertook to replace the equipment which was virtually destroyed by the hurricane.

Work done: The last spraying cycle with DDT was resumed in February and completed in July. In August the entire country entered the consolidation phase.

In addition to a network of 130 notification posts, 65 of which were operated by volunteer collaborators, active case finding was continued to complete the information. Between January and November 12,566 blood films were taken and examined; they included 18 cases of *Plasmodium vivax*, all found in the District of Corozal, which borders on Mexico and is settled by Mennonites who came from the north.

Epidemiological surveys revealed that 2 cases from a focus located in San Narciso were imported from abroad, and 4 cases from neighboring localities were related to

the San Narciso outbreak. All cases and their relatives received radical treatment, even when their blood samples were negative on microscopic examination.

PAHO/SMF **UNICEF**

BRITISH HONDURAS-5, Public Health Services

Objective: To reorganize and extend the health services of British Honduras, beginning with the development of a plan for environmental sanitation services.

Probable duration: 1962-

Assistance provided: A sanitary engineer to assist the Government in developing the environmental sanitation plan and in reconstructing the public services destroyed by hurricane Hattie in 1961.

Work done: The basic WHO/UNICEF agreement for the development of this program was approved by the sanitary authorities of the country. A pilot plan for rural sanitation was prepared for the District of Orange Walk, including sanitary works for 18 selected communities. Aid was requested and obtained from UNICEF for the provision of equipment and materials for the construction of water supply systems.

WHO/R **UNICEF**

BRITISH VIRGIN ISLANDS-1, *Aëdes aegypti* Eradication

Objective: To eradicate *A. aegypti.*

Probable duration: 1952-

Assistance provided: A sanitarian and technical advice and supervision by the medical officer of AMRO-8.

Work done: This project was part of British Guiana and West Indies-1, from which it was separated in 1962. The progress of the campaign in this group of islands was hindered by administrative and technical difficulties. At the end of 1962 the campaign was still active, although it was not clear whether the Government would provide the necessary funds for 1963.

WHO/TA

CANADA-200, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
3	Dental public health	United States of America	2
1	Health education	Puerto Rico, United States of America	3
1	Health education	United States of America	7½
1	Organization of public health teaching	Denmark, Egypt, Ghana, Kenya, Netherlands, Nigeria, Norway, Sweden, United Kingdom	5

WHO/R

CHILE-21, Rehabilitation Center

Objective: To establish a coordinated national plan of the resources available for solving the problems of incapacity and invalidity, and to organize a pilot rehabilitation center.

Probable duration: 1960-1966

Assistance provided: A consultant specialized in prosthetic appliances; four 9-month fellowships to study rehabilitation (speech therapy) in Argentina.

Work done: An orthopedic workshop capable of producing approximately 200 prostheses as well as 1,000 other corrective appliances per year was organized (28 and 590 were produced in 1962). At year's end the Center had 7 officers assigned to the consultation and examination room, secretariat, vocational guidance office, social worker's office, electrotherapy department, and orthopedic shop. Three prostheses technicians were still undergoing training at the Center and 4 Chilean technicians were being trained in Brazil.

WHO/TA

CHILE-22, Institute of Occupational Health

Objective: To collaborate with the Government in the establishment of an Institute of Occupational Health to provide services and training facilities for Chile and other countries.

Probable duration: 1961-

Assistance provided: A consultant on industrial hygiene, a limited amount of supplies and equipment, and one 2-week grant to study occupational health in Germany and Czechoslovakia.

Work done: An agreement was signed with the Government for the creation and operation of the Institute, and aid to the value of $220,000 was obtained from the United Nations Special Fund for experts, equipment, and materials. A paper relating to the Institute was read at the Latin American Conference on Air Pollution in Buenos Aires in October 1962.

WHO/TA **AID**

CHILE-26, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Organization of medical care	Brazil, Canada, Czechoslovakia, Peru, Puerto Rico, Switzerland, United Kingdom, United States of America, Yugoslavia	4½
1	Tuberculosis	Argentina, Czechoslovakia, Denmark, Italy	5

PAHO

CHILE-27, Public Health Services (Ovalle-Copiapó)

Objective: To extend and work out a coordinated plan for urban and rural public health in the Provinces of Ovalle and Copiapó.

Probable duration: 1962-1963.

Assistance provided: Consultant services by Zone VI Office staff.

Work done: Work on the development and strengthening of public health services of Ovalle and Copiapó continued in accordance with the original plan of operations. A new plan of operations was proposed by the Government of Chile, which would extend the project for 5 years and include additional areas.

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: 1953-1963.

Assistance provided: A short-term consultant, supplies and equipment, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Public health teaching (epidemiology)	Brazil, Colombia, Mexico, Panama, Peru, Venezuela	3
1	Public health teaching (epidemiology)	Czechoslovakia, Denmark, France, Italy, Netherlands, Switzerland, United Kingdom, United States of America, Yugoslavia	4

Work done: Assistance was given in the teaching of epidemiology and statistics.

WHO/R

CHILE-37, Medical Education

Objective: To assist in strengthening the teaching of medicine.

Probable duration: 1962-

Assistance provided: A short-term consultant.

Work done: The consultant advised professors of the School of Medicine of the University of Chile on medical education methods suitable for teaching small groups.

PAHO

CHILE-39, Training in the Medical Use of Radioisotopes

Objectives: To cooperate with the Government in the organization of a Latin American center to train physicians in the utilization of radioactive isotopes in medicine.

Probable duration: 1960-1965.

Assistance provided: Instrumentation and radioisotopes.

Work done: The center held its first course in 1962, for which the Organization provided fellowships from funds allocated to AMRO-142.

PAHO

CHILE-40, Promotion of Community Water Supplies

Objective: To aid the Government in formulating national plans for water supplies and in the technical aspects of extending the water supply system of Santiago.

Probable duration: 1960-

Assistance provided: A short-term consultant in water supply systems design and one two-and-a-half-month fellowship to study environmental sanitation in the United States of America.

Work done: The consultant gave technical advisory services in the preparation of the plans to extend the water supply system of Santiago, later submitted by the Government to the Inter-American Development Bank with a loan request. Advice was also given to the Board of Sanitary Works in the project to supply water to Concepción and Talcahuano.

PAHO/CWSF

CHILE-41, National Planning for Nursing

Objective: To develop programs in nursing education and services for the nation, based on the findings of the 1960 survey of nursing needs and resources.

Probable duration: 1960-1963.

Assistance provided: A nurse adviser.

Work done: The first part of the report of the Study of Nursing Resources and Needs was published and distributed by the National Health Service; the remaining two sections were in process of compilation. A long-term plan of action to overcome the problems facing nursing as identified in the Study was in preparation. A seminar was organized to evaluate the program to train auxiliary nursing personnel and a follow-up committee was appointed and was functioning. Training courses for nursing auxiliaries were held in 4 centers, with a total of 111

students, and in-service education for existing personnel was carried out in 6 other centers.

WHO/R **UNICEF**

CHILE-43, Administrative Methods and Practices in Public Health

Objective: To improve and modernize the administrative functions of the National Health Service at all levels.

Probable duration: 1961-

Assistance provided: An administrative methods officer.

Work done: The consultant submitted recommendations concerning the establishment of a modern system of personnel management for the Chilean National Health Service. The recommendations were under review by the Service.

PAHO

CHILE-49, Public Health Services (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Food and drug control	Canada, United States of America	8
1	Organization of maternal and child health services (care of premature babies)	United States of America	5

WHO/TA **UNICEF**

CHILE-55, Institute of Experimental Medicine

Objective: To cooperate in the expansion of the services offered by the Institute.

Probable duration: 1962-

Assistance provided: A short-term consultant.

Work done: Consultant services were provided to the Institute in connection with the installation of electronic equipment and instruments for the neuroendocrinology laboratory as well as in setting up research plans and methodology.

WHO/TA

COLOMBIA-4, Public Health Services

Objective: To strengthen the Ministry of Health and assist it in extending integrated health services throughout the country, and to train professional and auxiliary personnel.

Probable duration: 1951-1967.

Assistance provided: A chief medical adviser, 2 medical officers (1 specialist in tuberculosis), 2 sanitary engineers, 2 public health nurses, and 1 statistician; also, one 3-month grant to study maternal and child health in Czechoslovakia, Denmark, Puerto Rico, Sweden, United Kingdom, United States of America, and Yugoslavia, and one 14-month grant to study hospital administration in Brazil.

Work done: Nine districts were added in 1962 to the 32 integrated health districts already in existence. A program to intensify health activities in these 41 integrated districts in the next two years was prepared. Courses in public health orientation for doctors, in public health nursing, in hospital administration, and in nutrition training were given during the year. The standards to be followed in connection with the antituberculosis campaign were formulated, and a National Prediagnostic Center was founded at the local level to review the reading of slides in doubtful cases. Standards to be taken into account in the dermatological dispensaries and other organizations responsible for leprosy control were drawn up, and the campaign against leprosy was integrated with the normal health services. Two courses for waterworks operators and three for sanitary inspectors were given. A program of rural water mains for the integrated health districts was drawn up as part of a biennial plan. A manual of standards and procedures was prepared for rabies, and the nutrition code was revised and extended. A manual of nursing administration was produced, as was a guide for supervision of the work of the biostatistics offices, both departmental and local. A plan to train health education personnel was prepared. A program for nutritional supplementation in several Departments of the country was drawn up.

PAHO, WHO/TA **AID, UNICEF**

COLOMBIA-5, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1951-1968 (year the consolidation phase is expected to end).

Assistance provided: Two malariologists, a sanitary engineer, a consultant in administrative methods, a statistician, and 4 sanitary inspectors; antimalaria drugs and posters to identify notification posts. A team of an epidemiologist and an entomologist studied the epidemiological problems of malaria on the Colombia–Venezuela border. Regional consultants with duty station in Bogotá (an entomologist, a parasitologist, and a specialist in vehicle maintenance) gave technical advice to Colombia, in addition to the specialized consultants of the Zone IV Office. Also provided were two five-month grants to study malaria eradication (medical entomology) in Brazil and

two four-and-a-half-month grants to study malaria eradication in Venezuela.

Work done: The 7th and 8th six-monthly cycle of DDT sprayings were concluded, covering 738,459 and 693,315 houses respectively. The 9th cycle, started in September, should give direct protection to 3,517,634 persons. Sprayings were suspended in 173 localities that entered the consolidation phase; they account for 5.9 per cent of the originally malarious area of the country and 46.9 per cent of its inhabitants. The program, however, did not progress satisfactorily—the prevalence of the disease in important rural areas continues high, and sprayings are considered insufficient. The administrative problems to be solved were brought to the attention of the Government.

It was ascertained during the 7th spraying cycle (April-September 1962) that the notification network consisted of 8,500 posts, of which 64.8 per cent produced blood films each month. The positive index is increasing—in the 7th cycle 2.6 per cent of the 318,730 slides examined were found to be positive, while from 1958-1961 the index had been 2.6 per cent, 2.8 per cent, 1.57 per cent, and 1.28 per cent.

PAHO/SMF **UNICEF**

COLOMBIA-17, Smallpox Eradication

Objective: To eradicate smallpox in Colombia by vaccinating 80 per cent of the population of the country.

Probable duration: 1955-1963.

Assistance provided: Technical advice by personnel assigned to Colombia, the Office of Zone IV, and Headquarters.

Work done: In April 1962 the national antismallpox vaccination campaign came to an end. Between 1955 and 1962, 11,283,658 persons, more than 80 per cent of the present population, were vaccinated.

PAHO **UNICEF**

COLOMBIA-19, Leprosy Control

Objective: To organize a program of leprosy control based on modern techniques and procedures.

Probable duration: 1958-1968.

Assistance provided: A medical officer.

Work done: The process of decentralization of functions went on. The dispensaries and dermatological centers passed to the direct control of the Health Secretariats of the Departments. The Leprosy Section of the Division of Epidemiology retained the functions of regulation and supervision.

The finding of new foci of leprosy in six additional Departments notably extended the geographic area to which, in 1959, the disease was supposed to be restricted. During 1962, 1,125 new cases were located, increasing the total number of cases under control to 13,743.

WHO/TA **UNICEF**

COLOMBIA-21, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Clinical and social pediatrics	Venezuela	1
1	Environmental sanitation	Chile	6
1	Nutrition	Guatemala	3

PAHO

COLOMBIA-22, *Aëdes aegypti* Eradication

Objective: To eradicate *A. aegypti.*

Probable duration: 1951-1964.

Assistance provided: Technical advisory services by staff of project Venezuela-16.

Work done: Eradication operations, begun again in the city of Cúcuta in 1961 when it was found highly reinfested, continued throughout 1962, and a verification begun late in October showed that only 10 houses were positive out of the first 7,358 inspected. The neighboring town of San Luis, found reinfested in 1962 with 4 houses positive out of 2,691 inspected, was partially treated.

PAHO

COLOMBIA-24, School of Public Health

Objective: To reorganize and improve the standards of the School of Public Health and to create a nucleus of full-time professors.

Probable duration: 1959-1963.

Assistance provided: A microbiology professor, later exchanged for a professor of public health administration, and a nurse educator; a 12-month fellowship to study organization of public health teaching (nursing) in the United States of America.

Work done: Assistance was given to the School of Public Health 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. After the arrival of the nurse educator in September, work was intensified on the evaluation and revision of the program in public health nursing and on recruitment of graduate nurses for the school year beginning in February 1963.

WHO/R **UNICEF**

COLOMBIA-25, Promotion of Community Water Supplies

Objective: To aid in the study, planning, design, financing, construction, and operation of various municipal water supply systems, and to advise in the development of a national water supply program.

Probable duration: 1960-

Assistance provided: Two engineers assigned full-time; short-term consultants on design, organization, accounting, water rates, and health education; and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
2	Sanitary engineering	Brazil	11
1	Environmental sanitation	Panama and United States of America	3
1	Sanitary engineering	Mexico, Puerto Rico, and Venezuela	1½
1	Environmental sanitation	United States of America	9

Work done: Assistance was given in the preparation of the four-year water supply plan for urban and rural areas. Aid was given in presenting and obtaining a loan granted by the Inter-American Development Bank to the Instituto de Fomento Municipal and to the latter in administrative and bookkeeping operations. Assistance in presenting a request for a loan to enlarge its sewerage system was given to the city of Medellín, and to the municipality of Cúcuta in carrying out a program to improve its water and sewerage services, both to be financed by the Inter-American Development Bank. Advice was given in the study of the water supply of Tunja, and work was going on in 10 other important cities of the country.

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 services; to train local and intermediate health personnel; to establish food preparation and garden demonstration services in schools.

Probable duration: 1961-

Assistance provided: Technical advice given by the consultant of project AMRO-262 and by personnel of Zone IV Office.

Work done: Programs of supplementary feedings for school children of several Departments were drawn up, and the plans of operations for the Departments of Cauca and Norte de Santander were revised. The bases of a national survey to ascertain the iodine content of the salt used in the country were studied. The program to popularize the use of soy beans as a source of protein, which is being carried out in the 14 maternal and child welfare centers of the Valle del Cauca, continued; this included an educational phase, followed by supplying soy beans to the community at cost price, and at times free of cost. Specific nutrition activities to be carried out in a health district were decided on. A seminar on nutrition was held for nutritionists, followed by a second stage devoted to district health officers, to standardize criteria for teaching, research, and provision of services.

WHO/R **FAO, UNICEF**

COLOMBIA-27, Teaching of Preventive Dentistry

Objective: To assist the School of Dentistry in the University of Antioquia to establish and develop a Department of Preventive and Social Dentistry.

Probable duration: 1961-1966.

Assistance provided: Advisory services by Headquarters staff.

Work done: The Department was organized and began expanding the teaching of preventive, public health, and social dentistry in the undergraduate program. These subjects were distributed throughout the curriculum, and the students have contact with the Department in four of the five years of academic studies. The 1962 senior class selected a public health subject for their graduation thesis on the basis of their experience in the dental program of El Retiro, the community used as a field training area.

PAHO **KF**

COLOMBIA-52, Yellow Fever (Carlos Finlay Institute)

Objective: To assist the National Health Institute (Yellow Fever Section) in its program of yellow fever research and its service to other countries of the Hemisphere.

Probable duration: 1950-

Assistance provided: A grant and technical assistance.

Work done: The laboratory produced 716,468 doses of yellow fever vaccine and continued its scientific research program.

PAHO

COLOMBIA-200, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Environmental sanitation (sanitary inspection)	Chile	6
1	Industrial hygiene	Brazil	11
1	Public health dentistry	Brazil	11

WHO/R

COSTA RICA-2, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1952-1967 (year the consolidation phase is expected to end).

Assistance provided: A malariologist, 3 sanitary inspectors, financial aid for a mass drug-treatment pilot project in problem areas in the Province of Puntarenas, and antimalarial and antipyretic drugs for areas in the consolidation phase.

Work done: The 9th six-monthly DDT spraying cycle was completed at the proper time but, during the 10th cycle, operations had to be suspended three times for budgetary reasons and could not be completed in December 1962 as originally planned. After an evaluation made in May, it was decided in July 1962 to suspend spraying in 69.7 per cent of the originally malarious area of the country, which contains 55.7 per cent of the population at risk.

Intensive case finding and epidemiological investigations were carried out, with 35.6 per cent of the population of the malarious area sampled and only 5 cases of *Plasmodium falciparum* identified.

In the area in the consolidation phase, which has 229,438 inhabitants, a total of 52,594 blood films were taken and examined between July and December 1962. They included 100 *P. vivax* cases, of which 51 were classified as introduced, 15 as relapses, 12 as imported from the area in the attack phase, 4 imported from abroad, 10 unclassified, and 8 not investigated.

PAHO/SMF **UNICEF**

COSTA RICA-14, Expansion of Local Public Health Services

Objective: To reorganize and extend local health services, strengthen the central services, and train local personnel.

Probable duration: 1959-

Assistance provided: Consultant services by personnel of Zone III Office and by the medical officer of Costa Rica-2; a 12-month grant to study nursing education in Puerto Rico.

Work done: Work on the Planning of a public health program for rural communities and on the reorganization of the central branches of the Ministry was begun. The Central Planning Office of the Ministry of Public Health was created and began functioning.

PAHO

COSTA RICA-17, Evaluation of Public Health Programs

See AMRO-309.

COSTA RICA-18, Advanced Nursing Education

Objective: To establish an advanced education center to train nurses in teaching, supervision, and other specialities at the School of Nursing, and to evaluate the School.

Probable duration: 1959-1963.

Assistance provided: Advisory services by personnel of Zone III Office.

Work done: Due to the impossibility of recruiting a full-time nurse adviser, the Zone III Nurse gave consultation on request. The annual course in midwifery continued to be offered, and negotiations to incorporate the school into the University also continued.

PAHO

COSTA RICA-21, Nutrition

Objective: To develop an expanded nutrition program in a selected area of the country.

Probable duration: 1960-

Assistance provided: Advisory services by personnel of Zone III Office and INCAP.

Work done: The initial plan for a national nutrition program of the Ministry of Public Health—including centers to be established for nutritional recovery and a nutrition clinic that will serve as a center to train personnel and to adapt methods and procedures of applied nutrition to local public health conditions—was prepared, as was the plan of activities to be developed under the expanded nutrition program. A preliminary evaluation of the nutrition work done by the Ministry of Public Health was made.

In collaboration with the Pediatric Society a seminar was held on the standard diet for the child from 0 to 2 years of age; it was attended by the pediatricians of the country and the majority of the doctors responsible for child consultation in the health centers and health units in the interior of the country.

The initial phase of the nutritional education program to be developed by the primary schools included in the working area of the expanded nutrition program was carried out. Special emphasis was placed on the inclusion of good nutrition concepts and practices in the curriculum of teachers' colleges and primary schools.

The training of professional personnel in applied nutrition continued. A dietitian of the Nutrition Department of the Ministry of Health received special training in applied nutrition for three months at INCAP, but for administrative reasons could not remain the full nine months of the course.

The preliminary phase of determining the areas to

which the expanded program might be extended—especially those communities included in the medical assistance program for rural areas to be undertaken as a phase of the work of the Alliance for Progress—was initiated.

WHO/R **FAO, UNICEF**

COSTA RICA-22, Promotion of Community Water Supplies

Objective: To improve the organization and administration of the National Water and Sewerage Service.

Probable duration: 1960-

Assistance provided: Short-term consultants on water rates, organization, hydrogeology, and industrial waste, and two 2-week grants to study environmental sanitation in Puerto Rico.

Work done: Assistance was given to improve the organization and administration of the National Water and Sewerage Service (SNAA). Advice was given in presenting to the Inter-American Development Bank a request for a loan to extend the sewerage system in San José.

PAHO/CWSF

COSTA RICA-24, Laboratory for Diagnosis of Virus Diseases

Objective: To collaborate with the Government in the establishment of a viral diseases diagnosis section within the national public health laboratory.

Probable duration: 1962-

Assistance provided: A short-term consultant.

Work done: Under technical advice of the consultant, national personnel planned and established the laboratory for the diagnosis of viral diseases, which began functioning with work on influenza viruses.

WHO/R

COSTA RICA-25, Social Services

Objective: To assist in strengthening social services, especially in the improvement of some institutions for children, in a selected area of the country.

Probable duration: 1962-

Assistance provided: Consultant services by personnel of Zone III Office.

Work done: Advice was given to the personnel of the Ministry of Public Health in relation to conditions prevailing in the institutions included in the project, and with regard to the extent of responsibility of the Ministry.

WHO/R **UN, UNICEF**

COSTA RICA-201, Public Health Administration (Fellowships)

One 12-month fellowship to study nursing education in Puerto Rico.

WHO/TA

CUBA-1, *Aëdes aegypti* Eradication

Objective: To eradicate *A. aegypti.*

Probable duration: 1953-1964.

Assistance provided: A medical officer, two sanitarians, and supplies and equipment.

Work done: Eradication activities continued with satisfactory results. The work was well advanced in the Province of Havana and was extended to the neighboring Provinces of Pinar del Río and Matanzas. Throughout 1962 the initial survey was carried out in 255 localities where 73,866 houses were inspected; 174 localities were found positive. Verification was made in 224 initially positive localities in which 674,216 houses were inspected; 158 localities were found to be negative.

PAHO

CUBA-3, Public Health Services

Objective: To reorganize health services at national, intermediate, and local levels; to set up integrated services, beginning with one Province.

Probable duration: 1955-1957; 1959-1964.

Assistance provided: A chief country adviser and a public health nurse; two three-and-a-half-month grants to study nursing education in Mexico, and one seven-and-a-half-month grant to study biostatistics, also in Mexico.

Work done: The Government requested the revision of the tripartite plan of operation in order to make it more operative, and efforts were concentrated to comply with this request. With the assistance of a specialized consultant, courses in statistics were conducted at the Finlay Institute. Four public health nurses were trained in Marianao under the guidance of the nurse consultant. At the request of the Government, the consultants prepared a plan of organization of nursing services with a view to extending the area of maternal and child health.

PAHO, WHO/TA **UNICEF**

CUBA-4, Nursing Education

Objective: To strengthen the national schools of nursing and to assist in establishing courses to prepare nurse instructors.

Probable duration: 1961-1964.

Assistance provided: One nurse educator.

Work done: The consultant worked in the Department of Education giving direct advice to the National School of Nursing, in Havana, where 29 nurses completed in November the training course for the teaching of nursing.

WHO/R, WHO/TA

CUBA-5, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1957-1969 (year the consolidation phase is expected to end).

Assistance provided: A medical officer, a sanitary engineer, a sanitary inspector, and antimalarial drugs.

Work done: The attack phase was begun in January 1962. It was not possible to complete the work on schedule, however, owing mainly to shortages of spray pumps and vehicles.

The first spraying cycle was carried out by stages. In the first coverage 383,948 houses were sprayed. In addition, 101,271 houses in certain sectors were sprayed for a second time.

The epidemiological evaluation operations were reorganized. During the year, 100,247 blood films were taken and examined, of which 3,519 (3.5 per cent) were found positive. Passive case finding contributed 92,204 films, of which 3,496 (3.8 per cent) were positive, and active case finding produced 5,043 films, of which 23 (0.5 per cent) were positive. Ninety-five per cent of the films were collected by notification posts.

WHO/R

DOMINICAN REPUBLIC-2, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1952-1969 (year the consolidation phase is expected to end).

Assistance provided: A medical officer, a sanitary engineer, 2 sanitary inspectors, and an entomological aide; antimalarial drugs.

Work done: Owing to administrative problems the spraying operations were incomplete during the major part of the year. In the course of this period a new plan of operations, which included the complete reorganization of the National Malaria Eradication Service, was prepared and provision was made for total coverage of the malarious area with DDT in six-monthly cycles. UNICEF agreed to cooperate in the new plan by providing all the equipment and material needed. The Government approved the new plan, and operations were begun in November. It is expected that the NMES will become consolidated during the first months of 1963.

Case-finding activities were poor. During the period from January to November, only 16,021 blood films were examined (498 were positive) among a total estimated population of 2,647,000 living in the malarious area of the country.

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: 1958-1963.

Assistance provided: A nurse educator and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Nursing education	Brazil	10
1	Nursing education	Guatemala	5
1	Nursing education	Puerto Rico	12

Work done: A six-month course was held for teachers of schools of nursing.

WHO/R

DOMINICAN REPUBLIC-4, Public Health Services

Objective: To reorganize public health services at the central level and extend local health services.

Probable duration: 1953-1967.

Assistance provided: A chief country adviser, a sanitary engineer, a sanitary educator, and a nurse as well as a short-term consultant in health statistics.

Work done: Special emphasis was given to the preparation of a national health plan with both short- and long-range objectives. At year's end, five doctors and three engineers were taking academic courses in Mexico to obtain degrees as specialists in public health. Courses were given locally for public health nursing auxiliaries and sanitary inspectors. The first course for 25 polivalent nursing auxiliaries was begun. Auxiliary personnel were trained in San Pedro de Macoris.

PAHO, WHO/ R **UNICEF**

DOMINICAN REPUBLIC-8, *Aëdes aegypti* Eradication

Objective: To eradicate *A. aegypti.*

Probable duration: 1952-1965.

Assistance provided: A medical officer and a sanitarian.

Work done: The administrative difficulties that had hindered the progress of the campaign in 1961 were solved. However, resistance of the mosquito to the chlorinated hydrocarbon insecticides was found to be high and widespread in the country, so that the use of these insecticides had to be suspended and the campaign temporarily interrupted until the studies, which are being made in Jamaica, where the situation is practically the same, indicate which insecticides may be substituted for the chlorinated hydrocarbons.

PAHO

DOMINICAN REPUBLIC-9, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Hospital administration	Brazil	14
1	Medical records library techniques	Venezuela	10
1	Public health administration (nutrition)	Guatemala, Puerto Rico	12
1	Public health dentistry	Brazil	11
1	Veterinary public health	Brazil	11
1	Zoonoses	Argentina	12

WHO/R

DOMINICAN REPUBLIC-11, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Clinical and social pediatrics	Venezuela	1
1	Nutrition	Guatemala	6½
1	Public health administration	Mexico	10½
1	Sanitary engineering	Mexico	10½

PAHO

DOMINICAN REPUBLIC-13, Smallpox Vaccination

Objective: To complete the vaccination of 80 per cent of the population of the country against smallpox, within two years.

Probable duration: 1962-

Assistance provided: The advice of technical personnel of the Bureau, assigned to the Dominican Republic, for the study, organization, and preparation of the program. Help was obtained from the Government of Venezuela, which furnished dried smallpox vaccine. The Bureau also furnished glycerinated vaccine from its reserve, a gift from the Government of Mexico.

PAHO

DOMINICAN REPUBLIC-14, Medical Education

Objective: To strengthen the medical education courses in the School of Medicine of the University of Santo Domingo.

Probable duration: 1962-

Assistance provided: One consultant.

Work done: The services of a professor of physiology were provided in order to advise the authorities of the School of Medicine on the reorganization of the teaching of basic sciences, and to assist in the teaching of physiology.

PAHO

DOMINICAN REPUBLIC-15, Promotion of Community Water Supplies

Objective: To assist in organizing a water supply and sewerage systems authority; in planning projects, and in the preparation of a request for a loan to the Inter-American Development Bank.

Probable duration: 1961-

Assistance provided: A sanitary engineer.

Work done: A central autonomous authority was organized and a request for a loan presented to the Inter-American Development Bank. Assistance was given in preparing an emergency plan for potable water and sewage disposal.

PAHO/CWSF

DOMINICAN REPUBLIC-16, Veterinary Medical Education

Objective: To strengthen the Department of Veterinary Medicine of the University of Santo Domingo with special emphasis on the teaching of public health and preventive medicine.

Probable duration: 1962-

Assistance provided: Advisory services of Zone II Office staff, and one 12-month fellowship to study organization of veterinary medical education (food science and technology for veterinarians) in the United States of America.

Work done: An analysis of the curriculum, teaching methods, and qualifications of staff was conducted; a plan for necessary improvements was prepared; plans to improve the training of the teaching staff were initiated; and recruitment of a full-time consultant was begun.

WHO/TA

DOMINICAN REPUBLIC-52, Venereal Disease Control

Objective: To eradicate yaws from the country; to control venereal diseases; to strengthen and regionalize the public health laboratories, especially in serology and the diagnosis of syphilis.

Probable duration: 1953-

Assistance provided: A medical officer and an expert in syphilis serology.

Work done: In the program of yaws eradication the supervision of areas previously reviewed continued. By the end of November 402,517 persons had been examined and 45 cases of infectious yaws discovered.

A course in venereology was given, attended by 20 physicians. Five new serological centers were developed for the diagnosis of syphilis. The use of the microflocculation technique on VDRL slides and of the Kolmer test were adopted in the country. Efforts to improve coordination among the different medical institutions which participate in the program of venereal disease control continued. In-service training of contact investigators continued, and a manual of venereology was prepared for these investigators. The Society of Dermatology, Venereology, and Leprology was founded, and it is hoped that it will promote the scientific proficiency of its members in these specialities, and will foster medical research.

PAHO

ECUADOR-4, Public Health Services

Objective: To develop public health services at the national and local levels.

Probable duration: 1953-

Assistance provided: A chief consultant and a public health nurse, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Veterinary public health	Brazil	11
2	Public health administration	Brazil	11
1	Sanitary engineering	Mexico	10½

Work done: A Public Health Planning Board was created with the objective of formulating a national health plan as an integral part of the Plan for Social and Economic Development. Assistance was given in the tabulation and presentation of data relating to a survey on environmental sanitation and another on nursing resources.

The basic information preliminary to a health plan to be developed in the Province of Manabí was prepared.

A plan was drawn up for control of leprosy in the country, and standards for the work of dispensaries and dermatological clinics of the health organizations responsible for these programs were prepared. A project for plague control has been prepared and a health center, which will care for 70,000 to 80,000 inhabitants, was planned for one area of Guayaquil.

WHO/R, WHO/TA **UNICEF**

ECUADOR-14, Malaria Eradicatión

Objective: To eradicate malaria.

Probable duration: 1956-1968 (year the consolidation phase is expected to end).

Assistance provided: Two malariologists, a sanitary engineer, an entomologist, and four sanitary inspectors; antimalarial drugs; and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
2	Malaria eradication (medical entomology)	Brazil	5
1	Malaria eradication (medical entomology)	Venezuela	4½

Work done: During the third six-monthly cycle of total coverage with DDT 428,269 houses were sprayed and 2,023,097 inhabitants directly protected. The fourth cycle was begun in July and three months later 220,861 out of an estimated 448,716 houses had been sprayed.

At the end of the first quarter the service was reorganized. This led to a better coverage of the malarious area, a simplified system of distribution of material, and better supervision.

Evaluation operations improved to such a degree that from January to October slides of 1 per cent of the population living in the originally malarious area of the country were obtained each month. Of a total of 219,508 slides examined, 4,844 were found positive. A fairly significant reduction in *Plasmodium Falciparum* cases was recorded.

Antilarval operations were regularly carried out in Guayaquil as supplement to sprayings.

PAHO/SMF, WHO/TA **AID, UNICEF**

ECUADOR-16, Nursing Education

Objective: To strengthen the School of Nursing of the University of Guayaquil by preparing nurses for the faculty, by improving physical facilities and areas for field practice, and by expanding the curriculum to include the teaching of public health nursing and other courses in teaching and supervision.

Probable duration: 1957-1963.

Assistance provided: A nurse educator, a limited amount of supplies and equipment, and one 12-month fellowship to study public health nursing in Puerto Rico.

Work done: An evaluation of the program of the School was carried out by the nurse faculty and presented to two meetings of representatives of the University and agencies which finance the School. The School

has five instructors, including a Director, although two other instructors, prepared through fellowships abroad, left for employment outside of Ecuador after two years of teaching. It was decided to suspend the awarding of new fellowships and organize instead a four-month course in teaching and supervision in Guayaquil, so that more nurses could have the advantage of advanced preparation.

WHO/R

ECUADOR-19, Public Health Administration (Fellowships)

One 12-month fellowship to study nursing education in Puerto Rico.

PAHO

ECUADOR-20, Smallpox Eradication

Objective: To eradicate smallpox from the country.

Probable duration: 1953-1964.

Assistance provided: A medical consultant, a sanitary inspector, vehicles, and equipment for laboratory and field work.

Work done: During 1962, 632,923 persons were vaccinated in six Provinces. The total number of persons vaccinated since the beginning of the program is 2,517,239, with 1,040,487 still to be vaccinated. The percentage of population vaccinated in the Provinces of Chimborazo, Esmeraldas, Guayas, Los Ríos, Loja, and Pichincha exceeded the 80 per cent goal. Important changes have been made in the administrative and economic fields which have been favorably reflected in the progress of the program.

PAHO, WHO/TA

ECUADOR-21, Promotion of Community Water Supplies

Objective: To aid in formulating plans for water supply systems in various cities of Ecuador and especially in the plan for expanding water services in Quito.

Probable duration: 1961-

Assistance provided: A short-term consultant on design, a financial consultant to prepare the study of feasibility of the water supply plan for Quito, and a consultant on water treatment laboratories.

Work done: The preliminary study of the design was completed and the study of feasibility is now in progress, prior to the presentation of a request for a loan to the IADB for the expansion of the water supply system of Quito. A preliminary report was prepared on the sewerage system of Quito, which will be used in requesting a loan from an international credit organization.

PAHO/CWSF

ECUADOR-53,[a] National Institute of Nutrition

Objective: To assist the National Institute of Nutrition of Ecuador in its work of research and in the training of personnel in the field of nutrition.

Probable duration: 1950-

Assistance provided: The services of the specialized consultant assigned to AMRO-262.

PAHO **KF**

EL SALVADOR-2, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1952-1968 (year the consolidation phase is expected to end).

Assistance provided: A medical officer, a sanitary engineer, an entomologist, three sanitary inspectors, and an entomology auxiliary, as well as antimalarial drugs, including supplies for a pilot mass-treatment project.

Work done: The 2nd cycle of the third year of DDT sprayings was completed during the first semester. Spraying operations were suspended in July owing to unsurmountable financial difficulties; 314 new notification posts had been set up by October, which made a total of 982 posts.

There is evidence that transmission has been virtually interrupted in the Departments of Santa Ana, Chalatenango, Cabañas, Cuscatlán, and Morazán. Between January and October 145,039 blood films were examined, of which 12,091 were found positive (8.3 per cent). The mass-treatment pilot project and the observation of malathion applied to walls at the rate of 2 grams per square meter were continued in a coastal area.

PAHO/SMF **UNICEF**

EL SALVADOR-8, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Organization of medical education (pathologic anatomy)	United States of America	12
1	Veterinary public health (food control)	Mexico, United States of America	3½

WHO/R

[a] Grants received in 1962 from:
E. I. du Pont de Nemours and Co.
W. K. Kellogg Foundation.
The Research Corporation (Williams-Waterman Fund)
NIH

EL SALVADOR-9, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Medical records and library techniques (XII Course for Medical Records Librarians)	Venezuela	10
1	Public health nursing (Course in Supervision and Administration)	Guatemala	6½

PAHO

EL SALVADOR-11, National Public Health Nursing Services

Objective: To strengthen nursing services at the national level, and indirectly at the regional and local levels.

Probable duration: 1960-

Assistance provided: A public health nurse, as well as a limited amount of supplies and equipment.

Work done: Assistance was given in reorganizing the nursing services in San Vicente, Zacatecoluca, Usulután, Sonsonate, Matapán, and the centers of the metropolitan area of the capital. A seminar on supervision and administration of nursing services took place from 6 to 9 November, with 35 nurses participating and six observers from the hospital services.

Beginning in 1963 this project will be part of a general health services project.

WHO/TA

EL SALVADOR-12, National Environmental Sanitation Services

Objective: To develop a national program of environmental sanitation, with special emphasis on the provision of adequate water supplies and excreta disposal in urban and rural areas.

Probable duration: 1961-

Assistance provided: A sanitary engineer.

Work done: Assistance was given to the Department of Sanitary Engineering of the Ministry of Public Health in all programs for which it is responsible and to the national water and sewerage authority. A regional pilot sanitation program for 30 selected rural communities for 1963-1964 was presented to UNICEF for consideration. Training courses for sanitary inspectors were held, as well as a short course on food sanitation.

Beginning in 1963 this project will be part of a general health services project.

WHO/TA **UNICEF**

EL SALVADOR-14, Promotion of Community Water Supplies

Objective: To assist in the organization and administration of a central water and sewerage authority, and to provide technical advice on the expansion of water supply systems of the country.

Probable duration: 1961-

Assistance provided: Two short-term consultants in hydrology and hydrogeology; two in organization and in water rates; a short-term consultant in design of sewerage systems and treatment plants and another in the treatment of industrial waste, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Sanitary engineering	Puerto Rico	½
1	Sanitary engineering	Colombia, Puerto Rico	1
2	Sanitary engineering	Puerto Rico	1

Work done: Studies were made on the following subjects: hydrology, hydrogeology, organization and management, the design of sewerage systems and of plants for the treatment of waste water and industrial waste. Assistance was given through the personnel of the Agencia Nacional de Agua y Alcantarillado (the central autonomous organization) in the training on administration and operation of water services.

PAHO/CWSF, IADB **IADB**

EL SALVADOR-16, Nutrition

Objective: To develop an expanded nutrition program in a selected area of the country.

Probable duration: 1961-1966.

Assistance provided: Technical advisory services by members of Zone III and INCAP.

Work done: A revision of the expanded nutrition program was made with the staff of the Nutrition Division of the Ministry of Health and a plan of evaluation is being prepared. The means of including activities in nutrition in the programs of general health services is under study, and appropriate guides are being prepared for the personnel responsible for these activities at the various levels.

The following courses were given: one in nutrition for teachers of home education who teach in normal schools and in the so-called Basic Plans; one for supervisors of public health, agricultural extension, and education; a course for secondary school teachers, and a course for elementary school teachers.

WHO/R **FAO, UNICEF**

EL SALVADOR-20, Evaluation of Public Health Programs

See AMRO-309.

GUATEMALA-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1952-1969 (year the consolidation phase is expected to end).

Assistance provided: A medical officer, a sanitary engineer, and three sanitary inspectors; a limited amount of supplies and equipment; and antimalarial drugs, including drugs for mass treatment in areas of persistent transmission.

Work done: The National Malaria Eradication Service (SNEM), which was administered by the Inter-American Cooperative Public Health Service (SCISP), was placed under the Special Public Health Service (SESP), an agency created by the Government to take charge of the commitments that were formerly the responsibility of SCISP.

During the second half of the year, the program experienced financial difficulties, which were overcome after some effort.

An area of 32,223 square kilometers with a population of 497,756 entered the consolidation phase.

The 7th six-monthly cycle of DDT sprayings was completed and the 8th was begun and is expected to be completed by January 1963. With the reduction of sprayings it was possible to obtain more personnel to intensify epidemiological operations.

Between January and October 109,459 films obtained in problem areas were examined; of these, 2,728 (2.5 per cent) were positive. The total number of films examined was 259,681, of which 4,171 (1.6 per cent) were positive.

Programs of mass treatment of the population are being organized in the problem areas, in addition to the regular DDT sprayings.

PAHO/SMF **AID, UNICEF**

GUATEMALA-6, Nursing Education

Objective: To strengthen the National School of Nursing, and to assist in establishing courses on advanced nursing education.

Probable duration: 1955-1963.

Assistance provided: Two consultants in nursing education, supplies, and equipment.

Work done: In the basic program, the faculty completed, through its committees, the revision of the curriculum. The administrative structure of the National School was reorganized and cost study was completed. Of the 44 students who graduated at the School, 6 were from British Honduras, Honduras, Nicaragua, and Panama. At the end of the year there were 33 students in the first-year class, 10 in the second, and 29 in the third.

In advanced nursing education, 27 students (including 1 from Mexico and 10 from Central American countries and Panama) completed the first course in February, and 21 (including 1 from Venezuela and 7 from Central American countries and Panama) completed the second course in November.

The Central Office for Training of Nursing Auxiliaries, with a director and 3 instructors, was set up in the National School of Nursing to advise hospitals throughout the country on the organization of courses for this class of personnel. In three hospitals, 140 auxiliaries finished courses; two other hospitals were to begin similar courses.

PAHO, WHO/TA

GUATEMALA-8, Public Health Services

Objective: To reorganize the health services of the country at all levels and to train personnel.

Probable duration: 1954-

Assistance provided: A chief country adviser, a sanitary engineer, a nurse, a sanitary inspector, a limited amount of supplies and equipment; and one ten-month grant to study public health administration in Mexico.

Work done: The organization of a Planning Unit in the Ministry of Public Health was stimulated. A plan for the improvement of local health services, with the participation of UNICEF, was prepared, and preliminary steps were taken to bring up to date the sanitary code.

Training activities continued: 13 physicians, 36 sanitary inspectors, 14 nurses, 13 laboratory aides, and 30 nursing aides were trained locally.

The technical staff collaborated with the Municipality of Guatemala City in the study of a plan to expand the water supply and sewerage systems of the city.

The sanitary inspector assigned to this project organized and conducted a course for food inspectors in El Salvador from 3 to 28 September 1962. A manual for the inspection of food products was printed.

WHO/R **UNICEF**

GUATEMALA-11, Tuberculosis Control

Objective: To develop a pilot program for tuberculosis control.

Probable duration: 1955-1965.

Assistance provided: A medical officer.

Work done: An evaluation was made of the work done in the Departments of Escuintla, Santa Rosa, and Sacatepéquez, as a basis for formulating a new plan of operations with participation of UNICEF. Because of administrative and economic problems this project could not

be developed as planned. The consultant furnished services in Honduras and advised other countries of Zone III in developing programs for tuberculosis control.

WHO/TA **UNICEF**

GUATEMALA-13, Nutrition

Objective: To develop an expanded nutrition program in a selected area of the country.

Probable duration: 1958-1965.

Assistance provided: Advisory services by staff of Zone III and the Institute of Nutrition of Central America and Panama.

Work done: An Inter-Ministerial Committee was formed in order to evaluate the country's nutritional problems and review the expanded nutrition program in its national implications.

It was proposed to the Ministry of Public Health that the Department of Nutrition be reorganized in order to make it more efficient.

WHO/R **FAO, UNICEF**

GUATEMALA-14, Public Health in Schools of Veterinary Medicine.

Objective: To strengthen the School of Veterinary Medicine of the University of San Carlos, with special emphasis on the teaching of public health and preventive medicine.

Probable duration: 1957-

Assistance provided: A short-term consultant, advisory services by Zone III staff, and teaching aids and materials; one 12-month fellowship to study the organization of veterinary medical education in Canada.

Work done: The consultant made a detailed evaluation of teaching methods and facilities in microbiology and other subject-areas basic to public health and outlined a plan to improve teaching methods and course contents.

PAHO

GUATEMALA-17, Promotion of Public Water Supply Systems

Objective: To assist in developing programs for improving water supply services.

Probable duration: 1961-

Assistance provided: A short-term consultant and advisory services by Zone III and Headquarters staff.

Work done: Assistance was given in the presentation of the request for a loan to provide water to several cities of the interior, granted by the Inter-American Development Bank, and in the request for a loan for Guatemala City which at year's end was being considered by the Bank.

PAHO/CWSF

GUATEMALA-18, Evaluation of Public Health Programs

See AMRO-309.

GUATEMALA-53, Onchocerciasis

Objective: To assist in determining techniques that may be successful in controlling onchocerciasis in Guatemala.

Duration: Intermittent since 1947.

Assistance provided: Advisory services by Headquarters staff.

Work done: A study of the ophthalmological aspects of onchocerciasis was conducted in three representative endemic areas.

WHO/R

HAITI-1, Yaws Eradication

Objective: To eradicate yaws in the country.

Probable duration: 1950-1964.

Assistance provided: A medical officer, a sanitary inspector, a limited amount of transportation and working equipment.

Work done: In the vigilance phase, which continued to 30 November 1962, 1,533,500 persons were examined in the search for infectious types of yaws. Suspected cases notified were 168, of which only 12 were confirmed. The incidence of infectious yaws in the population examined was 0.8 per 100,000; the final rate for 1961 was 1.6 per 100,000.

WHO/R **UNICEF**

HAITI-4, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1953-1968 (year in which the consolidation phase is expected to be completed).

Assistance provided: Two medical officers, a sanitary engineer, and 3 sanitary inspectors; antimalarial drugs; part of the local costs of research on the value of DDVP and other insecticides in malaria eradication; and fellowships as follows:

Awards	Field of study	Country of study	Months
2	Malaria eradication	Mexico, Venezuela	8
1	Malaria eradication	Jamaica	3
1	Malaria eradication	Venezuela	4½

Work done: 1962 was the first year of total coverage, and 2 cycles of DDT sprayings were completed. During the first cycle, 884,949 houses were sprayed and 3,245,821 inhabitants directly protected. In the second cycle, 906,846 houses were sprayed.

Blood films taken in 1962 totaled 98,790, of which 3,905 (4.0 per cent) were found on examination to be positive. As to species, the findings were 3,317 *Plasmodium falciparum* infections, 547 *P. malariae*, 20 *P. vivax*, and 21 mixed infections.

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 laboratory adviser and supplies and equipment.

Work done: The consultant continued assisting in the organization of the national laboratory and training of staff and collaborated in the development of applied research activities on brucellosis, tropical ulcer, syphilis serology, tuberculosis, and leptospirosis. Breeding of laboratory animals was started.

PAHO

HAITI-15, Public Health Administration (Fellowships)

One 12-month fellowship to study maternal and child health in Canada.

WHO/R

HAITI-16, Public Health Services

Objective: To organize modern health services at the central and local level, and to establish a local area for observation and training.

Probable duration: 1957-1965.

Assistance provided: A chief medical adviser, a medical officer, a sanitary engineer, a sanitary educator, and a nurse; two 10-and-a-half-month fellowships, one to study environmental sanitation in Mexico and the other to study sanitary engineering, also in Mexico.

Work done: An emergency health plan was formulated and, although difficulties of a local character delayed development of the activities, an inquiry into the exact health situation of the working area and into existing resources was being carried out.

A plan for in-service training for auxiliary nursing personnel working in Arcahaie and Duvallierville was prepared and, at the request of the Government, a course for obstetrical nurses was also prepared.

PAHO, WHO/TA **UNICEF**

HAITI-18, Smallpox Eradication

Objective: To vaccinate 80 per cent of the population of Haiti against smallpox within three years.

Probable duration: 1962-1965.

Assistance provided: Staff of other projects in Haiti. Lyophilized smallpox vaccine was supplied by the Government of Colombia.

Work done: The program was started on 9 July 1962, and by 31 November, 160,401 persons were vaccinated, or 81 per cent of the population of the Communes of Saint Marc, La Chapelle, Verrettes, and Dessalines of the Department of Artibonite.

PAHO

HAITI-19, Medical Education

Objective: To aid in reorganizing the curriculum, modernizing the teaching methods, and strengthening the faculty of the School of Medicine.

Probable duration: 1959-

Assistance provided: A professor of physiology; a small amount of supplies and equipment.

Work done: The physiology professor continued teaching in the School and giving consultant services until the end of the academic year.

PAHO **AID**

HAITI-20, Nutrition

Objective: To assist the Government in developing a national nutrition program, including the operation of an agency to coordinate the 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 consultant, who spends part of his time in similar work in the Dominican Republic, concentrated his efforts on the planning of the technical central services in the Ministry of Public Health and on the organization of a pilot project of rehabilitation and nutritional education for children in Bon Repos in the Cul-de-Sac area, Department de l'Ouest.

PAHO **FAO, UNICEF**

HAITI-22, Promotion of Community Water Supplies

Objective: To assist in the planning, designing, and financing of an extension of the water supply system of Port-au-Prince.

Probable duration: 1960-

Assistance provided: An engineer specialized in the management of water supply services.

Work done: Assistance was given in studying a request for a loan presented to the Inter-American Development Bank. The collection of basic information necessary for making definite plans for expanding the water supply system of Port-au-Prince continued.

PAHO/CWSF

HONDURAS-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1952-1967 (year the consolidation phase is expected to end).

Assistance provided: A medical officer, a sanitary engineer, an entomologist, and two sanitary inspectors; antimalaria drugs and some entomological supplies.

Work done: During the year, the 6th six-monthly spraying cycle with DDT was completed and the 7th cycle begun. During the 6th cycle, 285,394 houses were sprayed. At the beginning of the 7th cycle an area measuring 5,044 square kilometers with a population of 46,244 entered into the consolidation phase.

Epidemiological operations were increased, and between January and October 175,990 blood films were examined; of these, 3,079 (1.7 per cent) were positive, as compared with the 2.7 per cent positive slides found in 1961.

Of the positive cases 56 per cent came from the Departments of Francisco Morazán (where *Anopheles albimanus* resistance to chlorinated insecticides is evident), Choluteca (where the same conditions prevail, aggravated by migration of agricultural workers and "houses" without walls), and Yoro (where many houses were built between spraying cycles and there was large-scale immigration). Transmission is nevertheless declining in Choluteca and Yoro, but not yet in Francisco Morazán. Of the malaria cases detected in the above-mentioned period, 80 per cent were subjected to radical treatment with the cooperation of volunteer collaborators.

PAHO/SMF **AID, UNICEF**

HONDURAS-4, Public Health Services

Objective: To prepare the national health plan; to establish a system of local health services, including a demonstration and teaching center; to extend local services gradually throughout the country.

Probable duration: 1955-1968.

Assistance provided: A medical officer, a sanitary engineer, a nurse, a sanitary inspector and a small amount of supplies and equipment.

Work done: A two-year health plan for 1963-1964 was prepared (through consolidation and review of the five-year plan for 1958-1963) to serve as a bridge for drawing up the second five-year plan for 1964-1968. A pilot program for control of tuberculosis was initiated in the Departments of Comayagua and La Paz. Smallpox vaccination was intensified in the health centers, reaching a total of 127,144 vaccinations in 6 months.

A program for water supply systems for 80 rural areas and another for 12,000 latrines in the next 2 years were formulated, and basic sanitation services were established in 19 health centers. The Departments of Public Health Nursing and Veterinary Medicine were created at the Department of Public Health. A basic public health course for graduate nurses was given and the sixth training course for nurses' aides and sanitary inspectors was begun.

PAHO, WHO/TA **UNICEF**

HONDURAS-5, Tuberculosis Control

Objective: To develop a pilot project for tuberculosis control.

Probable duration: 1962-1965.

Assistance provided: Advisory services through Zone III staff and the tuberculosis consultant for Guatemala-11 project.

Work done: Advice was given in the preparation of a plan of operations for a tuberculosis project in a pilot area. The Government implemented the project with satisfactory results in the Department of Comayagua.

WHO/TA **UNICEF**

HONDURAS-6, Public Health Administration (Fellowships)

One 27-day grant to study public health nursing in Puerto Rico.

PAHO

HONDURAS-7, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Public health administration	Brazil	11
1	Public health administration	Mexico	10½
1	Public health administration	Chile, Colombia, Peru	3
1	Public health dentistry	Brazil	11

WHO/R

HONDURAS-10, Port City Development

Objective: To improve sanitary conditions in Puerto Cortés by expanding the water supply service and installing sewerage and general drainage facilities.

Probable duration: 1961-

Assistance provided: A short-term consultant and advisory services of Zone III staff.

Work done: General studies and estimates were made of the cost of a detailed study on the improvement of sanitary conditions in Puerto Cortés. A request for assistance of the United Nations Technical Assistance Fund was prepared, with successful results. An agreement to continue detailed study was signed between the PASB and the Government, and a consulting firm was awarded a contract to prepare recommendations, plans, and designs for future use.

WHO/TA

HONDURAS-11, Evaluation of Public Health Programs

See AMRO-309.

HONDURAS-13, Social Services

Objective: To assist in strengthening social services, especially in the improvement of some institutions in selected areas of the country.

Probable duration: 1962-

Assistance provided: Advisory services by Zone III staff.

Work done: Advice was given with regard to the health conditions in the institutions included in the project, as well as with regard to the extent of responsibility of the Department of Health in this matter.

WHO/R **UNICEF**

HONDURAS-51, Nutrition

Objective: To develop an expanded nutrition program in a selected area of the country.

Probable duration: 1961-

Assistance provided: Advisory services by Zone III and INCAP staff.

Work done: Two short courses in applied nutrition for graduate nurses were given, one on basic nutrition and the other on the application of anthropology and social sciences in the public health nurse's work. The beginning of the activities of the expanded program was postponed until the middle of 1963.

WHO/R **FAO, UNICEF**

JAMAICA-2, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1952-1965 (year the consolidation phase is expected to end).

Assistance provided: A medical officer, a health educator, and two sanitary inspectors; 8 two-week grants to study malaria eradication in Trinidad and Tobago and a three-week grant to study malaria eradication also in Mexico and Trinidad.

Work done: The first year of the consolidation phase was completed throughout the country. Some areas have been in the consolidation phase since January 1961. Epidemiological operations were reinforced as sprayings were suspended. The last case of *Plasmodium falciparum* infection was found in June 1961 and of *P. malariae* in October of the same year.

Between January and October 1962, 217,772 blood films were taken and examined, with one positive case of *P. vivax* found. Epidemiological investigation showed the case was imported from abroad; 489 films were collected during its investigation and the observation of previous cases.

PAHO/SMF **AID, UNICEF**

JAMAICA-12, Nursing Education

Objective: To strengthen the training of graduate nurses and other nursing personnel in Jamaica.

Probable duration: 1960-1963.

Assistance provided: A nurse educator.

Work done: Training of nursing auxiliaries, workshops for senior nurses in Government service, and writing of post descriptions for hospital nursing service personnel were the principal activities until the end of April when the project had to be suspended temporarily owing to difficulties in staffing within the national nursing services.

PAHO

JAMAICA-13, *Aëdes aegypti* Eradication

Objective: To eradicate *A. aegypti.*

Probable duration: 1952-

Assistance provided: Advisory services by AMRO-8 and AMRO-88 staff.

Work done: This project was separated from British Guiana and West Indies-1 in 1962. Since the Government interrupted the campaign in 1961 because of the poor results obtained, no eradication work has been carried out. Jamaica is known to be extensively infested, but it was not considered advisable to restart the campaign until entomological studies, begun in October,

indicate which insecticides might effectively be used instead of the chlorinated hydrocarbons to which resistance had been reported.

WHO/TA

JAMAICA-15, Health Legislation

Objective: To study the existing legislation on health methods and to modernize and consolidate the country's law in this field.

Probable duration: 1962-1963.

Assistance provided: A short-term consultant.

Work done: The consultant paid two visits to the country and began the analysis of the information collected, in order to prepare his recommendations.

PAHO

MEXICO-14, Nursing Education

Objective: To promote the development of basic nursing education in Mexico.

Probable duration: 1958-1965.

Assistance provided: A nurse educator.

Work done: In addition to the advisory services furnished to schools under the authority of the Ministry of Health and Welfare, an application was received from the School of Nursing of the National Autonomous University of Mexico. A review of the curriculum of the School is considered to be of special importance, both because of the number of students and of its influence on the other schools in the country. Two courses have been held for instructors of welfare services and another for instructors in nursing schools.

PAHO

MEXICO-15, State Health Services

Objective: To organize, improve, and expand local and regional health services in nine States and later throughout the country.

Probable duration: 1954-1962.

Assistance provided: A medical officer, two nurses, and a sanitary inspector; and a limited amount of supplies and equipment.

Work done: Priority was given to the preparation and training of service personnel, with the cooperation of UNICEF. In Morelia, Michoacán, a six-month service training course for physicians and nurses was given.

The accelerated tempo in constructing health centers, especially of the rural type, led to the necessity of speeding up the preparation of personnel, chiefly of the aide type, for the operation of the centers.

The plans for urbanization in the peripheral zone of the Federal District were not yet started, but the basic information for short-term planning was already available.

PAHO, WHO/R **UNICEF**

MEXICO-25, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Pathology	United States of America	18
1	Pathology	United States of America	12
1	Public health administration	Brazil, Chile, Peru	2½

PAHO

MEXICO-26, *Aëdes aegypti* Eradication

Objective: To carry out a special survey to certify the eradication of *A. aegypti.*

Probable duration: 1949-1963.

Assistance provided: Two sanitarians and technical supervision by AMRO-88 staff.

Work done: The special verification of the initially infested area of the country was begun in October 1961 and continued in 1962 as planned. The 178 localities inspected in the States of Yucatán, Chiapas, Oaxaca, and Quintana Roo were all found negative.

PAHO

MEXICO-28, Public Health Laboratory

Objective: To expand the services of the National Public Health Laboratory, with emphasis on the control of biological products, foods, and drugs.

Probable duration: 1958-

Assistance provided: A short-term consultant and technical advisory services by Headquarters staff; biological reagents; one 4-month grant and one 12-month fellowship, both to study virology in the United States of America.

Work done: Assistance was given in the planning of new buildings for the Division of Biological Production of the National Public Health Laboratory, as well as for the selection of equipment for the laboratory and on the production and control of whooping cough vaccine.

PAHO **UNICEF**

MEXICO-29, Leprosy Control

Objective: To develop a national program for leprosy control based on modern methods and techniques.

Probable duration: 1960-

Assistance provided: A medical officer.

Work done: Assistance was given in the organization and improvement of central and local structures of leprosy services. The number of registered cases was slightly in excess of 15,000, with 1,144 new cases found in 1962.

Assistance was also given to the Governments of Haiti and the Dominican Republic in studying their leprosy problem and in the preparation of national control plans.

WHO/R **UNICEF**

MEXICO-30, School of Public Health

Objective: To strengthen teaching in the School of Public Health of the Ministry of Health and Welfare of Mexico.

Probable duration: 1954-1965.

Assistance provided: A consultant in public health administration and a 12-month fellowship to study organization of public health teaching (health education) in the United States.

Work done: Assistance was given in evaluating the courses of the second year of studies recently introduced in the School. The School 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

MEXICO-32, Medical Education

Objective: To strengthen medical education programs.

Probable duration: 1958-

Assistance provided: Advisory services by Zone II and Headquarters staff.

Work done: Assistance was given to the School of Medicine of the University of Nuevo León, Monterrey, in the study to set up a postgraduate center to train teaching personnel for other medical schools in Mexico.

WHO/R

MEXICO-35, Environmental Sanitation Training

Objective: To assist the School of Sanitary Engineering of the National Autonomous University of Mexico in organizing postgraduate courses for engineers.

Probable duration: 1961-

Assistance provided: A short-term consultant, advisory services by Zone II staff, and a limited amount of laboratory supplies.

Work done: Assistance was given to the University of Nuevo León, in Monterrey, in establishing a regular course for public health engineers, in addition to the assistance given to the National Autonomous University. Assistance was also given in the preparation of a project, to be submitted to the Special Fund of the United Nations, for the creation of an institute to teach research in sanitary engineering.

WHO/R

MEXICO-38, Tuberculosis Control

Objective: To determine the prevalence and other epidemiological aspects of tuberculosis; to organize a national campaign against the disease; and to train personnel.

Probable duration: 1960-1965.

Assistance provided: A medical officer and a limited amount of supplies and equipment; and one 6-month fellowship to study tuberculosis in Italy.

Work done: The arrival of the equipment permitted the completion of the studies in Mexicali and the initiation of the demonstration of different control techniques in a pilot project in the State of Querétaro. The Tripartite Plan of Operations was signed.

WHO/R, WHO/TA **UNICEF**

MEXICO-39, Promotion of Community Water Supplies

Objective: To assist in the development of a national program of public water supplies.

Probable duration: 1961-

Assistance provided: A sanitary engineer and two short-term consultants, as well as two grants—one for 2 months and 2 weeks to study sanitary engineering in the United States, and the other for 3 weeks to study environmental sanitation in Chile, Panama, and Peru.

Work done: Assistance was given to the Ministry of Hydraulic Resources in the preparation of a national program of construction and expansion of water supplies. Assistance was also given in revising plans and plants in operation, as well as in training professional and auxiliary personnel. Publications on the operation of waterworks and the utilization of underground water sources were prepared. The second course in design of water supply systems was prepared and developed. Assistance was given to the city of Monterrey in the preparation of a plan for the construction of a new water supply service.

PAHO/CWSF

MEXICO-53, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1954-1968 (year the consolidation phase is expected to end).

Assistance provided: A chief adviser, 2 malariologists, a sanitary engineer, a health educator, an assistant engineer, and a sanitary inspector; antimalarial drugs, some entomological supplies, and financial assistance for a pilot project for the mass treatment of the population in a small problem area with persistent transmission.

An epidemiological team, composed of an epidemiologist and an entomologist, was also provided for 4 months to investigate the cause of the persistence of transmission in a problem area of the country. The following fellowships were provided:

Awards	*Field of study*	*Country of study*	*Months*
1	Malaria eradication (medical entomology)	Brazil	4½
2	Malaria eradication	El Salvador	½
1	Malaria eradication	El Salvador, Guatemala, Honduras, Venezuela	1½

Work done: In areas with persistent transmission the entire inside surface of houses as well as nearby structures, including shelters for animals such as chickens, pigs, etc., were sprayed. Because of this, the average consumption of insecticide rose from 408 grams of technical DDT per house to more than 532 grams, and the shortage of insecticide prevented the completion of the regular six-monthly spraying cycles in certain areas.

An experiment was planned for 1963 to study the possibility of reducing the use of insecticide in areas where the vector continues to be susceptible to DDT and where transmission persists. Insecticide will be sprayed 3 times per year in 3 different areas—at a rate of 2 grams per square meter every 4 months in the first area; 1 gram, then 2 grams, and again 1 gram in the second; and 1 gram per square meter in successive cycles in the third experimental area. Epidemiological evaluation will compare the results of these methods with those in neighboring areas where 2 grams of DDT per square meter is applied in six-monthly cycles.

The Government created a special section, within the Epidemiological Department, to be in charge of areas in the consolidation phase. In these areas, 957,681 blood films were examined between January and October and 3,337 (0.3 per cent) were positive. In the area in the attack phase 615,681 films were examined, of which 7,657 (1.2 per cent) were positive.

A pilot project was begun in September 1962 in a selected area in the State of Oaxaca where there is definite persistence of transmission despite 5 years of intradomiciliary DDT spraying. PAHO is meeting the total cost of the project, which included distribution of a chloroquine-primaquine tablet to each resident of the area, in biweekly cycles. At the end of the year no positive blood films were found after the fifth treatment cycle.

PAHO/SMF, WHO/TA **UNICEF**

NETHERLANDS ANTILLES-1, *Aëdes aegypti* Eradication

Objective: To eradicate *A. aegypti.*

Probable duration: 1952-

Assistance provided: A sanitarian and technical supervision by AMRO-8 consultant.

Work done: This project was separated from Surinam and Netherlands Antilles-1 in 1962. A verification was carried out in Aruba and Bonaire, which have been free of *A. aegypti* for several years. Curaçao was found reinfested in 1962. Saba and St. Eustatius are considered negative. Part of the island of St. Martin continued positive, and it was difficult to coordinate work in both parts of the island at the same time.

WHO/TA

NICARAGUA-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1952-1969 (year the consolidation phase is expected to end).

Assistance provided: Two medical officers, a sanitary engineer, two sanitary inspectors, an entomologist, and an entomology assistant; antimalarial drugs, some supplies and laboratory equipment, and one vehicle; one four-and-a-half-month grant to study malaria eradication in Venezuela.

Work done: A new Department of Field Operations replaced the former Department of Spraying Operations. The new Department also took over the mechanical part of the organization and maintenance of the case-finding network.

During the period January-October the 7th cycle of six-monthly sprayings with DDT was completed, during which 259,743 houses were sprayed; the 8th cycle was begun; and an experimental area was sprayed with malathion every 4 months. Spraying was suspended from July 1962 in an area containing 102,730 houses, and the resulting savings were invested in improving epidemiological operations, especially case finding, as the area entered the consolidation phase.

In the area which entered the consolidation phase in July 1962, a total of 14,733 blood films were taken, of which 69 were positive. Of these, 13 were classified as autochthonous, 23 as imported, 7 as relapses, 26 were not investigated. The autochthonous cases were located in the area bordering on an area where transmission still

existed. The number of films examined in the attack area with no technical problems was 29,695, of which 686 were positive. In the problem area 112,698 films were examined, 8,561 of them being positive.

In the area of Managua, the capital city, and its environs, the problem of *Anopheles albimanus* resistance to chlorinated insecticides led the Organization to contribute to an antilarval campaign, with larvicide contributed by UNICEF. The system presently used, of dusting paris green by hand, is costly. The use of airplanes as in El Salvador (see El Salvador-2 project) is at present under consideration.

In addition, a study of the usefulness of malathion to interrupt transmission was begun in three sugar cane plantations with persistent transmission.

PAHO/SMF **AID, UNICEF**

NICARAGUA-5, Nursing Education

Objective: To strengthen the National School of Nursing by preparing nurses for the faculty, improving physical facilities and areas for field practice, and expanding the curriculum to include the teaching of public health nursing and courses in teaching and supervision.

Probable duration: 1955-1963.

Assistance provided: Two nurse educators; supplies and equipment; two fellowships—one for 11-and-a-half-months to study nursing education (nursing in obstetrics), and the other for 12 months to study nursing education, both in Puerto Rico.

Work done: The most important accomplishments were the revision of the curriculum; the program for teaching psychiatry in the country (formerly carried out in Costa Rica); the addition of instructors who fulfill the requirements of a school at university level, and the planning and execution of a program of on-the-job training for five new instructors. During this year the school reached a high level, and steps have been taken for incorporating it to the university. At the end of the year 21 students were registered in the first year, 18 in the second, and 27 in the third, with a faculty of 11 nursing instructors, a principal, and an assistant principal.

WHO/R

NICARAGUA-6, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Public health dentistry	Brazil	11
1	Medical education	Costa Rica, El Salvador	16

WHO/R

NICARAGUA-7, Public Health Administration (Fellowships)

One 6-and-a-half-month fellowship to study nursing education in Guatemala.

PAHO

NICARAGUA-10, Promotion of Community Water Supplies

Objective: To assist in the establishment of a national water supply authority and the development of a program of water supplies.

Probable duration: 1961-

Assistance provided: Three consultants.

Work done: Advice was given on the design of a water supply system. The services of a consultant to prepare a program for research on underground waters, which will be presented to the United Nations Special Fund, were provided. Advice was given in drafting a law to create a central autonomous authority.

PAHO/CWSF

NICARAGUA-11, Nutrition

Objective: To develop expanded nutrition programs in a selected area of the country.

Probable duration: 1962-1967.

Assistance provided: Consultant services provided by Zone III and the Institute of Nutrition of Central America and Panama staff.

Work done: The expanded program entered into the phase of training community leaders; criteria were drawn up and applied for their selection, and they will be trained in the rudiments of applied nutrition.

WHO/R **UNICEF**

NICARAGUA-12, Evaluation of Public Health Programs

(See AMRO-309)

WHO/R

PANAMA-1, Public Health Services

Objective: To reorganize the country's health services, especially in the central region; to prepare a national health plan and train the necessary personnel.

Probable duration: 1952-1967.

Assistance provided: A medical officer, a sanitary engineer, a public health veterinarian, and a limited

amount of supplies and equipment; one ten-and-a-half-month fellowship to study public health administration in Mexico.

Work done: The reorganization of the central structure of the Department of Health was completed. Plans for the western and eastern sanitary regions were advanced. Three courses for the training of personnel were completed and four others were begun. In the field of sanitation 279 wells were dug, and facilities for sewage disposal were established for 2,000 rural dwellings.

PAHO, WHO/TA **UNICEF**

PANAMA-2, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1952-1968 (year the consolidation phase is expected to end).

Assistance provided: A medical officer, a sanitary engineer, an administrative officer, an entomologist, three sanitary inspectors, antimalarial drugs and some entomological supplies; and a one-month grant to study malaria eradication in Honduras.

Work done: After a lengthy financial crisis the NMES finally was provided with sufficient resources to resume its work. The six-monthly spraying with DDT was begun in May; the first cycle, during which 175,622 houses were sprayed, was completed in November, and the second cycle was begun immediately thereafter. A total of 1,100 houses in a special area were selected to be sprayed with dieldrin every six months.

The epidemiological evaluation operations were rather deficient. Between January and October only 123,244 blood films were examined, of which 2,827 (2.3%) were positive. Radical treatments of positive cases with antimalarial drugs were intensified.

The Gorgas Institute continued its studies on mass medication with combined primaquine-pyremethamine in weekly cycles in certain localities near the Canal Zone. The houses in these localities are not being sprayed, and medication is given by voluntary collaborators.

PAHO/SMF **UNICEF**

PANAMA-7, Public Health Administration (Fellowships)

One 12-month fellowship to study public health nursing in the United States of America.

WHO/R

PANAMA-8, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Clinical and social pediatrics (course)	Venezuela	1
1	Environmental sanitation (sanitary inspection)	Mexico	10½
1	Nursing education	Guatemala	6½
1	Public health administration (maternal and child health)	United States of America	12
1	Public health administration	Chile	10

PAHO

PANAMA-9, Promotion of Community Water Supplies

Objective: To assist in the development of a program of water supply and in the establishment of central water authority.

Probable duration: 1960-

Assistance provided: A short-term consultant on water rates, another on underground waters, and advisory services by Headquarters and Zone III staff; one two-and-a-half-month grant to study sanitary engineering in the United States of America and Puerto Rico, and one three-week grant to study sanitary engineering in Colombia.

Work done: A central autonomous body for water and sewage was created, and a loan was obtained from the Inter-American Development Bank for the construction of water supply systems in the interior of the country. The present water-rate structure was reviewed and changes were recommended.

PAHO/CWSF

PANAMA-10, Planning and Organization of Hospital Services

Objective: To study the operation of the medical care services in the country, to establish a net work of national hospitals, and to improve the operation of existing hospitals.

Probable duration: 1962-1966.

Assistance provided: A medical officer.

Work done: Assistance was given to a committee of national experts in a study of the Santo Tomás Hospital, the most important in the country, and its operations. Its relations with the University in the field of medical and nursing education were considered and recommendations were made on the operation, organization, administration and construction programs. This project works towards integration of curative and preventive medicine, in close relationship with Panama-1 project.

PAHO

PANAMA-11, Nutrition

Objective: To develop an expanded nutrition program in a selected area of the country.

Probable duration: 1962-1966.

Assistance provided: Consultant services by Zone III and the Institute of Nutrition of Central America and Panama staff.

Work done: After training of interviewing personnel and reinforcement of the Nutrition Section staff of the Ministry with a nonmedical nutritionist, a study of the nutritional status, health, and socio-economic situations of the central region of Panama was implemented during October and November 1962.

WHO/R **UNICEF**

PANAMA-12, Evaluation of Public Health Programs

(See AMRO-309)

WHO/R

PANAMA-13, Leprosy Control

Objective: To promote a fuller awarenes of the problem of leprosy in the country, and the organization, development, and evaluation of a national leprosy control program in accordance with modern methods and procedures.

Probable duration: 1961-1967.

Assistance provided: Advisory services by staff of Zone III and of other projects in Panama; transportation equipment and medical supplies.

Work done: The process of organizing properly the leprosy control program (an integral part of the general health program) continued. Attention was given to the training of personnel including medical students.

PAHO **UNICEF**

PARAGUAY-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1955-1970 (year the consolidation phase is expected to end).

Assistance provided: A medical officer, an engineer, an entomologist, and a sanitary inspector; two five-and-a-half-month fellowships to study malaria eradication in Venezuela and Mexico, and one five-week grant to study malaria eradication in Mexico and Honduras. Antimalarial drugs were also supplied.

Work done: The program underwent a serious financial crisis aggravated by administrative difficulties.

The annual cycle of spraying with dieldrin was suspended by recommendation of the Organization early in 1961, because of their ineffectiveness. Subsequent epidemiological activities and geographical reconnaissance of an area hitherto not covered were not carried out in a satisfactory way. A great part of the available financial resources were spent at the Headquarters of NMES.

Some entomological studies were made; *Anopheles darlingi* was found in new localities; and areas with a great *A. albitarsis* density were recorded. All tests made on both species indicated that they were highly susceptible to DDT.

PAHO/SMF **AID, UNICEF**

PARAGUAY-9, Leprosy Control

Objective: To develop and implement a national program of leprosy control in accordance with modern techniques and procedures.

Probable duration: 1956-

Assistance provided: A medical officer.

Work done: Activities of the leprosy control program continued throughout 1962. The number of patients on the active registry increased by 30 June to 3,759; of these, 47.3 per cent were of lepromatous form, 29.3 per cent of tuberculoid form, 22.3 per cent of indeterminate form, and 1.1 per cent of dimorphous form. The total of newly discovered cases for the year was 204.

WHO/R **UNICEF**

PARAGUAY-10, Public Services

Objective: To establish modern health services at the national, intermediate and local levels and train the necessary personnel. To prepare a national health plan.

Probable duration: 1959-1965.

Assistance provided: An epidemiologist, a sanitary engineer, a consultant in administrative methods, a nurse, and a statistician, as well as an 11-month fellowship to study public health administration in Brazil.

Work done: A national planning unit was established; during 1962, seven work teams collected basic information as a preliminary step to prepare a national public health plan. A new pre-draft of the Sanitary Code was drawn up, as well as a draft of Organic Public Health Law, with the aid of a special consultant appointed at the request of the government. The consultant in statistics participated in the general census of population and housing. A plan for improvement of vital statistics was prepared and is already being put into practice. In the field of sanitation the National Autonomous Sanitary Works Service was created; it will have responsibility

for the water supply program for urban localities. This program includes a pilot project for installing minimal systems of running water, with public fountains, in three rural localities.

The following courses were begun and completed during the period post-basic course in obstetrics; public health course for medical heads of rural centers; two orientation courses in public health for midwives; one short course for head public health nurses in hospitals and in mother and child care centers of the capital; two courses for nurses' aides, with a total of 44 aides trained; one short training course for sanitary inspectors; one course in vital health statistics; and one training course for supervisors of nutrition programs, with 44 students.

PAHO, WHO/TA **UNICEF**

PARAGUAY-12, Public Health Administration (Fellowships)

One 11-month fellowship to study dental public health in Brazil.

WHO/R

PARAGUAY-18, Nutrition

Objective: To provide advisory services in the health aspects of the expanded nutrition program carried out by the government with the cooperation of FAO, WHO and UNICEF.

Probable duration: 1960-

Assistance provided: Advisory services by Zone VI Office staff.

Work done: During the year the food and nutrition education program was extended to new localities which had not been included initially. The work of the program continued uninterrupted, and the equipment and supplies provided by UNICEF arrived and were made available to the communities.

Various local courses were held for the training of personnel participating in this program.

Towards the middle of the year the new salt iodization equipment supplied by UNICEF was installed. The old plant was repaired to be installed in Encarnación. Technical and administrative regulations governing the operations of the salt iodization plant were drawn up.

A report on a goiter survey for the purpose of evaluating the endemic goiter eradication program, 3 years after the enactment of a decree making salt iodization compulsory, showed a substantial reduction in the prevalence of the disease in school children in the capital, as compared with the data obtained in 1956.

The first seminar on nutrition and public health was attended by the directors of health centers and other professional staff. The conclusions reached were made known widely, and it is hoped that the health centers will take more interest in nutrition as an integral part of their regular activities.

The Department of Nutrition prepared weight and height tables based on the findings of surveys, and hopes to publish them shortly.

WHO/R **FAO, UNICEF**

PARAGUAY-19, Promotion of Community Water Supplies

Objective: To assist in developing a public water supply program.

Probable duration: 1961-

Assistance provided: Advisory services by Headquarters and Zone VI Office staff and by the consultant of Paraguay-10; a 2-month grant to study environmental sanitation in Puerto Rico and Venezuela, and a one-month grant to study environmental sanitation in Colombia and the United States of America.

Work done: The National Autonomous Service of Sanitary Works was organized. Assistance was given to the Asunción Sanitation Works Corporation and the Inter-American Development Bank in a study to expand the sewerage system in the Capital.

PAHO/CWSF, UN **UNICEF**

PERU-5, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1957-1968 (year the consolidation phase is expected to end).

Assistance provided: A medical officer, a sanitary engineer, 6 sanitary inspectors, and antimalarial drugs, as well as one four-and-a-half-month grant to study malaria eradication (medical entomology) in Brazil.

Work done: Owing to the fact that the six-monthly cycles were readjusted to coincide with the calendar year, there was a one to two-month delay in the operations on the eastern slope of the Andes.

On the western slope DDT is sprayed every six months in the high part of the valleys, and only once a year in the low part. During the first cycle 69,690 houses were sprayed. During the second cycle, up to the month of October, 44,817 houses had been sprayed. On the eastern slope of the cordillera the first cycle covering 184,991 houses, was completed with some delay. The second cycle was not begun until August and is expected to be completed in January 1963. In the Amazon valley the first cycle begun in November 1961, was completed, with

43,957 houses. The second cycle, covering 44,106 houses, was completed between May and October.

Epidemiological evaluation operations were increased and the target for the number of notification posts installed was fulfilled. Nevertheless, collection of blood slides is not yet satisfactory in some areas.

In the areas in the attack phase throughout the country, 392,614 blood films (12.3 per cent of the total population) were taken between January and October, of which 1,904 (0.5 per cent) were positive. Sixty-one cases of *Plasmodium falciparum*, 1,782 of *P. vivax*, 52 of *P. malariae*, and 9 of mixed infections were identified. In the area in the consolidation phase, with a population of 864,507, 74,025 blood films were taken and examined; 17 (0.02 per cent) were found positive and classified as follows: 2 autochthonous, 1 imported from abroad, 9 imported from areas in the attack phase, and 5 induced. As to species, 14 were *P. vivax* and 3 *P. malariae*.

PAHO/SMF, WHO/TA AID, UNICEF

PERU-15, Advanced Nursing Education

Objective: To organize advanced courses for the training of nurse instructors and supervisors for schools, hospitals, and public health services; and to establish new schools of nursing.

Probable duration: 1959-1965.

Assistance provided: A nurse educator and a small amount of supplies and equipment.

Work done: The Post-Graduate Institute of Nursing, was transferred to the recently organized Public Health Training Center which is under the authority of the Special Public Health Service (SESP).

At the end of February the third course on nursing administration and education, with a total of 14 students was completed. In the courses, which finished at the beginning of 1963, there were 10 students in administration, 9 in education, and 12 in public health; the Junín Health Area was chosen for field practice.

WHO/R

PERU-21, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
3	Hospital administration	Brazil	11
1	Organization of medical education (tropical medicine and microbiology)	Brazil	11
2	Public health administration	Brazil	14
1	Veterinary public health	Brazil	10

WHO/R

PERU-22, Public Health Services

Objective: To assist in the evaluation, coordination and improvement of public health services at the national and local levels, and in the planning and organization of health areas, giving special attention to the Junín Health Area.

Probable duration: 1956-1966.

Assistance provided: A chief country adviser, a sanitary engineer, and a public health nurse.

Work done: During 1962 steps were taken to implement the recommendations of the Meeting on Public Health Planning held in Ica in December 1961. This included preparation of health regulations, the creation of committees to prepare sanitary and food codes, the adoption of a program budget, the intensification of the training of public health personnel, and the planning of the First National Public Health Congress. A special committee studied the organization and operation of the Ministry and presented a detailed report. A pilot project for tuberculosis control was initiated in the Tacna Health Area.

Sixty persons graduated from the two courses for sanitary inspectors and nursing auxiliaries begun in 1961, of whom 46 were assigned to the Health Area of Junín and 14 to other areas. The second course for sanitary inspectors was begun. A third health unit was established in the Junín Health Area, and water supplies were provided for 6 rural localities with community self-help. An anthropologist and a social worker were assigned to the Area, and 16 health surveys were made in rural localities. The program providing latrines for schools was begun. The Junín Health Area was also used as a practice field for courses in public health, nursing administration, and nursing education of the Postgraduate Nursing Institute.

WHO/TA UNICEF

PERU-23, Joint Field Mission on Indigenous Population

Objective: To promote the economic and social development, including the health aspects, of the indigenous population of the Andean Highlands, so as to facilitate their integration into national social and economic life.

Probable duration: 1955-

Assistance provided: Advisory services by Zone IV Office staff and by consultants assigned to projects Bolivia-11 and Peru-22.

Work done: The nutritional aspects of the program continued to progress. The supplies provided by UNICEF began to arrive.

WHO/TA FAO, ILO, UN, UNESCO, UNICEF

PERU-30, Promotion of Community Water Supplies

Objective: To assist the Ministry of Development and Public Works in organizing and executing a national plan of design, construction, and development of public water services.

Probable duration: 1960-

Assistance provided: A consultant in administration of water services and an expert in accounting; two 12-month and one 2-and-a-half-month fellowships to study sanitary engineering in the United States of America.

Work done: Advice was given on administrative techniques and accounting to the Sanitary Corporation of Arequipa. Assistance was provided in the creation of the Sanitary Corporation of Lima and in the preparation of the National Program of Sanitary Works of the Ministry of Development. A seminar on potable water sponsored by the Peruvian Association of Sanitary Engineering and the Ministry of Development was held. Assistance was furnished in the preparation of a request for funds for water supplies for the rural areas of the country, presented to the Inter-American Development Bank.

PAHO/CWSF, WHO/TA **IADB**

PERU-32.2, Infantile Diarrhea and Malnutrition

Objective: To study the nature of the alterations in water and electrolyte metabolism in infants suffering from diarrhea and malnutrition.

Probable duration: 1960-1964.

Work done: Experiments in the Anglo-American Clinic of Lima were continued. (See Nutrition, Chapter II).

NIH

PERU-33, Training of Health Workers

Objective: To train the professional and auxiliary personnel necessary to develop and expand local health services in the country.

Probable duration: 1962-

Assistance provided: Advisory services by Zone IV staff and by the consultants assigned to project Peru-22.

Work done: The Post-graduate Institute of Nursing was incorporated into the Training Center organized in 1962 under the authority of SESP. See Perú-15.

WHO/R **UNICEF**

SURINAM-1, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1952-1968 (year the consolidation phase is expected to end).

Assistance provided: A medical officer, an entomologist, a health educator, 2 malaria specialists, a sanitary inspector, and a short-term consultant in psychology and epidemiology; some supplies and equipment, especially antimalarial drugs; and five grants, each of two and one-half months, to study malaria eradication in Jamaica, Trinidad and Tobago.

Work done: The coastal area of the country completed two years in the consolidation phase without any autochthonous malaria cases. Between January and October 14,548 films from this area were examined and one case of *P. malariae* discovered. As a result of epidemiological investigation this case was classified as a relapse. During the same period 1,686 blood films were taken and examined from the urban area of Paramaribo, which was originally nonmalarious, of which 16 were positive. Epidemiological investigation disclosed that all cases were imported from the interior.

Attack operations continued in the interior. The six-monthly spraying with DDT resulted inadequate because of refusals to allow spraying, and it was necessary to contract the services of an expert in psychology and epidemiology to study the problem. After visiting various areas in the interior, it was concluded that refusal was primarily due to the resistance of a cockroach (*Blatela germanica*) to DDT. Whenever a house was sprayed the insecticide irritated the cockroaches and caused them to move about the house, whereupon the inhabitants accused DDT of producing roaches. At the beginning of the campaign a yearly spraying of dieldrin had been used in the interior, but as this was not satisfactory it was decided to change to six-monthly sprayings with DDT. Considering the serious problem of refusal and the fact that all tests showed the principal vector, *A. darlingi*, to be susceptible to dieldrin, as was the cockroach, it was agreed to return to dieldrin but in six-monthly spraying cycles. Dieldrin sprayings were to be begun in early 1963. If the cockroach develops resistance to this insecticide another change may have to be made.

Between January and October 15,700 blood films were taken and examined in the area in the attack phase, and of these 502 (3.2 per cent) were found positive. Of the 519 positive samples taken throughout the country, 1 was identified as *P. vivax,* 21 as *P. malariae,* 484 as *P. falciparum,* and 13 as mixed infections.

PAHO/SMF **UNICEF**

SURINAM-51, *Aëdes aegypti* Eradication

Objective: To eradicate *A. aegypti.*

Probable duration: 1952-

Assistance provided: A sanitarian and technical supervision by the AMRO-8 consultant; supplies and equipment.

Work done: This project was separated from Surinam and Netherlands Antilles-1 in 1962. The campaign was started after a period of discussions and preparation, and by the end of 1962 the Government had assigned the necessary funds, and selection and training of field personnel had started. Eradication operations were planned to begin in Paramaribo early in 1963.

WHO/R

TRINIDAD-3, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1952-1965 (year the consolidation phase is expected to end).

Assistance provided: The services of the Zone I Office advisers and of the epidemiologist of AMRO-117, whose headquarters are in Port of Spain. In addition to laboratory supplies all the necessary antimalarial drugs were provided, including antipyretic tablets to attract patients with a history of fever to the notification posts.

Work done: Since the interruption of spraying in January 1962, no areas have been sprayed except the small St. Francis' district, where one *P. vivax* case imported from abroad was discovered. No autochthonous cases have been found in Trinidad for over 2 years, and in Tobago for 9.

Case finding was intensive. Between January and October 113,644 blood films were taken and examined, and of these only one was positive. After epidemiological investigation it was classified as imported from abroad. Of the total 27,245 films were taken from febrile persons, 76,294 from persons with a history of fever, and 10,105 from persons without a recent history of fever.

In view of the increased number of films to be examined, 4 new microscopists were recruited and trained, which brings the total of microscopists at the central laboratory to nine.

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-

Assistance provided: Advisory services were provided by the consultant of project AMRO-269.

Work done: The National Nutrition Committee formally started its functions. Plans were prepared for a pilot project in Arima to begin early in 1963. Work continued on the Nutrition Center, whose functions include clinical studies, research, training, and demonstration. Renovation of the building for the Center continued, but progress was rather slow. The Interdepartmental Committee on Nutrition for National Defense of the United States donated an important amount of equipment, and a similar donation will be made by UNICEF.

Three basic nutrition courses for community leaders were completed with 100 participants. Plans were prepared for short courses for medical officers, nurses, and other public health personnel.

WHO/R **ICNND, UNICEF**

UNITED STATES-10, Consultants in Specialized Fields of Public Health

Objective: To provide short-term consultants to study special health problems.

Probable duration: 1958-

Assistance provided: One short-term consultant in occupational health.

Work done: The consultant provided advisory services to various institutions during a three-month period.

WHO/R

UNITED STATES-11, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Medical care administration	Czechoslovakia, Denmark, England, Norway, Poland Switzerland, Yugoslavia	2
1	Medical social work	England, Greece, Yugoslavia	2
1	Nursing education	Japan, Malaya, Philippines, Singapore, Thailand	3
1	Nursing education	Japan, New Guinea, New Zealand, Philippines, Taiwan	2¾
1	Nursing education	Denmark, England, Finland	2
1	Nutrition	Indonesia, Philippines, Thailand	2¾
1	Organization of medical education (medical care)	Czechoslovakia, England, Norway, Scotland, Switzerland, Soviet Union	2

PAHO

UNITED STATES-200, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Mental health	Denmark, Netherlands, Norway, Sweden, Switzerland, United Kingdom	2
1	Organization of medical education (mental health)	Denmark, Netherlands, Norway, Sweden, Switzerland, United Kingdom	2
1	Organization of medical education (medical care)	Czechoslovakia, Israel, Netherlands, Switzerland, United Kingdom	2
1	Organization of public health teaching (medical care statistics)	Chile	¾
1	Public health administration	Costa Rica, Guatemala, Mexico, Peru	2½
1	Public health nursing	Denmark, Finland, France, United Kingdom	2
1	Zoonoses	Soviet Union	1¾

WHO/R

URUGUAY-5, Public Health Services

Objective: To organize integrated health services in five Departments and extend them later to the entire country.

Probable duration: 1955-1965.

Assistance provided: A chief medical consultant, a public health nurse, a sanitary engineer, a consultant in hospital administration, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Public health nursing	Puerto Rico	12
2	Nursing education	Puerto Rico	12
1	Hospital administration	Brazil	14

Work done: A Planning Committee was established, with the aim of working in close collaboration with the Investment Commission for Economic Development (ICED), and of assuming responsibility for the planning of health services and for initiating the study of hospital construction which will be financed by credits from the Alliance for Progress. A national campaign of poliomyelitis oral vaccination took place; more than 75 per cent of the recipients were less than 20 years old. Local health services were extended, beginning the operation of new health centers in seven localities, including medical care, maternal and child hygiene, and control of communicable diseases.

WHO/TA **UNICEF**

URUGUAY-10, Public Health Administration (Fellowships)

Two 10-month fellowships to study public health administration in Chile.

PAHO

URUGUAY-13, Training of Health Personnel

Objective: To assist the Dr. Carlos Nery School of Nursing; to train nurse and auxiliary nursing personnel for the health services.

Probable duration: 1960-1965.

Assistance provided: A nurse educator and supplies and equipment.

Work done: The Dr. Carlos Nery School of Nursing had 167 students and 8 instructors in its regular course. In addition, a course for auxiliary nursing personnel with 11 students and 1 instructor was held. Plans were made to revise the basic curriculum, and to implement a study of the nursing needs and resources in the country.

PAHO **UNICEF**

VENEZUELA-2, Mental Health

Objective: To study the mental health program of the country and to formulate recommendations for its improvement.

Probable duration: 1962-

Assistance provided: Three short-term consultants.

Work done: A study carried out on the conditions prevailing in the Child Mental Health Services, and the existing resources were examined, with the aim of reorienting the present program. The report on this study is now in preparation.

WHO/R

VENEZUELA-7, Malaria Eradication

Objective: To eradicate malaria.

Probable duration: 1955-1967 (year the consolidation phase is expected to end).

Assistance provided: Advisory services by the AMRO-117 and Zone I Office staff, also one two-and-a-half-month grant to study malaria eradication in Jamaica and Mexico.

Work done: During the period January to September 213,585 houses (80.6 per cent of the total planned) were covered under the six-monthly spraying cycle with DDT. Sprayings were supplemented by mass drug distribution in certain areas, including some in the consolidation phase with a population of approximately 427,350.

Active case-finding continued in the attack, consolidation, and maintenance areas. During the period January to September 10,423 blood films were collected in the area in attack phase by passive case finding; of these 138 were positive. Active case finding in the same area produced 115,191, with 497 positive cases. In all 125,614 samples were taken and 635 (0.5%) were positive. In

the area in consolidation phase 66,660 blood films were taken and examined and 40 (0.06 per cent) were found positive. In the area in maintenance phase, 120 cases were found. After epidemiological investigation they were classified as 3 relapses, 28 imported from abroad, 87 introduced, and 2 induced cases.

A border meeting between Colombia and Venezuela was held in October 1962, at which the observations of the WHO epidemiological team assigned to study the epidemiological problem of malaria on the border between the two countries were discussed.

Although the team was not able to reach any definitive conclusions, it was able to show that in fact, Venezuela receives immigrants from infected areas in Colombia and that they do not come, for the most part, from the border area; also that outbreaks occur in Venezuela which cannot always be linked to cases imported from Colombia.

PAHO/SMF

VENEZUELA-9, Public Health Administration (Fellowships)

One 2-and-a-half-month fellowship to study nutrition in Guatemala.

PAHO

VENEZUELA-10, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Laboratory services	Brazil	4
1	Public health administration (industrial hygiene)	United States of America	12
1	Sanitary engineering	United States of America	12
1	Sanitary engineering	Mexico	10½

WHO/R

VENEZUELA-14, Nursing Education

Objective: To assist the School of Public Health in the establishment of advanced courses in nursing education and administration.

Probable duration: 1959-1965.

Assistance provided: A nurse educator.

Work done: Thirty two nurses attended a course for hospital nursing service administrators held at the University School of Nursing. A committee was formed to draw up a long-range plan of nursing education for the country. The consultant participated in a subcommittee appointed to plan a study to determine existing numbers of nursing personnel and their educational background.

WHO/TA

VENEZUELA-16, *Aëdes aegypti* Eradication

Objective: To eradicate *A. aegypti.*

Probable duration. 1958-1964.

Assistance provided. A medical officer and two sanitarians.

Work done: The campaign progressed satisfactorily until September 1962, when labor problems drastically reduced the activities of the project. At the end of the year, despite efforts being made to solve the problems, the situation still was far from normal. Nevertheless, 514 localities were inspected in initial survey and 90 in verification during the year; 56 of the 514 localities surveyed, and 15 of the 90 verified were found positive; 108 localities were treated.

PAHO

VENEZUELA-17, Medical Education

Objective: To strengthen the teaching courses in the medical schools.

Probable duration: 1958-

Assistance provided: Advisory services of Headquarters and Zone I staff; printed material on the teaching of medicine.

Work done: Assistance was given in the planning of a study on teaching of medicine, to be implemented as a basis for the Second Seminar on Medical Education to be held in 1963.

PAHO

VENEZUELA-18, National Institute of Hygiene

Objective: To assist the National Institute of Hygiene in the improvement of its services.

Probable duration: 1959-

Assistance provided: A virologist, for one month.

Work done: The virologist assisted in the organization of a tissue-culture laboratory and in training personnel in modern techniques for research on several viral diseases.

PAHO

VENEZUELA-19, School of Public Health

Objective: To assist the School of Public Health to improve the teaching of public health professional personnel.

Probable duration: 1961-1967.

Assistance provided: A professor in health education, a consultant in nutrition, and a 2-month grant to study

organization of public health teaching (vital statistics) in Argentina, Brazil, Chile and Colombia.

Work done: Assistance was given in the fields of public health, health education of the public, and nutrition.

WHO/R

VENEZUELA-27, Promotion of Community Water Supplies

Objective: To advise the Government on the reorganization of its central water supply authority and on the establishment of good commercial methods of financing the construction of new water supply systems and extending the existing ones.

Probable duration: 1961-

Assistance provided: Two short-term consultants; advisory services by Headquarters and Zone I Office staff; two 2-month and two 12-month fellowships to study sanitary engineering in the United States of America.

Work done: Assistance was given to the National Institute of Sanitary Works in the preparation of plans for water supplies for Maracaibo and to cities with from 5,000 to 10,000 inhabitants. The Institute obtained the necessary loans from the Inter-American Development Bank. Assistance has also been rendered in preparing a long-term plan for expanding water services for Caracas.

PAHO/CWSF **IADB**

VENEZUELA-28, Industrial Hygiene

Objective: To assist the Government in the improvement of industrial hygiene services.

Probable duration: 1962-

Assistance provided: A short-term consultant and the services of the Regional Adviser in Industrial Hygiene.

Work done: A study was prepared pointing out the economic and social effects of the problem and recommending specific solutions.

PAHO

VENEZUELA-30, Water Pollution Control

Objective: Control of the pollution of water currents of the coast adjacent to populated centers.

Probable duration: 1962-

Assistance provided: A short-term consultant.

Work done: A study was made and recommendations were submitted to the Ministry of Public Health and to the National Institute of Sanitary Works.

PAHO/CWSF

VENEZUELA-35, Rural Water Supplies

Objective: To assist in developing plans for water supply systems in rural areas.

Probable duration: 1962-

Assistance provided: Advisory services of Headquarters and Zone I staff.

Work done: Assistance was given in the program of water supply for 343 localities with less than 5,000 inhabitants (the Inter-American Development Bank granted the Ministry of Public Health the necessary loan), and 150 localities with less than 500 inhabitants.

PAHO/CWSF **UNICEF**

WEST INDIES-1, *Aëdes aegypti* Eradication

Objective: To eradicate *A. aegypti* from British territories in the Caribbean other than the British Virgin Islands.

Probable duration: 1952-

Assistance provided: Two sanitarians and technical advice and supervision by the AMRO-8 consultant; supplies and equipment.

Work done: This project was separated from British Guiana and West Indies-1 in 1962. Bermuda, Grenada, Nevis, St. Kitts, and St. Vincent, were reported negative. In British Guiana, which had been free from *A. aegypti* for several years, the city of Georgetown was found extensively reinfested in 1962, although no effective operations were started to eliminate this reinfestation. The interruption of the campaign in Dominica continued, and shortage of personnel and lack of funds prevented any progress in the Bahamas and Anguilla. Antigua, Montserrat, and St. Lucia were also found extensively reinfested, and complete operations will have to be carried out to eradicate the mosquito. In Trinidad, where repeated reinfestation of Port of Spain have occurred, the mosquito was found to have been reintroduced from resort islands which had never been surveyed or treated. These were sprayed in 1962, but were still positive at the end of the year. In Barbados, owing to insufficient personnel, the working cycles were too long and the results attained during the year were not satisfactory. No progress was reported for the campaign in the Grenadines where Carriacou and Petit Martinique were highly infested.

WHO/TA

WEST INDIES-3, Nursing Services

Objective: To cooperate in the training of personnel to improve the public health nursing services in the Caribbean Area.

Probable duration: 1959-1966.

Assistance provided: Two nurse consultants and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Public health nursing	Jamaica	10
1	Nursing services	United States of America	6
1	Nursing services	United States of America	4

Work done: Health programs and plans for in-service education for nurses and midwives were prepared for Dominica and Montserrat. In Barbados regular meetings of the nursing staff at central and local levels were started to determine measures for improving the services; the present Nursing Handbook was revised; a study of the maternal and child health services was carried out in an effort to ascertain the factors that maintain infant mortality high; plans were prepared to start a demonstration project of supervised domiciliary midwifery service. In St. Lucia the in-service education program for District nursing services and hospital nursing personnel proceeded as sheduled, and close coordination was established in the development of nutrition courses for District nurses. Efforts in Trinidad were concentrated on the establishment of basic posts in the Nursing Services.

WHO/R, WHO/TA

WEST INDIES-4, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Histology and cytology	United States of America	9
1	Nursing education	United States of America	2½
1	Nursing education	Canada	12
1	Nursing services	United States of America	3
1	Public health nursing	Canada	12

PAHO

WEST INDIES-9, Public Health Administration (Fellowships)

Awards	*Field of study*	*Country of study*	*Months*
1	Blood bank techniques	Canada	3
1	Environmental sanitation	Jamaica	10
1	Environmental sanitation	Barbados, Grenada, St. Lucia, Trinidad	¾
1	Environmental sanitation	United States of America	5
1	Hematology	United States of America	6
1	Hospital administration	United States of America	6
1	Laboratory services (enteric bacteriology and parasitology)	United States of America	7
1	Laboratory services (serology)	Trinidad	2
2	Schistosomiasis control	Puerto Rico	¾
1	Venereal diseases	United States of America	1¾
2	Venereal diseases	United States of America	3

WHO/TA

WEST INDIES-17, Malaria Eradication (Windward Islands)

Objective: To eradicate malaria.

Probable duration: 1952-1965 (year the consolidation phase is expected to end).

Assistance provided: Two sanitary inspectors and advisory services by AMRO-117 staff; antimalaria and antipyretic drugs.

Work done:

Dominica. Spraying operations continued and the 5th cycle of six-monthly sprayings with DDT was completed in May; 2,940 houses were sprayed. During the 6th and last cycle 2,840 houses were sprayed. Epidemiological evaluation between January and November 1962 produced 11,956 blood films, all negative. The consolidation phase was to begin in January 1963.

Grenada and Carriacou. Following the 3-year consolidation phase, the islands entered the maintenance phase in March 1962. During January and March 2,526 blood films were examined; all were negative. The last malaria cases found were 2 *Plasmodium vivax* infections in March 1959. Final evaluation of the program was made and the necessary document for entering the area in the registry of eradicated areas was prepared.

St. Lucia. The 3-year consolidation phase was completed and the island entered the maintenance phase in October 1962. Between January and November, 17,060 blood films were examined, and 4 *P. malariae* cases were found. Epidemiological investigation of each case showed that all 4 were relapses of infections probably acquired before the attack phase began. The last autochthonous case detected in the island was found in June 1959. The document to certify that malaria has been eradicated was being prepared at year's end.

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 Santa Lucia and two short-term consultants for Trinidad and

Tobago and for Barbados; a four-month grant to study environmental sanitation in the United States of America.

Work done: At year's end detailed plans were being drawn up for supplying water to Santa Lucia, and a project to obtain financial aid, which will be presented to AID and to UNICEF, was being prepared. General plans were made for the water supply of Montserrat.

Assistance was given in setting up a Central Water Authority in Trinidad and Tobago. The problem of water pollution and of disposal of excreta in the sea was studied.

PAHO/CWSF, WHO/TA

WEST INDIES-22, Nutrition

Objective: To establish country-wide expanded nutrition programs; to train professional and auxiliary nutrition personnel for the area.

Assistance provided: See AMRO-269.

WHO/R **UNICEF**

FRENCH ANTILLES and GUIANA-2, *Aëdes aegypti* Eradication

Objective: To eradicate *A. aegypti.*

Probable duration: 1952-1966.

Assistance provided: Advice by the AMRO-8 consultant and Zone I Office staff.

Work done: French Guiana has been considered free of *A. aegypti,* and a vigilance service has been maintained with periodical inspections and sprayings of the capital. There has never been a specific campaign in Martinique. In Guadeloupe operations were interrupted because of resistance of the vector to chlorinated insecticides. The French part of the island of St. Martin continued to be negative.

WHO/TA

AMRO-3, Rehabilitation

Objective: To provide advisory service to the countries of the Americas in the field of rehabilitation.

Probable duration: 1962-

Assistance provided: A specialized consultant.

Work done: In Brazil, assistance was provided to the courses given at the Institute of Rehabilitation at São Paulo to train physical therapists, occupational therapists and prosthetics workers and to provide on-the-job training for social workers, psychologists, and vocational counsellors. Cooperation was also given to the National Insurance Agencies in planning an intensive program to include rehabilitation centers in São Paulo, Rio de Janeiro, Pôrto Alegre, and Recife.

In Chile cooperation was given in the establishment of the Center of Rehabilitation for the National Health Service. Assistance was given in Argentina with plans for training physical therapists along modern lines.

In Venezuela cooperation was given to a rehabilitation seminar in Maracaibo and consultation was maintained with the Ministry of Health in planning an extensive rehabilitation program including a leprosy rehabilitation center.

PAHO

AMRO-8, *Aëdes aegypti* Eradication (Caribbean)

Objective: To provide advisory services on *A. aegypti* eradication to Jamaica, Trinidad, and the British, French, and Netherlands Territories in the Caribbean.

Probable duration: 1950-

Assistance provided: A medical officer.

Work done: Technical advice, orientation, and supervision were provided to the *A. aegypti* eradication projects in the Caribbean (see Bahamas-1, British Virgin Islands-1, French Antilles and Guiana-2, Jamaica-13, Netherlands Antilles-1, Trinidad-51, and West Indies-1.

WHO/TA

AMRO-9.3, Seminar on Alcoholism

The Government of Chile published the Final Report of this Seminar, held in Viña del Mar in November, 1960. In 1962 the Organization purchased 2,000 copies of the Spanish version of the Report, for distribution within the Region.

PAHO

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 to expand its teaching staff, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
8	Vital statistics	Chile	7½
1	Vital statistics	Mexico	3½
6	Vital statistics	Mexico	7½
1	Vital statistics	Chile	10

WHO/TA

AMRO-16, Assistance to Schools of Public Health

Objective: To aid Latin American Schools of public health, especially those that do not have special programs with the Organization, to strengthen and improve their teaching.

Probable duration: 1953-1966.

Assistance provided: Equipment and supplies, library materials in particular.

Work done: Advice was given in the recruitment of faculty members for various schools.

WHO/R

AMRO-18, Medical Education

Objective: To improve medical education in Latin America.

Probable duration: 1953-

Assistance provided: Long- and short-term consultants, advisory services of Headquarters staff and printed material on medical education, as well as fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Organization of medical education	United States of America	12
1	Organization of medical education	Brazil, Colombia, El Salvador, Puerto Rico, United States of America	1¼
1	Organization of public teaching	Puerto Rico, Canada, Mexico, El Salvador	1½
1	Organization of medical education (pediatrics)	United States of America, Mexico	4
1	Organization of medical education (preventive medicine)	Chile	1¼
1	Organization of medical education (tropical medicine)	Brazil	3

Work done: Two consultants and Headquarters staff assisted the authorities and professors of the School of Medicine of the University of El Salvador in a seminar, to analyze the teaching of clincal medicine in the school. Appropriate recommendations were made.

Advisory services on various aspects of medical education were furnished by short-term consultants and Headquarters staff, to medical schools in Argentina, Brazil, Chile, Costa Rica, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, and Panama.

A short-term consultnt made an analysis of the principal health problems in Jamaica and certain adjacent islands and submitted recommendations on a program for teaching preventive and social medicine in the Medical School of the University of the West Indies.

WHO/R

AMRO-26, Brucellosis Control

Objective: To improve brucellosis diagnosis and to develop animal control and eradication programs to eliminate the disease in the human population.

Probable duration: 1952-1970.

Assistance provided: Technical advisory services by Headquarters, Zone Offices, and Pan American Zoonoses Center staff, and cultures for the production of vaccine, antigens, and standard sera for testing antigens.

Work done: Measures to control brucellosis, especially in domestic livestock, progressed particularly in certain areas of Argentina, Chile, Central America, Mexico, Panama, and Venezuela. Efforts were continued to standardize brucellosis antigens and diagnostic tests throughout the Americas.

WHO/R

AMRO-28, Advanced Nursing Education

Awards	*Field of study*	*Country of study*	*Months*
2	Public health nursing	Chile	10
1	Nursing education	Chile	10
2	Nursing education	Chile	12
1	Nursing education	United States of America	1½

WHO/R

AMRO-35, Fellowships

Awards	*Field of study*	*Country of study*	*Months*
1	Food control	Mexico	2
1	Hospital administration	United States of America	6
1	Nursing education	Puerto Rico	12
1	Nutrition	Guatemala	2½
1	Pubilc health administration (maternal and child health)	Mexico	10½
1	Public health administration	Mexico, Puerto Rico	1
1	Public health administration	Puerto Rico, Colombia	2
5	Public health administration	Chile	3
1	Rehabilitation (speech therapy)	Argentina	8
1	Tuberculosis (nursing)	Peru	1
2	Venereal disease interviewing	United States of America	3
1	Veterinary public health	Mexico	10½

PAHO

AMRO-45, Laboratory Services

Objective: To improve public health laboratory services; to assist departments of virology in the production and control of biologicals and in the development of animal colonies.

Probable duration: 1955-

Assistance provided: Advisory services of Headquarters staff; supplies and equipment; and two two-month fellowships to study epidemiology (control of enteric diseases) in the United States of America.

Work done: Services upon request included advice to several countries in planning public health laboratory buildings, selection and acquisition of equipment, provision of biological reagents and laboratory animals, information on various laboratory techniques, and advice on methods for the protection of laboratory workers.

WHO/R

AMRO-46.8, Seminar on Advanced Nursing Education

Objective: To discuss programs of advanced nursing education.

Place and duration: Montego Bay, Jamaica, 4-10 November 1962.

Assistance provided: Twelve temporary advisers, travel grants and stipends for 19 participants from 13 countries, and supplies and equipment.

Work done: The chief results of the discussions, in which an AID Nursing Education Consultant also participated, were recommendations that a study of resources and needs be made in each country, as a basis for planning advanced nursing education, and that immediate attention be given to the development of short courses to provide supplementary education for nurses inadequately prepared for the positions of responsibility which they hold. Plans were drafted to explore during future seminars more specific aspects of advanced nursing education.

WHO/R

AMRO-47, Yaws Eradication and Syphilis Control (Caribbean)

Objective: To determine the prevalence of yaws; to encourage and aid in organizing, developing, and evaluating programs for eradicating the disease; to reduce the prevalence of syphilis and gonorrhea; to strengthen laboratory services and organize control services for venereal diseases.

Probable duration: 1954-

Assistance provided: A medical officer.

Work done: Assistance was given to the authorities in the areas in which yaws is endemic, in order to obtain greater efficiency in the different phases of the eradication programs, especially in those of control and surveillance. In four of the eight territories where yaws eradication programs exist in cooperation with the PAHO/WHO, there have been no infectious cases in the last two years. In the remaining four territories surveillance continues. Assistance was given in preparing plans for the study of yaws in Jamaica and Surinam.

Syphilis decreased in five different territories in the last four years. Programs of health education related to the venereal diseases were intensified. The regional evaluation of the serological services for the diagnosis of syphilis continued. The number of laboratories participating in this evaluation increased from seven to ten.

WHO/R **UNICEF**

AMRO-50, Water Fluoridation

Objective: To furnish advisory services on methods of fluoridation of water in order to prevent dental caries.

Probable duration: 1961-1964.

Assistance provided: A short-term consultant and Headquarters staff.

Work done: The consultant gave advice on fluoridation methods and equipment in Brazil and Colombia.

WHO/R

AMRO-54,[a] Institute of Nutrition of Central America and Panama

Objective: To serve the Central American countries and Panama in developing nutrition services and to develop scientific research in this field.

Probable duration: 1949-

Assistance provided: A medical director, a medical officer, a nutrition educator, an auxiliary editor, and a small amount of supplies and equipment.

Work done: See Chapter II.

PAHO

[a] Grants received in 1962 from:
Association for the Aid of Crippled Children
Colegio Americano (Guatemala)
KF
Massachusetts Institute of Technology
Milbank Memorial Bank
Miller's National Federation
Monsanto Chemical Co.
National Research Council
The Nutrition Foundation, Inc.
Parke, Davis & Co.
The Quaker Oats Co.
RF
UNICEF
NIH

AMRO-60, Smallpox Eradication

Objective: To encourage and assist in the preparation of lyophilized smallpox vaccine; to assist in the organization, development, and evaluation of national programs for smallpox eradication.

Probable duration: 1951-

Assistance provided: Advice from Headquarters and Zone staff, as well as equipment, and vaccine.

Work done: The "criterion of smallpox eradication," included in a report prepared by the PASB/WHO and approved by the Thirteenth Governing Board of the PASB/WHO was presented to the Sixteenth Pan American Health Conference. The services of the Serum Institute of Copenhagen, Denmark, were made available to the countries for testing purity and potency of smallpox vaccine prepared in the national laboratories.

Glycerinated smallpox vaccine was distributed to the countries that requested it. In addition, arrangements were made for the countries producing lyophilized smallpox vaccine to furnish the product cost-free to countries that need it for their national vaccination programs. Funds were obtained from other international agencies for the smallpox eradication programs in Ecuador and Bolivia.

PAHO, WHO/R

AMRO-61, Rabies Control

Objective: To improve diagnosis of rabies and conduct control programs.

Probable duration: 1954-

Assistance provided: Advice of Headquarters, Zone Offices, and Pan American Zoonoses Center staff.

Work done: See Rabies, Chapter IV.

WHO/R

AMRO-62, Public Aspects of Housing

Objective: To establish the participation of health authorities in housing programs, with a view to protect health. To advise countries on long-range planning and on the establishment of sanitary standards for housing.

Probable duration: 1962-

Assistance provided: Two short-term consultants.

Work done: A planning conference took place at the University of Pittsburgh in order to establish the bases for organizing an interregional seminar (EURO and AMRO) on the public health aspects of housing, to take place in 1963. Steps were taken for the recruitment of a permanent regional adviser in this field.

PAHO

AMRO-63, Assistance to Schools of Nursing

Objective: To extend professional assistance such as services of short-term consultants, travel grants to senior members of nursing faculties, and a copy of at least one textbook in Spanish to every school of nursing in Latin America that meets certain minimum criteria.

Probable duration: 1962-

Assistance provided: Supplies and equipment.

Work done: 300 copies of the Spanish translation of the public health text *Enfermería de Salud Pública* were sent to the Zone Offices for distribution to the libraries of schools of nursing of Latin America that offer advanced courses in nursing.

WHO/R

AMRO-67, Teaching of Public Health in Schools of Veterinary Medicine

Objective: To assist the schools of veterinary medicine in the incorporation of public health and preventive medicine into their curricula.

Probable duration: 1955-1966.

Assistance provided: Consultant services and training, and reference materials.

Work done: See Veterinary Medical Education, Chapter V.

WHO/R

AMRO-72, Dental Health

Objective: To strengthen dental health services through provision of advisory services and fellowships for dental public health training.

Probable duration: 1954-

Assistance provided: Advisory services by a short-term consultant and Headquarters staff, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Dental public health	Brazil	3
1	Organization of public health teaching (dental public health)	Brazil	2
1	Organization of public health teaching (dental public health)	Colombia	10 (days)
1	Dental public health	Colombia	1½
1	Organization of public health teaching (dental public health)	Colombia, United States of America	2

Work done: A short-term consultant visited the Dominican Republic for a 5-week period and advised the Government on the establishment of a division of dental

health at the national level. A textbook on dental public health was published in August and distributed to health services and professional schools in Latin America. (See also Chapter II.)

PAHO, KF

AMRO-74, Plague Investigations

Objective: To determine the extent and specific characteristics of selvatic plague in the Americas, train personnel, and promote and assist in the establishment of activities to control plague.

Probable duration: 1953-

Assistance provided: Advice of Headquarters staff.

Work done: A thorough review was made of the Organization's records and reports and of other technical literature concerning plague in the Americas, and a monograph was prepared summarizing and evaluating the data collected. This document ws used to plan further studies in this field.

PAHO

AMRO-76, Vaccine Testing

Objective: To assist laboratories engaged in the production of vaccines in the Americas, to maintain high standards of potency and safety.

Probable duration: 1954-

Assistance provided: Contractual technical services.

Work done: Vaccines and other biological products manufactured in national laboratories were tested in a reference laboratory. Assistance was given on manufacturing procedures.

WHO/R

AMRO-77, Pan American Foot-and-Mouth Disease Center

Objective: To control and finally eradicate foot-and-mouth disease.

Probable duration: 1951-

Assistance provided: Advice of Headquarters staff and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
1	Foot-and-mouth disease	Argentina, Brazil, Uruguay	2
1	Foot-and-mouth disease	Brazil	3
1	Foot-and-mouth disease	Brazil	12
2	Foot-and-mouth disease	Argentina, Brazil	4
1	Veterinary public health (foot-and-mouth disease and vesicular stomatitis)	Brazil	4
13	Foot-and-mouth disease	Mexico	½
1	Foot-and-mouth disease	Ecuador	3
2	Foot-and-mouth disease	Brazil, Peru	5
1	Foot-and-mouth disease	Argentina	3
1	Foot-and-mouth disease	Venezuela	3

Work done: See Chapter IV.

OAS/PTC, AID

AMRO-81,[a] Pan American Zoonoses Center

Objective: To assist the countries in establishing or improving zoonoses services and control programs; to conduct research in zoonoses.

Probable duration: 1956-

Assistance provided and work done: See Chapter IV.

PAHO, WHO/TA

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 on the Revision of the Classification in order to develop comparable mortality statistics.

Probable duration: 1955-

Assistance provided: A grant to the Center to cover the cost of an instructor, travel, fellowships for an annual course, and consultant visits to countries.

Work done: The activities of the Center were centered on evaluating proposals for the classification of infectious, nutritional, and diarrheal diseases for the 1965 Revision of the *International Classification of Diseases*, medical referee services for the Inter-American Investigation of Mortality, and the development of teaching material and provision of courses on classification in Chile and Bolivia.

WHO/R

AMRO-86, Health Statistics (Zone III)

Objective: To assist the countries in Zone III in the improvement of their vital and health statistics and to render consultant services on statistical aspects of projects and program planning.

Probable duration: 1955-

Assistance provided: A statistical consultant.

Work done: Only limited services were provided in

[a] Grants received in 1962 from:
Government of Argentina
Industrias Kaiser Argentina, S.A.
E. R. Squibb & Sons
NIH

Zone III because the consultant was assigned temporarily as an instructor in courses on health planning given in Caracas, Venezuela, and in Santiago, Chile.

WHO/R

AMRO-88, *Aëdes aegypti* Eradication

Objective: To support, coordinate, and evaluate *A. aegypti* eradication projects.

Probable duration: 1954-

Assistance provided: A medical officer for 3 months, a short-term consultant entomologist, and supplies and equipment.

Work done: An evaluation was made of Argentina-51 and Colombia-22. Technical assistance was given in the special verification of Mexico-26, and a study of *A. aegypti* resistance to insecticides was started as part of Jamaica-13.

PAHO

AMRO-90, Malaria Technical Advisory Services (Inter-Zone)

Objective: To give additional technical advisory services to the malaria programs of the Region of the Americas.

Probable duration: 1955-1967.

Assistance provided: Two parasitologists, an entomologist, and an administrative officer specialized in transportation.

Work done: Assistance was provided in reorganizing the malaria diagnosis laboratories of several eradication programs, and laboratory technicians were trained in the thick-film technique recommended by the Organization. Courses in microscopic diagnosis of malaria were given at the Malaria Eradication Training Center (AMRO-134). The Manual of Microscopic Diagnosis of Malaria (PASB Publication No. 46) was revised, and a second edition will be printed and distributed in English, Spanish, and Portuguese.

Assistance was given to the programs in Colombia, Cuba, Dominican Republic, Ecuador, Haiti, Nicaragua, and Panama to organize or improve transportation systems and maintenance of vehicles used in the malaria eradication campaigns, with emphasis on personnel training.

Entomological assistance was given to the programs of Colombia, Costa Rica, Cuba, Dominican Republic, Haiti, Nicaragua, Panama, and Paraguay, including the training of entomology personnel, confirming the finding of malaria vectors resistant to insecticides, and cooperation in studies of vector ecology.

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-

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 and bacteriology of diarrheal diseases, with special reference to nutrition.

Probable duration: 1956-

Assistance provided: A statistician, a bacteriologist, and a short-term consultant, as well as a small amount of supplies and equipment.

Work done: Three years of data collection in Guatemala were concluded and the analysis was begun. Significant results have already been reported in the literature and considerably more information is expected to be published.

PAHO

AMRO-95, Environmental Sanitation (Caribbean)

Objective: To advise 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 sanitary inspectors, and two short-term consultants; 31 9-week fellowships and one 3 week fellowship to study environmental sanitation in Barbados.

Work done: An international course was planned and given in Barbados for 31 sanitary inspectors of the Caribbean area. A latrine program continued to be carried out in Barbados, St. Kitts, Santa Lucia, St. Vincent, and Trinidad.

PAHO, WHO/TA, UNICEF **UNICEF**

AMRO-110.3, Tuberculosis Control

Objective: To assist Governments in planning and developing tuberculosis control programs.

Probable duration: 1957-

Assistance provided: A short-term consultant, advice

of Headquarters staff, and four 5-month fellowships to study tuberculosis control in Czechoslovakia and Denmark.

Work done: Assistance was provided to the Government of Argentina in the development of a national tuberculosis center in the Province of Santa Fe. Headquarters staff gave advice to Bolivia, Colombia, Ecuador, Panama, Peru, and Venezuela.

WHO/R

AMRO-112, Community Development Training Center

Objective: To cooperate with the 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.

CREFAL, a training center for Community Development, is co-sponsored by the Government of Mexico and UNESCO and the Organization of American States. The latter two Organizations assist with fellowships for students from member countries of Latin America, technical staff and equipment, and take care of the administration. Technical Agencies of the UN assist through consultant staff serving as faculty and with some materials. These agencies include WHO, FAO, ILO, and the UN Bureau of Social Affairs. Specifically, WHO has been participating during the past two years through the assignment of a public health physician who is responsible for planning and carrying out academic and field instruction for all students, directed toward their orientation to the role of health in programs of community development.

During 1962, approximately 70 students attended the nine-month course.

In addition to activities directly related to the Center, the consultant has also contributed to development of effective working relationships with state, local, and national health services and has taken part in various meetings, seminars, and workshops directed toward the improvement of health in community development.

WHO/R FAO, ILO, OAS, UN, UNESCO

AMRO-114, Training Center for Malaria Eradication (Mexico)

Objective: To provide practical training in activities related to malaria eradication.

Probable duration: 1957-1964.

Assistance provided: A grant equivalent to the local salary of a physician and an engineer, as well as the necessary per diem.

Work done: Field training was given to trainees who completed the 1962 courses in Kingston, Jamaica and Maracay, Venezuela. Facilities were also provided to observers visiting the malaria eradication program in Mexico.

PAHO/SMF

AMRO-117, Malaria Technical Advisory Services (Zone I)

Objective: To advise on and coordinate the malaria eradication programs of the Zone. To assist and participate in research projects and in the training of national and international personnel, especially in collaboration with the Malaria Eradication Training Center in Kingston, Jamaica (AMRO-134).

Probable duration: 1957-1968 (or until the consolidation phase is completed throughout the Zone).

Assistance provided: A chief epidemiologist, an epidemiologist, an entomologist, a laboratory scientist, limited amounts of equipment and supplies.

Work done: Technical assistance was given to various projects in the Zone during the transition from the attack to the consolidation phase. Project staff confirmed that malaria had been eradicated in the islands of Carriacou, Grenada, and St. Lucia. Entomological assistance was given to Surinam.

The laboratory scientist reviewed all positive films and 10 per cent of the negatives, maintaining a high level of control of the examination of blood slides. He also cooperated in the training of microscopists for various countries in the Zone.

PAHO/SMF

AMRO-118, Malaria Technical Advisory Services (Zone III)

Objective: To advise on and coordinate the malaria eradication programs in the countries of the Zone. To assist in coordinating research projects and training in the continent-wide malaria eradication program.

Probable duration: 1958-1969 (or until the consolidation phase is completed throughout the Zone).

Assistance provided: One epidemiologist and one consultant in administrative methods.

Work done: Advisory services in epidemiology included periodic supervisory visits to countries in the Zone and the periodic evaluation of each campaign, carried out jointly with the national authorities. As a result of the evaluations made, it was decided to suspend spraying operations in certain areas which entered the consolidation phase.

Consultant services were also made available to help in organizing the administrative aspect of the malaria eradication programs as well as the administration of some National Public Health Departments, and to assist in budget preparation.

PAHO/SMF

AMRO-119, Malaria Technical Advisory Services (Zone IV)

Objective: To advise and coordinate the malaria programs of the Zone. To assist and participate in research projects and in the training of personnel in techniques of malaria eradication.

Probable duration: 1958-1968 (or until the consolidation phase is completed throughout the Zone).

Assistance provided: A sanitary engineer specialized in malaria, two consultants in administrative methods, and one entomologist.

Work done: Engineering advisory services and supervision were provided for the 4 malaria eradication programs in the Zone, together with assistance in the preparation of plans of operation and of budgets. Assistance in administrative methods was concentrated mainly in Colombia and Peru.

PAHO/SMF

AMRO-134, Training Center for Malaria Eradication (Kingston, Jamaica)

Objective: To train professional and auxiliary English-speaking personnel in malaria eradication techniques.

Probable duration: 1958-1964.

Assistance provided: The Director of the Center, an administrative officer, and a sanitary inspector; part-time instructors to teach microscopic diagnosis of malaria, statistics, chemotherapy, administration, health education, spraying operations, and epidemiology. Local auxiliary personnel as well as teaching supplies and equipment.

Work done: In April 1962 the Center completed its fifth year of activities. During the year, 3 courses were given for professionals (physicians, engineers, entomologists, etc.) and 1 for auxiliary personnel (sanitary inspectors). Of a total of 78 trainees, 27 were sponsored by WHO; 35 by AID, and 16 by PAHO.

PAHO/SMF **AID**

AMRO-135, Malaria Eradication Trainees

Objective: To train WHO personnel in the techniques of malaria eradication.

Probable duration: 1958-1964

Assistance provided: Salaries and per diem allowances of trainees while attending the course.

Work done: One medical officer and one health educator were trained.

PAHO/SMF

AMRO-137, Training Center for Malaria Eradication (São Paulo, Brazil)

Objective: To train profesional personnel for the malaria eradication program of Brazil and for other Latin American countries.

Probable duration: 1958-1965.

Assistance provided: The School of Hygiene and Public Health of the University of São Paulo was given a grant to cover the costs of the auxiliary personnel working in the courses. A special course was given to train entomologists and entomology auxiliaries, with emphasis on anopheline mosquitoes.

Work done: Two courses in malariology were given for a total of 16 professionals. In addition, eight persons attended a course on medical entomology, with special emphasis on aspects of malaria.

PAHO/SMF

AMRO-142, Health Aspects of Radiation

Objective: To cooperate with the Governments in the adoption of international standards for protection against radiation, especially from X-ray apparatus and radioactive isotopes; in the improvement of training in basic health physics; and in the proper utilization of radioactive isotopes in clinical diagnosis and therapy; as well as to stimulate investigation in the field of radiation protection.

Probable duration: 1958-

Assistance provided: Four short-term consultants, a limited amount of equipment and supplies, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
4	Radiology	Chile	6
1	Radiology	Chile	12
1	Radiology (public health aspects of radiation)	United States of America	3½

Work done: Consultant services were provided to six countries for the study of existing problems. A survey of problems associated with the use of radioactive sources in medical installations was made in Chile, and means of control were suggested. A study of the health implication to the local population in areas of high background radiation was carried out.

WHO/R

AMRO-143, Health Statistics (Zone IV)

Objective: To assist the countries in the improvement of their vital and health statistics, and to render consultant services on statistical aspects of projects and program planning.

Probable duration: 1956-

Assistance provided: A statistical consultant.

Work done: Attention was concentrated on recommendations for improving statistical systems in hospitals and health services in accordance with international recommendations and on stimulating the training of statistical personnel. Visits were made to two medical schools in Colombia to advise on the organization of the teaching of statistics. The consultant collaborated in the teaching of the first courses at the Training Center for Health Personnel in Lima. Advice was given in the preparation of two courses for statisticians of an intermediate level in the School of Public Health in Bogota. Assistance was rendered to research groups in three cities participating in the Inter-American Investigation of Mortality.

WHO/R

AMRO-144, Health Statistics (Zone II)

Objective: To assist the countries to improve their vital and health statistics, and to render consultant services on statistical aspects of projects and program planning.

Probable duration: 1958-

Assistance provided: A statistical consultant and a short-term consultant.

Work done: Assistance was rendered principally in the Dominican Republic, where a course in statistics for medical clinicians was given. Consultant services were also rendered in teaching statistics in Cuba and in preparation for a family survey in the Cul-de-Sac Health demonstration area in Haiti. A short-term consultant made a summary study of the status of mortality statistics in Mexico.

WHO/R

AMRO-149, Leprosy Control

Objective: To determine the extent and characteristics of leprosy and assist in the development and evaluation of control programs.

Probable duration: 1958-

Assistance provided: Technical information, equipment, and a 2-month grant to study leprosy in Brazil.

Work done: A conference of leprosy consultants and epidemiologists of the PAHO/WHO was held in Lima, Peru, to exchange ideas and reach agreements on the epidemiology and methods of control of leprosy. Preparations were made for the Pan American Seminar on Leprosy to be held in 1963. Scientific and informative material was distributed to the leprosy control programs personnel. Assistance was given in preparing a report on research in leprosy. The necessary steps were taken to obtain the assistance of the School of Public Health of Johns Hopkins University, Baltimore, Maryland, for the training of medical personnel in planning and administration of leprosy control programs.

WHO/R

AMRO-150, Food and Drug Services

Objective: To survey the present status of food, drug, and biologics control problems and services in the Americas, and to assist countries to improve national regulatory services.

Probable duration: 1959-

Assistance provided: Advice of regular staff, technical publications, and a short-term consultant to Panama.

PAHO

AMRO-155, Schistosomiasis Control

Objective: To develop practical and effective methods to control schistosomiasis.

Probable duration: 1960-

Assistance provided: Short-term consultants and advice of regular staff.

Work done: See Parasitic Diseases, Chapter IV.

PAHO **USPHS**

AMRO-156, Training Program in Hospital Statistics

Objective: To provide training for personnel working on 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 and supplies.

Work done: A six-month course for instructors in hospital statistics was completed in January 1962 in Argentina. The Avellaneda Hospital in Buenos Aires was used as a demonstration area for in-patient statistics and 35 employees of 20 hospitals attended a one-week course of theoretical-practical training in this subject. A course on medical records was held for the students of the vital

and health statistics course in the School of Public Health of the University of Chile (see AMRO-10).

PAHO

AMRO-157, Health Statistics (Zone I)

Objective: To assist the countries in Zone I in the improvement of their vital and health statistics.

Probable duration: 1959-

Assistance provided: A statistical consultant.

Work done: Consultant services were provided to Jamaica.

PAHO

AMRO-159, Health Statistics (Zone VI)

Objective: To assist the countries of Zone VI in the improvement of their vital and health statistics.

Probable duration: 1959-

Assistance provided: A statistical consultant.

Work done: In Argentina, collaboration continued in developing and improving systems for vital and health statistics in the Provinces of Buenos Aires, El Chaco, and San Juan, and planning was begun for the Provinces of Córdoba, Mendoza, and Misiones. Courses or lectures in statistics for physicians were given early in the year at the Ministry School of Public Health. Plans were developed for a nine-month course for statisticians of the intermediate level, to be given at the School of Public Health of the University of Buenos Aires in 1963.

Assistance was given in Paraguay in improving systems for vital statistics and communicable disease reporting.

PAHO

AMRO-160, Yaws Eradication and Venereal Diseases Control

Objective: To provide technical advice on the eradication of yaws and the control of venereal diseases.

Probable duration: 1961-

Assistance provided: Technical publications and working equipment.

Work done: The head of the international group to evaluate programs for the eradication of yaws in Colombia, Ecuador, Haití, and the Dominican Republic was appointed. A study of a sample of the population in Haití and the Dominican Republic, to be considered in making the evaluation, was begun. Two publications on the diagnosis and treatment of venereal diseases were translated into Spanish and distributed to the countries.

PAHO

AMRO-163, Epidemiology (Zone VI)

Objective: To promote the implementation and coordination of communicable diseases eradication and control programs; advise on new methods and techniques of control; stimulate better reporting of communicable diseases, and advise on problems related to the International Sanitary Regulations.

Probable duration: 1958-

Assistance provided: An epidemiologist.

Work done: Advice was given to the countries of the zone on specific epidemiological problems, on the organization of epidemiological services, and on the preparation, development, and evaluation of programs for eradication or control of communicable diseases.

PAHO

AMRO-165, Nutrition Advisory Services (Inter-Zone)

Objective: To provide advisory services in nutrition to countries not covered by specific projects, and to cooperate in the training of professional and auxiliary personnel.

Probable duration: 1958-

Assistance provided: Two specialized consultants and a short-term adviser.

Work done. Advisory services were continued in Zone V.

PAHO, WHO/R

AMRO-178, Veterinary Public Health (Zone II)

Objective: To provide advice in veterinary public health to countries in Zone II.

Probable duration: 1959-1962.

Assistance provided: A public health veterinarian.

Work done: Advisory services on epidemiology and control of zoonoses were provided to health and agriculture services. Advice on food hygiene, biomedical research, and veterinary public health education was also given.

PAHO

AMRO-179, Veterinary Public Health (Zone IV)

Objective: To provide advice in veterinary public health to countries in Zone IV.

Probable duration: 1959-

Assistance provided: A public health veterinarian.

Work done: Advice was given on epidemiology and control of zoonoses, particularly in connection with brucellosis, Q fever, and rabies; and in food hygiene, with emphasis on milk and meat inspection. Services were also provided to research and teaching institutions in Zone IV countries.

PAHO

AMRO-181, Live Poliovirus Vaccine Studies

Objective: To cooperate with Governments in studies of live attenuated poliovirus vaccine.

Probable duration: 1958-1962.

Assistance provided: A consultant's services.

Work done: Assistance was given to the Government of British Guiana on the design and organization of a campaign for oral poliomyelitis vaccination.

ACC **USPHS**

AMRO-183, Nursing Midwifery

Objective: To advise the countries on the improvement of their obstetrical care services and teaching institutions in the preparation of professional midwives.

Probable duration: 1962-

Assistance provided: A nurse-midwife.

Work done: Advice was given to the new School of Nursing Midwifery in Paraguay, and preliminary studies were carried out on the midwifery situation in Bolivia, Colombia, Ecuador, and Peru. Assistance was given in the reorganization of the Maternity Hospital of Lima and to the School of Midwifery of Peru. A basic questionnaire was prepared to collect preliminary data on midwifery throughout the Region.

PAHO

AMRO-185, Medical Care and Hospital Organization

Objective: To provide the countries of the Region with short-term consultant services in medical care and hospital organization.

Probable duration: 1961-

Assistance provided: A short-term consultant.

Work done: Short-term consultant services were given to Colombia in connection with the planning of a program of medical care research.

PAHO

AMRO-187, Promotion of Community Water Supplies

Objective: To advise the countries in planning, financing, and executing national programs of water supply and in the organization and administration of local and central authorities of water services and sewage disposal.

Probable duration: 1959-

Assistance provided: A consultant in management and finance, a consultant in design of water supply systems, secretarial services, and short-term consultants.

Work done: Advisory services were given to countries of the Region on planning, design, management, organization, tariffs and operation of water supply systems. Assistance was given in the preparation of requests for loans to international credit organizations, and in the training of personnel in the design and operation of water systems.

PAHO/CWSF

AMRO-188, Veterinary Public Health (Zone III)

Objective: To assist the countries of Zone III in the development and reorganization of the services and activities in veterinary public health, particularly in the study and control of the zoonoses and the application of protective measures in food control; to promote the teaching of public health in veterinary medicine; to collaborate in the evaluation of programs of veterinary public health and in other programs for the successful use of these services.

Probable duration: 1957-

Assistance provided: A public health veterinarian, a short-term consultant, supplies and equipment, and funds for special publications.

Work done: Antirabies programs were stimulated in all the countries of the Zone in order to control the increase of rabies cases occurred in 1962. Studies on leptospirosis in Guatemala and bovine cysticercosis in Central America and Panama were completed, and studies on wildlife rabies in Belice were continued. Assistance was given to the Faculty of Veterinary Medicine in Guatemala in the teaching of public health. Training in food hygiene and laboratory techniques was provided to personnel of the public health services of the countries, INCAP, and the University of Guatemala. Through this project, collaboration was given to projects Costa Rica-24, Guatemala-14, AMRO-45, AMRO-76, AMRO-77, AMRO-81, and AMRO-148.

WHO/R

AMRO-189, Veterinary Public Health (Zone V)

Objective: To advise on veterinary public health matters in Zone V (Brazil).

Probable duration: 1957-

Assistance provided: A public health veterinarian.

Work done: Work continued on the survey of the livestock industry of Brazil, the diseases involved, and the veterinary services to attend these problems. Collaboration continued with research and teaching institutions, and assistance was given for courses conducted by health agencies. Special attention was given to the rabies problem of the country and the development of adequate control services. Work began on the establishment of laboratory animal production colonies. Increased help was provided in the study and prevention of zoonoses found in milk, meat, and other food supplies.

WHO/R

AMRO-196, Insecticide Testing Teams

Objective: To investigate the effect of both, new and old insecticides for purposes of vector control in problem areas.

Probable duration: 1959-1966.

Assistance provided: A chief entomologist, a sanitary engineer, and two entomologists. At year's end two entomology auxiliaries were added. In addition, through an agreement concluded with the Governments of El Salvador and Bolivia, the Organization defrayed almost the entire cost of local auxiliary personnel and provided all the necessary material and equipment.

Work done: In cooperation with the Governments of Bolivia and El Salvador it was demonstrated that the residual action of DDT on nonabsorptive walls, such as those made of wood, remains effective for long periods of time. There is still a tendency for the insecticide to lose its efficacy rapidly on mud walls. The duration depends on the absorptive capacity of the walls. Duration on other surfaces, such as straw matting and whitewash, is in between the duration on wood and mud.

The DDT studies were completed at the end of the year, and activities in Bolivia were terminated.

A series of studies on the use of larvicides, as an additional method to house sprayings, was begun in certain problem areas in El Salvador.

The two larvicides studied were Paris green and fenthion. Both were applied with manual pumps and, in addition, paris green was applied by dusting from crop-dusting airplanes. This method made it possible to control large breeding grounds such as swamps, river beds, and coastal lagoons. The old method of dusting 25 per cent paris green by airplane was found to cost less than the manual method.

PAHO/SMF

AMRO-198, Administrative Methods and Practices in Public Health

Objective: To improve and modernize the administrative functions of national health services at all levels.

Probable duration: 1959-

Assistance provided: Advice of regular staff, supplies and equipment.

Work done: Consultant services to Governments were continued, and a seminar on several aspects of the organization and administration of public health ministries was held from 3 to 7 December 1962 at Bogotá, Colombia, for the countries of South America. The documents presented at the seminar and the final report were issued as a single volume in mimeographed form.

PAHO/UN

AMRO-201, Health Statistics (Zone V)

Objective: To assist Brazil in the improvement of its vital and health statistics.

Probable duration: 1959-

Assistance provided: Statistical consultants from other projects.

Work done: The statistical consultant of Brazil-3 collaborated in a special one-month course in biostatistics for laboratory research workers at the Institute of Microbiology, University of Brazil, in Rio de Janeiro. The Zone VI statistical consultant assisted in the teaching of health statistics at the School of Hygiene and Public Health of the University of São Paulo.

PAHO

AMRO-202, Leprosy Control (Zone III)

Objective: To furnish medical consultant services to the countries of Central America and Panama for the study, organization, development, and evaluation of leprosy control programs; the training of medical and paramedical personnel in modern techniques of leprosy control; integration of leprosy control services into the general health services.

Probable duration: 1960-

Assistance provided: A medical officer.

Work done: Assistance was given to the countries of Zone III, all of which have improved their leprosy control programs, although in varying degree.

PAHO

AMRO-203, Epidemiology (Zone III)

Objective: To assist in the development and coordination of programs for the eradication and control of communicable diseases; to advise on new methods and techniques of control; to stimulate better reporting of communicable diseases; and to advise on problems related to the International Sanitary Regulations.

Probable duration: 1961-

Assistance provided: An epidemiologist.

Work done: Assistance was given in the organization of the antismallpox vaccination programs. Assistance was also provided in the preparation of sanitary regulations for the diseases requiring quarantine, and to the promotion of immunization programs in the countries of Zone III as well as in the preparation of control programs for communicable diseases.

PAHO

AMRO-204, Sanitary Engineering (Zone I)

Objective: To train engineers and sanitary inspectors, and to strengthen the environmental sanitation services of the Ministries of Public Health of the Zone.

Assistance provided: One 12-month grant to study sanitary engineering in the United States of America and one 6-week grant to study environmental sanitation in Barbados, Puerto Rico, and St. Lucia.

WHO/R

AMRO-205, Sanitary Engineering (Zone II)

Awards	*Field of study*	*Country of study*	*Months*
2	Environmental sanitation (sanitary inspection)	Mexico	10½
2	Environmental sanitation	Mexico	2½
2	Sanitary engineering	Canada	12
1	Environmental sanitation (sanitary inspection)	Canada	4

WHO/R

AMRO-206, Sanitary Engineering (Zone III)

Awards	*Field of study*	*Country of study*	*Months*
1	Sanitary engineering	Brazil	11½
1	Sanitary engineering	Colombia, Puerto Rico, Venezuela	1¾

WHO/R

AMRO-207, Sanitary Engineering (Zone IV)

Awards	*Field of study*	*Country of study*	*Months*
1	Sanitary engineering	Brazil	11

WHO/R

AMRO-209, Sanitary Engineering (Zone VI)

Awards	*Field of study*	*Country of study*	*Months*
2	Environmental sanitation (sanitary inspection)	Chile	7
1	Sanitary engineering	Brazil	11

WHO/R

AMRO-220, Malaria Eradication Epidemiology Teams

Objective: To determine the causes of persistence of malaria transmission and to evaluate corrective measures.

Probable duration: 1960-1966.

Assistance provided: One epidemiologist, one parasitologist, one entomologist, one entomology assistant, supplies and equipment, and funds to pay locally recruited auxiliary personnel. Another epidemiologist and another entomology assistant were added during the second semester in order to start preparing a second advisory group.

Work done: In cooperation with the Government of El Salvador a year of intensive research on the failure of the six-monthly spraying cycle with DDT to interrupt the transmission of malaria in certain areas of the country was completed. It was discovered that the *Anopheles albimanus* female, whether resistant to DDT or not, avoids sprayed surfaces and survives to bite again outside houses that have already been sprayed.

As a result of these studies the Excito-repellency test-box, Model PASB, was developed; it consists of a miniature house in which the reaction of a mosquito population to surfaces treated with insecticide can be studied with relative ease; another important result was the development of a method of "synoptic study" of a locality for two weeks, which leads to the determination of the malaria status of the locality.

PAHO/SMF

AMRO-234, Sewage Disposal and Water Pollution Control

Objective: To assist in the preparation of programs of construction of sewerage systems and plants for waste water treatment, as well as in the solution of specific problems of contamination of water courses.

Probable duration: 1962-

Assistance provided: Two short-term consultants.

Work done: Recommendations on specific problems of water pollution in Barbados, Trinidad, and Venezuela were studied and implemented. A detailed study was made and a report issued on the problem of industrial waste disposal in Puntarenas, Costa Rica.

PAHO

AMRO-235, Food Sanitation

Objective: To review municipal food control practices and to prepare a guide on the subject for Latin American countries.

Probable duration: 1961-1964.

Assistance provided: A short-term consultant.

Work done: The preparation of the guide for food control procedures continued. The first draft was to be available in the first months of 1963.

WHO/R

AMRO-236, Refuse and Garbage Disposal

Objective: To advise on adequate methods of collecting and disposing of garbage and refuse and on the organization and administration of the respective municipal services.

Probable duration: 1961-

Assistance provided: Two short-term consultants.

Work done: The sanitary and municipal authorities of Colombia, Peru, Trinidad, and Venezuela were advised on methods and administration of collecting and disposing of garbage and refuse.

WHO/R

AMRO-237, Medical Education (Zone III)

Objective: To improve medical education in the countries of Central America and Panama.

Probable duration: 1960-

Assistance provided: A short-term consultant.

Work done: Advisory services were provided to the authorities of the School of Medicine of Nicaragua on teaching of preventive medicine.

PAHO

AMRO-241, Regional Advisory Committee on Statistics

Objective: To advise the Organization on the role of statisticians in planning for the next 10 years, and to make recommendations for the implementation of a strong program to improve basic statistical data and for the extension of the research programs.

Probable duration: Biennial meetings, begun in 1960-

Assistance provided: Temporary advisers and costs of meeting.

Work done: The Regional Advisory Committee on Health Statistics, at its second meeting, held from 11 to 13 June 1962, prepared recommendations for the implementation of a strong program to improve basic statistical data in the next decade; an expanded education and training program, and the extension of research. Emphasis was placed on the development of hospital records and statistics and the establishment of a PAHO/WHO policy in regard to the functions of statistical services at appropriate levels in Ministries of Health.

PAHO

AMRO-242, Seminar on Water Supply Design, Construction, and Management

Objective: To study the standards and systems of design existing in the countries of Latin America.

Place and duration: Buenos Aires, 20-29 September 1962.

Assistance provided: Short-term consultants as well as Headquarters and Zone VI staff.

Work done: The Seminar was held in collaboration with the National Sanitary Works, the School of Engineering of the University of Buenos Aires, and the School of Sanitary Engineering. Sixty five participants from all the countries of the Region attended.

PAHO/CWSF

AMRO-245, Training Course on Nursing Supervision and Administration (Zone I)

Objective: To organize a series of three-to-six-week English courses in nursing supervision and teaching for nurses from the Caribbean.

Probable duration: March to October 1962.

Assistance provided: One short-term consultant, stipends, supplies and equipment, and fellowships as follows:

Awards	*Field of study*	*Country of study*	*Months*
20	Nursing education	Trinidad	1½
21	Nursing education	Barbados	1½
19	Nursing education	St. Kitts	1½

Work done: Three six-week courses were held in three islands of the Eastern Caribbean for 60 nurses holding intermediate senior posts (ward nurse, senior health visitor, or junior matron) in hospital and public health services of 16 British and Dutch Territories. Priority was given to persons who had not had previous advanced nursing education courses.

PAHO

AMRO-247, Teaching of Statistics in Medical Schools

Objective: To assist in the development of courses on medical statistics in Schools of Medicine in Latin America.

Probable duration: 1961-

Assistance provided: A professor of biostatistics for six weeks and personnel from Zone VI.

Work done: In 1962, a professor of biostatistics taught in the six-week advanced course given by the School of Public Health of the University of São Paulo, Brazil. The 25 students who attended the course were selected in part from among graduates of the First Course of Statistics Applied to Medical Sciences given in 1961 by the School.

PAHO

AMRO-256, Industrial Hygiene

Objective: To assist the countries on matters related to industrial hygiene services.

Probable duration: 1961-

Assistance provided: One consultant.

Work done: Advisory services were furnished to Mexico and Venezuela, and exploratory trips were made to Jamaica and Trinidad. A series of lectures was given at the University of Córdoba, Argentina, and national conventions on air pollution in Buenos Aires and Washington, D.C., were attended.

PAHO

AMRO-257, Seminars on Dental Education

Objective: To give deans and professors of dental schools in Latin America an opportunity to review the current status of dental education, exchange views, and make recommendations for its improvement.

Probable duration: 1961-1966.

Assistance provided: Three short-term consultants.

Work done: The First Latin American Seminar on Dental Education was held in Bogotá, Colombia, from 14 to 19 October 1962 and included 36 participants from the 18 dental schools in Bolivia, Chile, Colombia, Ecuador, Perú, and Venezuela. A survey of dental education in the above countries had been made by the consultants early in the year, and the report was used as one of the working papers. The final report and selected working papers will be used for a special publication on the Seminar, to be published early in 1963. The participants also attended a course in dental education held immediately after the Seminar.

PAHO, KF

AMRO-261, Regional Advisory Committee on International Classification of Diseases

Objective: To develop proposals for the 1965 revision of the *International Classification of Diseases and Causes of Death.*

Probable duration: 1961-1964.

Assistance provided: Temporary advisers and costs of meeting.

Work done: Work on the trials developed by the Latin American Center for proposed classification of selected sections of the *International Classification of Diseases* was carried out in Argentina, Colombia, Panama, Peru, and Venezuela. The Committee reviewed the work done and recommended that the Latin American Center for Classification of Diseases, on the basis of the results, make a proposal for the classification of nutritional deficiency diseases and diarrheal diseases. The Committee accepted the proposed classification of virus diseases with a few minor changes and agreed that the Center and the Bureau consider changes for the remaining sections on infectious and parasitic diseases.

PAHO

AMRO-262, Nutrition Advisory Services (Zone IV)

Objective: To advise the countries of Zone IV in developing nutrition programs, especially at the local health service level.

Probable duration: 1956-

Assistance provided: The services of a consultant specialized in the field.

Work done: The consultant gave advice to the countries of the Zone, especially to Colombia and Ecuador. (See Colombia-26 and Ecuador-53.)

WHO/R

AMRO-266, Regional Development of Epidemiological Studies

Objective: To obtain accurate and comparable data on causes of death in selected cities of the Americas through the compilation of detailed data from special questionnaires.

Probable duration: 1961-

Assistance provided: Headquarters staff and support for field investigations in the cooperating cities.

Work done: Following a Planning Conference in January, field work began in 10 cities in the Americas and 1 city in the United Kingdom. By the end of 1962 the investigations were proceeding satisfactorily in the cooperating cities, and completed questionnaires with respect to 8,576 adult deaths had been received.

NIH

AMRO-269, Nutrition Advisory Services (Zone I)

Objective: To advise countries and territories of Zone I on nutrition activities.

Probable duration: 1961-

Assistance provided: A medical officer specialized in nutrition.

Work done: The consultant collaborated with local health authorities of Barbados, British Guiana, St. Lucia, and Trinidad in the preparation of draft plans of operations for nutrition programs. Assistance was also given to Barbados with a school-lunch program, and to British Guiana in its plans to integrate the nutrition activities with the existing programs in health education and agriculture. Three basic-nutrition courses for community leaders were completed in Trinidad with 100 attending, and plans were prepared for short courses for medical officers, nurses, and other public health personnel.

A grant-application for studies of the epidemiology of anemias in Trinidad was prepared and presented to NIH.

As observer for PAHO/WHO, the consultant attended the first meeting (Hato Rey, Puerto Rico, 26-30 November 1962) of the Standing Advisory Committee on Food and Nutrition (SACFAN), sponsored by, and to advise the, Caribbean Organization. The report of nutrition surveys performed in St. Lucia, St. Kitts-Nevis-Anguilla, and Trinidad and Tobago by the Interdepartmental Committee on Nutrition for National Defense of the United States of America, was presented at this meeting. The data collected, revealing the existence of various deficiencies (animal protein and certain vitamins) should serve as a basis for planning and future evaluation.

Because SACFAN recommended further studies on the feasibility of establishing a Caribbean Nutrition Institute, the Caribbean Organization, as a preliminary step, requested that a short-term consultant jointly sponsored by PAHO/WHO and FAO undertake a review of the situation with regard to nutrition in the Caribbean Area and determine the need, facilities, and resources available for establishing the institute.

WHO/R

AMRO-270, Courses in Design of Water Supply Structures

Objective: To train engineers in new developments and techniques in the design of water supply structures.

Probable duration: 1961-1962.

Assistance provided: Four short-term consultants, Headquarters and Zone II staff, supplies and equipment as well as teaching material and contractual services; 21 three-and-a-half-month grants, and 7 four-and-a-half-month grants to study enviromental sanitation in Mexico.

Work done: The second course on water supply design was planned and carried out in collaboration with the National Autonomous University of Mexico; 35 students from different countries of the Region attended.

PAHO/CWSF

AMRO-272, Group Study of the Organization of Medical Schools

Objective: A long-term project to give senior faculty members of medical schools of Latin America the opportunity to visit as a group several schools in active development, in order to analyze and discuss the organization and administration of a medical school.

Probable duration: 1962-

Assistance provided: A consultant; fellowships for 11 participants.

Work done: A group of eleven senior faculty members of medical schools, accompanied by a coordinator and Headquarters staff, visited the medical schools of the National University of Cuyo, Mendoza, Argentina, of Ribeirão Prêto (University of São Paulo, Brazil), and of the University of Concepción, Chile.

PAHO

AMRO-273, Seminar on Mental Health

Objective: To unify concepts related to the integration of mental health in public health practice.

Place and duration: Cuernavaca, Mexico, 26 November-3 December 1962.

Assistance provided: A temporary adviser, the cost of attendance of participants, local expenditures of the seminar, and publication of the report.

Work done: 40 participants from Costa Rica, Cuba, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, and Panama discussed the importance of mental health, care and rehabilitation of the mentally ill, training in the field of mental health, research, and international collaboration for the integration of mental health programs. Recommendations were made for stimulating research, training of personnel, and improvement of mental health services.

PAHO

AMRO-275, Chagas' Disease

Objective: To assist the Governments to obtain a better knowledge of the epidemiological characteristics of Chagas' disease, its extent, and control measures.

Probable duration: 1960-1970.

Assistance provided: Advisory services of Headquarters staff.

Work done: An advisory Group on Research on Chagas' Disease met in Rio de Janeiro, Brazil, in June 1962 to evaluate the present status of knowledge on the disease, to define the most important fields to be studied and attempt to indicate in each case the type of research best suited for the solution of the problem, as well as to indicate the main studies underway in this field in the Americas. An agreement was signed with the School of Medicine of the University of Chile for carrying out studies related to the preparation of a standard antigen for the complement fixation reaction for the diagnosis of Chagas' Disease.

PAHO

AMRO-276, Sewage Treatment and Disposal

Objective: To inform the responsible officials of each country of the new methods used in sewerage systems and in the treatment of waste waters and its possible application to existing local conditions.

Probable duration: Completed in 1962.

Assistance provided: Headquarters personnel.

Work done: Arrangements were made with the Robert A. Taft Sanitary Engineering Center of the United States Public Health Service for conducting a symposium at the University of Cincinnati. The symposium took place from 4 to 9 July, 1962; 99 participants from the countries of the Region attended.

PAHO

AMRO-277, Manual on School Sanitation

Objective: To advise the Governments on the planning and design of sanitary installations for schools and to prepare a manual.

Probable duration: 1962-

Assistance provided: A short-term consultant.

Work done: Several countries of North and South America were visited in order to observe sanitary conditions in school buildings and the existing legislation, and a first draft of the manual was prepared.

PAHO

AMRO-279, Study Group on Water Quality Standards

Objective: To advise in the revision of the international standards on water quality established by WHO in the light of existing conditions in the Region.

Probable duration: Completed in 1962.

Assistance provided: A short-term consultant.

Work done: Several countries of the Region were visited in order to observe laboratories and methods of water analysis. The meeting of the Expert Committee that revised the WHO international standards was attended.

PAHO

AMRO-280, Research Training Program in Virology (University of Minnesota)

Objective: To study inter-relations between arthropod-borne viruses pathogenic for man and birds suspected to be intercontinental disseminators of virus, and to provide research training in this field.

Probable duration: 1961-

Assistance provided: Technical assistance from scientists of Cornell University Medical College.

Work done: Ecological studies on the arthropod-borne viruses which coexist in Canada, Mexico, and the United States of America, and which might be carried by migratory birds, were begun in selected field sites.

PAHO **NIH**

AMRO-281, Planning

Nineteen fellowships to study health planning (course for preparation of planners in health) in Chile. The countries represented were: Argentina, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru (2 fellows), Uruguay, and Venezuela.

PAHO, PAU

AMRO-303, Planning and Organization of Hospital Services (Zone III)

Objective: To advise the health services of the countries of the Zone on the planning and organization of medical care, particularly in hospitals.

Probable duration: 1962-

Assistance provided: A medical officer.

Work done: A Committee for Planning Medical Care and Hospital Services was established and began operating in El Salvador. Advice was given on hospital construction plans as well as on expanding out-patient services at Rosales Hospital and on concentrating the pediatric services at the Bloom Children's Hospital of the same country.

Further assistance was given to the Ministry of Public Health of Honduras in organizing the Department of

Medico-Social Care, and advice was given on hospital construction plans.

Collaboration was also given to project Panama-10, and the collection of basic data on medical care in Central America and Panama was begun.

PAHO

AMRO-304, Planning and Organization of Hospital Services (Zone VI)

Objective: To provide advisory service to countries of the Zone in medical care and hospital administration.

Probable duration: 1961-

Assistance provided: A medical officer.

Work done: Advice was given to the countries of the Zone, particularly in connection with the health program of El Chaco, Argentina.

PAHO, KF

AMRO-305, Leprosy Control (Zone VI)

Objective: To furnish technical advisory services on leprosy control and to evaluate the programs in the countries of the zone.

Probable duration: 1962-

Assistance provided: A medical officer.

Work done: See Uruguay-9 and Argentina-18.

WHO/R **UNICEF**

AMRO-306, Conference on Postgraduate Training in Health Education

Objective: To exchange technical information on the needs, objectives, scope, methodology and developments on postgraduate training in health education for various categories of health personnel, including health education specialists, and to consider the needs, methods, and resources available for future developments.

Place and duration: Philadelphia, Pennsylvania, 8-17 July 1962, as an Inter-Regional undertaking of WHO Headquarters and PAHO.

Assistance provided: Assistance of PASB and field staff, equipment and supplies, and some travel expenses for participants.

Work done: Participants included professional teaching staff from schools of public health and other institutions concerned with the health education training of health personnel at the postgraduate level, and professional health personnel from national or state health services who were or would be concerned with various aspects of health education training. A total of 31 countries from all six Regions of WHO were represented. Eight countries and ten schools of public health of Latin America were represented.

The final report of the Conference was completed in draft form and was expected to be available early in 1963. As a follow-up on the Conference, a similar meeting will be held in 1964 for schools of public health and national health services in the Region of the Americas.

WHO/R

AMRO-307, Field Office (El Paso, Texas)

See Zone and Field Offices, Chapter VII.

PAHO

AMRO-308, Potable Water Resource Survey (Central America and Panama)

Objective: To study the possibility of using subterranean water in Central America and Panama.

Probable duration: 1962-

Assistance provided: A short-term consultant.

Work done: Studies were made to outline the programs to be followed in making a final investigation and their cost in each of the above mentioned countries. These studies will be presented for the consideration of the Special Fund of the United Nations.

WHO/TA

AMRO-309, Program Evaluation

Objective: To evaluate health services and programs in the countries of Central America and Panama.

Probable duration: 1961-1962.

Assistance provided: Travel expenses for a specialized consultant loaned by WHO headquarters.

Work done: A complete inventory of the health problems, needs, and resources in the six countries was completed. At year's end, reports and recommendations for each country were in the final stage of preparation.

PAHO

AMRO-310, Study on Production of Biologicals

Objective: To study the needs, and possible expansion of the production of biologicals used in the prevention of human and animal diseases which have health and economic implications for man.

Probable duration: 1962-1963.

Assistance provided: Two short-term consultants.

Work done: The consultants carried out a three-month survey; the final report will be ready early in 1963.

PAHO, IADB

AMRO-314, Planning (Zone II)

This project did not operate on a Zone-wide basis during 1962. One short-term consultant was provided to assist the Dominican Republic in connection with the preparation of its national health plan.

PAHO

AMRO-316, Tuberculosis Control (Zone IV)

Objective: To assist the countries of Zone IV in tuberculosis control.

Probable duration: 1962-1966.

Assistance provided: A medical officer and a nurse.

Work done: The program in Perú was concentrated in the Tacna Health Area, as anticipated. Training courses were given and a program of sanitary education was begun. In October a prevalence survey of tuberculosis was started as a preliminary step of the control program. The greater part of the equipment supplied by UNICEF arrived. At the beginning of 1962 a law was passed which provided funds for the anti-tuberculosis campaign in the country.

The project in Bolivia is to be initiated early in 1963, as soon as the equipment furnished by UNICEF arrives.

The program of Colombia is integrated within the health services program. Assistance was given in personnel training programs, in writing a manual of standards, and in improving the efficiency of diagnostic units and of specialized hospitals.

WHO/R

AMRO-333, Seminar on Malaria Problems in the Guianas

Objective: To study the problem of malaria eradication in the area, to establish combined attack operations in the border areas, and to initiate an exchange of epidemiological information.

Place and duration: Paramaribo, Surinam, 25-28 September 1962.

Assistance provided: Secretariat services, some interpreters, and the travel costs of the participants.

Seminar: Eleven participants were sent by the Governments: 3 from Brazil, 1 from British Guiana, 4 from French Guiana, and 3 from Surinam. There were also 6 observers, including a representative of UNICEF and of AID.

Among the measures adopted, the following were considered of particular importance:

(a) That there be an exchange of plans for geographical reconnaissance, attack, and epidemiological evaluation in border areas.

(b) That all areas adjacent to country frontiers and forming part of administrative or technical units of the malaria eradication program be considered as border areas.

(c) That owing to the social characteristics of the population and to the prevailing high degree of illiteracy, the direct method of health education is the best to get the population to accept the measures adopted by the eradication program in order to achieve the desired ends.

(d) In order to ensure that blood films coming from remote areas will be examined as rapidly as possible, field laboratories will be established wherever possible. In addition, the time it takes for the films to get to the diagnostic laboratory must be shortened.

(e) That the visits of technical personnel, such as malariologists, epidemiologists, and entomologists to border areas, be planned and notified in advance, so that the counterparts of the neighboring country may be present in the area at the time of the visit, for consultations and exchange of information.

PAHO/SMF

AMRO-334, Etiology of Congenital Malformations

Objective: To obtain expert advice regarding implementation of Resolution XIV of the XVI Pan American Sanitary Conference through a research program on the etiology of congenital malformations.

Assistance provided: A short-term consultant and Headquarters staff.

Work done: The Planning Conference for Research on Congenital Malformations was scheduled for 3-7 January 1963, in Washington, D.C., and working papers and a draft proposal of the research program to be considered by the participants were prepared.

NIH

Inter-Regional-121, Inter-Regional Course on Natural Foci of Infection

Four 5-week travel grants to study zoonoses in Soviet Union. The countries represented were: Brazil, Cuba, Colombia, and Venezuela.

WHO/TA

Inter-Regional-127, Inter-Regional Travelling Group on Occupational Health

Eight 8-week travel grants to study occupational health in Finland, the Soviet Union, Sweden, Switzerland, and Yugoslavia. The countries represented were: Argentina, Bolivia, Brazil, Chile, Colombia, Peru, and Venezuela.

WHO/TA

Inter-Regional-136, Medical Education Study Tour in the Soviet Union

Five 3-week travel grants to study medical education in the Soviet Union. The countries represented were: Argentina, Brazil, Chile, El Salvador, and Venezuela.

WHO/TA

Inter-Regional-156, Inter-Regional Trachoma Training Course

One 1-month grant to study trachoma control in India.

WHO/R

REG/18-ME, Exchange of Scientific Workers

Three 2-and-a-half-month travel grants to study malaria eradication in Ceylon, India, Iran, Rumania, Switzerland, Turkey, and Yugoslavia.

WHO/MESA

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". . . to improve basic health services at national and local levels . . ."

Charter of Punta del Este

task for the health care services of the Americas