PLANNING FOR HEALTH

PRESENT AND FUTURE PROSPECTS IN THE AMERICAS

BY

DR. ABRAHAM HORWITZ

DIRECTOR

PAN AMERICAN SANITARY BUREAU

PAN AMERICAN HEALTH ORGANIZATION

Pan American Sanitary Bureau, Regional Office of the World Health Organization
PLANNING
FOR HEALTH

Present and Future Prospects
in the Americas

MISCELLANEOUS PUBLICATIONS
No. 75

DECEMBER 1962

PAN AMERICAN HEALTH ORGANIZATION
Pan American Sanitary Bureau, Regional Office of the
WORLD HEALTH ORGANIZATION
1501 New Hampshire Avenue, N.W.
Washington 6, D.C., U.S.A.
PLANNING FOR HEALTH
Present and Future Prospects in the Americas

By DR. ABRAHAM HORWITZ
Director, Pan American
Sanitary Bureau

WITHOUT DOCTRINE, PRINCIPLES, AND METHODS no organization can be efficient. An institution's doctrine expresses its raison d'être, its ultimate goal, its principles of action; it is the motivating force of everything that is accomplished or contemplated, the framework of its ideas and efforts, the spirit that animates and governs its activities; it is expressed in tenets and principles, and these in turn in policies, guidelines, and methods, each of which reveals the essential purpose of the institution.

On such foundations is an organization built, and its growth is fostered by sound intentions and experience. The more dynamic and diversified its objectives, the greater the responsibility of its sponsors to keep abreast of new knowledge and be alert to the conditions that cause problems to arise, so that they can perfect policies or incorporate those that are justified by needs.

The doctrine of the Pan American Health Organization and of the World Health Organization is charted in the Constitution. Their aims are the prolongation of life, the prevention of disease, and the promotion of health. Those aims are embodied in the advisory services they extend to the Governments, and the fields in which they are given—individual and collective medicine—are services provided by the Governments for the common good.

Although health problems do not change their nature with the passage of time, they appear in different guises in different societies and environments. What has changed is the theory of their origin and their implications, the
methods of identifying them and, with the growth of
knowledge and experience, of solving them. Because the
factors that determine health and disease are essentially
biological and social, they reflect the social life and cul-
tural values of a given society, the importance it attributes
to them, and the resources it possesses. That is why in
every age the marshalling of measures to prevent or cure
diseases—health policy—reveals its theory of disease and
the importance it attaches to health as a social function.
Evident at all times have been the complexity of the
process and, in order to understand its deepest implica-
tions, the necessity of reckoning with the many factors
in play.

In the Americas, overriding emphasis has been laid in
recent years on the necessity of harmonizing development
and welfare, needs with resources, economic growth with
social progress. In the definition of the Economic Com-
mission for Latin America: “The problem of economic
development is essentially that of rapidly assimilating the
vast resources of modern technology in order to raise the
living standards of the broad masses. Considerable diffi-
culties stand in the way of solving this problem, both be-
cause of the magnitude of the process of transferring
technology and because of the special circumstances in
which the problem arises.” 1 Equally important is a sub-
stantial change of attitude on the part of those who par-
ticipate in and benefit from development. If indifference
or pessimism prevails, it will be difficult, if not impossible,
to stimulate production and redistribute the national in-
come more equitably, even though all the necessary tech-
nical and financial resources are available. Because it is
impossible today to conceive of an economic system with-
out humanitarian purposes, one which is not aimed at
improving the living conditions of the people and creating
in them a feeling of responsibility and participation, a
sense of national purpose. That social progress stimulates
and is stimulated by economic growth is now an accepted

tenet in the Americas, which are seeking to translate it into practice. The dominant policy, both nationally and internationally, is to accelerate development and to abolish the enormous disparities in the distribution of income, in order to raise standards of living. Those are but two phases of a single process which should be brought about simultaneously, step by step.

Colm and Geiger view development as a social process that produces results which can be described and measured in economic terms. In Asia, Africa, and Latin America, development requires social and cultural change as well as economic growth; that is to say, qualitative transformations must occur concurrently with quantitative increases. There is, in fact, a reciprocal relation between the two, and neither process is likely to continue for long or go very far without the other. Hence, “development means change plus growth.”

It cannot be stated that in Latin America today an increase in the national product brings with it an automatic increase in per-capita real income and, consequently, increased well-being. For a number of reasons, that phenomenon has not been demonstrated in this century. The rate of development—where development has occurred—has not been sufficient to meet the basic needs of a population that has grown more rapidly. Economic policy has not had the vigor and consistency that the pressure of problems and the anxieties of human beings demanded. Oversimplified formulas that merely call for the distribution of existing wealth among a larger number of persons and ignore the need to increase production and the rate of investment have no place today in Latin America, where countries are gaining an increasingly clearer insight into the ways of achieving progress and well-being.

The responsibility for the attainment of this goal rests

---

principally with those who have had an opportunity of acquiring knowledge and experience and who are aware of the momentum of change in their countries and in the Hemisphere. Whether in government, the universities, or in public or private institutions, they are the ones who must create a strong public opinion that will guide efforts toward definite objectives—the establishment of a broadly based economy, the improvement of living conditions, and increased opportunities for physical or intellectual employment as varied as each country's progress requires.

International organizations, and especially agencies like the World Health Organization and the Pan American Health Organization that were established by Governments to work for the common good, have a similar responsibility. The application of the precepts that govern them to this phase of the Continent's development and to the factors that determine existing social and health problems, according to the pace of the development process, explains the active part played by the Organization at the meetings of the so-called "Committee of Twenty-One," the Special Committee of the Organization of American States to Study the Formulation of New Measures for Economic Cooperation. At its second meeting in Buenos Aires in April 1959, Resolution VII was approved: "To recommend to the Governments that, in programming and negotiating the financing of economic development, they include public health programs, inasmuch as they are essential to, and supplement, economic programs." Also, "To recommend to Governments that they seek technical advice from the Pan American Sanitary Bureau for the formulation of the above-mentioned programs." 8

The third meeting was held in Bogotá in September 1960. Out of that meeting was to come an historic document, the Act of Bogotá, which situates measures for social progress and development within the framework of

8 OAS, Council Series. C-SA-331 (Approved) 8 July 1959 (Original: Spanish).
“Operation Pan-America.” Its preamble is a lucid statement of the interrelation of the interests of the American republics and the mutual dependence of economic and social problems. That is why activities must be carried out in both spheres mentioned in the document. The Pan American Health Organization had an active part in drawing up the section on health activities. That section calls for a re-examination of programs and policies, special regard being had to the strengthening of campaigns for the control or elimination of communicable disease, in particular malaria, and the progressive development of measures for the promotion, protection, and restoration of health.

The philosophy of the Act of Bogotá is reaffirmed and expanded in the Charter of Punta del Este, a new historic document resulting from the Special Meeting of the Inter-American Economic and Social Council at the Ministerial Level, held in Punta del Este, Uruguay, from 5 to 17 August 1961. The Charter of Punta del Este establishes the objectives of the Alliance for Progress within the framework of “Operation Pan-America.”

In that document health is acknowledged as a social function and an economic investment of itself and in relation to the other components of human welfare. The objectives the Governments have committed themselves to achieve during the decade are: “To increase life expectancy at birth by a minimum of five years, and to increase the ability to learn and produce, by improving individual and public health. To attain this goal it will be necessary, among other measures, to provide adequate potable water supply and sewage disposal to not less than 70 per cent of the urban and 50 per cent of the rural population; to reduce the present mortality rate of children less than five years of age by at least one half; to control the more serious communicable diseases, according to their importance as a cause of sickness, disability, and death; to eradicate those illnesses, especially malaria, for which effective techniques are known; to improve nutrition; to train medical and health personnel to meet
at least minimum requirements; to improve basic health services at national and local levels; and to intensify scientific research and apply its results more fully and effectively to the prevention and cure of illness.”

The Ten-Year Public Health Program of the Alliance for Progress, Resolution A.2, of the Charter of Punta del Este, sets forth the measures the Governments are recommended to adopt in order to achieve those goals. In doctrine, it reaffirms the reciprocal relationship between health, economic development, living standards and well-being, and consequently the need to foster economic development simultaneously with social progress. It draws a distinction between long-term methods and those that produce immediate results, in the sense that they represent the continuation and expansion of all activities that are being directed at the solution of urgent problems.

There is now general agreement on the need for each country to prepare a national health plan for the next decade as a long-range measure that will ensure the orderly development of activities for the protection, promotion, and restoration of health. A health plan is a method, a tool, and not an end in itself; it is a dynamic process which must be simple in its beginnings and which must be improved as time goes on by making successive evaluations of the results in relation to the precise objectives in view. The plan should indicate the direction to be followed, that is, policy, rather than overelaborate formulas that are divorced from reality in their disregard for existing resources, economic possibilities, and the administrative experience of the country. It should contain a straightforward presentation of the problems and their priorities, the goals to be attained within a given period of time, the available resources and their mobilization, the cost of the whole undertaking, and the methods of financing.

The formulation of a national health plan is a complex task, particularly in countries where vital statistics are very incomplete. Nevertheless, imperfections in that

---

regard should not be a deterrent. There will always be ways of estimating or projecting the available data, no matter how inadequate, so as to establish definite objectives for a certain period of time. The preparation of such a health plan is an educational process which will benefit all public health officials. The work follows a specific orientation along lines that lead to significant achievement.

"More specifically, planning seeks directly or indirectly to influence those factors believed to determine the rate and direction of development. Hence, every development plan either consciously or unconsciously implies some particular theory of development and some notion of the specific ways in which the factors considered relevant can be stimulated to produce their effects. Development planning is, explicitly or implicitly, a strategy for development." 5

When the health plan for the country has been prepared and specific priorities are determined, their incorporation into the different programs for economic development and social welfare will have to be effected. Obviously, large-scale undertakings, whether private or governmental, have not always considered health functions indispensable. In the mobilization of domestic resources, the relationship between the prevention and cure of diseases and the labor force is obvious. That explains why the Ten-Year Public Health Program of the Alliance for Progress includes the following recommendations: "To adopt legal and institutional measures to ensure compliance with the principles and standards of individual and collective medicine for the execution of projects of industrialization, urbanization, housing, rural development, education, tourism, and others." 6 At a later date, after special studies are made, it will be possible to prepare, by region, sector programs that consider the most widespread economic and social problems and the way to solve them through balanced development.

5 Colm and Geiger, op. cit.
The first need is to formulate health plans, programs, and projects in accordance with the characteristics of each country and possibilities for financing. To that end, the Charter of Punta del Este suggests, among other measures, the establishment within the health ministries of planning and evaluation units; these would have proper representation in the national development agencies, so as to ensure the necessary coordination. However, there is a shortage of experts in the field of health planning, and measures to remedy that situation must be urgently considered by the Governments, universities, and international organizations. Under the auspices of the Latin American Institute of Development Planning and the Pan American Health Organization, the first course for the training of such experts will be inaugurated in 1962. Plans have been made to train one hundred experts in the next five years for Latin American countries.

A committee of experts has made recommendations on health planning which the Organization will put into practice. The Center for Development Studies of the Central University of Venezuela has undertaken, in collaboration with the Pan American Sanitary Bureau, the preparation of a detailed guide for the formulation of national or regional health programs. All these efforts will obviously benefit from the activities of Governments and the universities of each country, both for the training of experts and for the periodic review of plans and their improvement.

From another standpoint, health plans will permit Governments to determine the areas where the collaboration of international organizations is needed. They may need advisory services on specific problems or opportunities for the training and improvement of the professional and auxiliary personnel that are indispensable for the achievement of the proposed objectives. Thus health plans will make it easier for international agencies to implement their policy of coordinating activities and making more productive use of available resources.

What is proposed is the logical way of harmonizing resources and their growth with needs and their extent.
This in no way implies the undervaluing of what has been accomplished and of what is being done. On the contrary, if the plan is to meet with success, it must be based on past experience and profit from past mistakes so as to promote greater progress. As stated before, a health plan is a means but not an end. This explains why the Charter of Punta del Este contained the recommendation that Governments complete the projects under way, particularly those related most directly to development. They are certain to be included in a long-term plan as social priorities. The Charter makes special mention of the control or eradication of communicable diseases, sanitation, nutrition, medical care, maternal and child health, and health education. Activities in these fields have already been of benefit to the people of the Americas and continue to benefit an increasing number of them, and therein lies their greatest justification. To proceed with them is to make the past a prelude to the future, both at the national and at the international level.

In the quadrennium 1958-1961, the principles that govern the Pan American Health Organization were adapted to the current circumstances in the Americas and the need to incorporate health methods and concepts into programs of development and social progress was emphasized. The Governing Bodies of the Organization expressed their approval of this policy in several resolutions and promoted its application in the programs conducted with the assistance of the Organization.

Great progress has been made in the Pan American Sanitary Bureau’s traditional task—the control or eradication of communicable diseases, according to the nature of each disease, experience acquired as to the most effective techniques, the wishes of the Governments, and the existing resources. Malaria eradication stands out among these diseases, for in the period under review it has become a world-wide undertaking. Substantial progress was also made in the control of all the common infectious diseases in the Americas.

Comparable progress is also evident in what have be-
come known as the tools that public health uses in the control of diseases: the organization and administration of services, the education and training of personnel, planning, and research.

The Organization has provided advisory services at the national or local level, or both, to most of the countries of the Hemisphere on problems relating to the organization and administration of health services, the formulation of general and specific programs, in-service training of personnel, and the revision of health legislation. Increased activities in medical care, nutrition, statistics, mental health, and radiation protection, to mention but a few, have constituted a fundamental part of this effort.

The importance of training the professional and auxiliary personnel necessary to allow health services to discharge their social function was recognized. Even though the funds allotted to those activities steadily increased, they still fell short of the real needs of the countries. Two expert committees defined the problem and the role that the Organization can play in the successive stages of its solution. The Governing Bodies have suggested that the large sums of money the plan calls for should be obtained from extrabudgetary funds, if possible in the form of voluntary contributions. In any event, the Organization’s advisory services to professional schools, assistance with the training of auxiliaries, and the award of fellowships for the training of specialists have yielded positive results.

The need to formulate health plans has come to the fore in recent years. Reference has already been made to the decisions of the Governments of the Americas in that connection, and to the steps the Organization is taking to help them incorporate health in the economic growth process.

The investigation of medicosocial problems connected with the major diseases prevailing in the Hemisphere also assumed great importance. Steps were taken to formulate a long-term program for which, in view of its value, it is hoped to obtain financing.
The Quadrennial Report describes the most important activities carried out by the Pan American Health Organization and the World Health Organization in the Americas during the period 1958-1961. As they are related to the most important problems in the Hemisphere, they form part of the general program of work of the Organization as established by the Governing Bodies.

The general situation in the Hemisphere justifies the policy pursued by all the Governments, namely that of not concentrating on the solution of a limited number of problems, but on the contrary of simultaneously carrying out activities for the protection, promotion, and restoration of health. There is no doubt that, even in the absence of general plans, the largest investments have been devoted to the problems most clearly meriting priority. But neither is there any doubt that soundly formulated plans will secure, to the extent the Governments so decide, the better application of resources to problems of major economic and social significance. In any event, successes have been and are being achieved in the Americas.

The solid foundations on which to build for greater progress have been laid. Bearing witness to this are the health workers who have acquired experience and improved their knowledge in the university, and who are the most valuable assets of that public service which is individual and collective medicine. In addition there are the other professionals and related auxiliary workers who are indispensable for a task so complex because of its diversity that it can only be accomplished through concerted action animated by common ideals. Because it mirrors this process, the sixty years of continuous life of the Pan American Health Organization must be singled out, as must be the harmonious relations that have been maintained with the World Health Organization since its creation. Mention must also be made of the work of other international organizations, and of the many public, private, bilateral, and multilateral agencies. Much remains

\footnote{Official Document PAHO 43, 1962.}
to be done, yet the morbidity and mortality rates for common diseases, the increase in life expectancy in this century, and the quality and quantity of the resources available are evidence that much has already been accomplished. There is thus every reason to believe that, provided development is accelerated, present conditions are propitious to the attainment, within this decade, of all or most of the health objectives of the Charter of Punta del Este.

In accordance with the instructions of the Governments, the Organization is providing assistance in the eradication of malaria, smallpox, yaws, and urban yellow fever. For all of these, there is a well-tried and tested method of eliminating the disease or, in the case of the last mentioned, the vector. Where they are prevalent, they are an important health problem which is of concern to public opinion, both national and international. To the extent that they have a major effect on human resources, these diseases directly or indirectly influence production and the national economy. Yet the cost of eradication is far less than the real or potential income it creates or the loss of revenue the diseases entail. Finally, all the Governments are agreed upon eradication, and that is the reason why the international organizations they have formed, and private organizations as well, are engaged in this struggle.

To the elimination of a disease nature offers her counter challenge, which is reinforced by the human failings that appear when great undertakings are organized. On occasion, insect species become resistant to the elements man uses to eliminate them or to reduce their baneful activity. No little part is played in this struggle by the lack of interest and the complacency of those who impede eradication by not making use of known preventive methods. And so it is with those officials who fail to apply meticulously long-established and proven procedures. Interfering in the appointment of qualified tech-
nicians for the various phases of the campaign and in its financing are other negative factors. Nevertheless, in the Americas the balance is positive; and it may safely be said that, as far as the elimination of the above-mentioned diseases is concerned, far more has been achieved than remains to be done.

At the end of 1961, all the countries of the Americas in which malaria is prevalent had an active program under way. Eradication has been shown to be technically feasible; success hinges on completion of the programs planned and, at the same time, elucidation of the causes of residual foci of transmission in certain countries.

By mid-1961 the disease had been eliminated in areas inhabited by 5,156,000 persons, whereas in 1958 only 3,835,000 enjoyed the benefits of eradication. The areas in the consolidation phase in 1961 had a population of 17,665,000; in 1958 it was only 1,157,000. During the quadrennium, as the attack phase was completed, the population in areas under attack fell from 44,634,000 in 1958 to 38,700,000 in 1961.

The progress achieved becomes clear on examining the data on spraying and on evaluation operations, including both active and passive case-finding. The number of recorded cases naturally varies from country to country, depending on the vigor with which case-detection is pursued and on laboratory confirmation. An apparent increase in prevalence is normally recorded in the early stages of evaluation operations, especially when they are begun during the attack phase. Yet the fact of the matter is that persons suffering from malaria are being observed less and less frequently in the large urban centers of the Continent and only exceptionally in the capital cities.

The fact that it has been possible to pinpoint the problems that impede eradication exemplified the progress made. The foci of vector resistance to insecticides—DDT, dieldrin, or both—have been much more accurately delimited. Exceptionally, cases of resistance of the ma-
laria parasites to 4-aminoquinolines have also been recorded, but those findings have only led to an intensification of epidemiological studies aimed at discovering why malaria transmission persists in the face of the operations that have been carried out. All this opens up a vast field of research. In addition to the problems mentioned, there are those of changes in the behavior of anophelines, extradomiciliary transmission, genetic variations in susceptibility to toxic substances, and the existence of asymptomatic carriers. The role played by nomads, migrant workers, and inaccessible groups must also be explored. These are only some of the problems that require major studies, but of these the problem of vector resistance to insecticides is clearly of the most immediate practical importance. However, it must be emphasized that, by and large, these problems are encountered only in limited foci; the program must therefore be continued until eradication is achieved, for not only will it benefit more than eighty million human beings, but it will also open up vast tracts of fertile lands to agriculture. Meanwhile research will, we are confident, solve those problems and provide us with methods which will make it possible in due course to eliminate the residual foci of malaria in the Hemisphere.

All the conditions are present for each phase of the program to be carried to completion. The training of professional and auxiliary workers has been intensified, the necessary meetings to enable national and international experts to compare results and exchange experiences have been held and, most important of all, the Governments are resolved that the undertaking shall succeed. This undertaking has not only the support of the Organization, but also the harmonious cooperation of other national and international agencies, among them the International Development Association, through its large financial and technical contribution, and the United Nations Children’s Fund, with its indispensable contribution of supplies and equipment. Although administrative difficulties have arisen in some countries, they will, we trust,
soon be satisfactorily solved, so that progress may continue unhindered.

Between 1954 and 1957, ten countries of the Continent reported a total of 32,936 cases of smallpox. In the period 1958-1961 the Organization received reports of 16,187 cases from nine countries. The highest annual number of cases in the four-year period was 5,158 in 1960, owing to an epidemic in one country; in 1961 only 1,923 cases were reported.

Smallpox can be eradicated in the Americas. The countries in which the disease is still prevalent are producing a sufficient quantity of both dried and glycerinated vaccines, and have the experience needed to organize smallpox eradication programs. Perhaps the problem is one of funds, especially for personnel and transport, but that fact should not interfere with the repeated resolutions of the Governing Bodies of the Organization recommending the acceleration of efforts to eliminate this pestilence from the Hemisphere.

The criteria for smallpox eradication approved by the XIII Meeting of the Directing Council of the Pan American Health Organization, in 1961, state that "it is generally accepted that the correct vaccination of 80 per cent of each of the sectors of the population, within not more than five years, will result in the disappearance of smallpox." A glance at the number of vaccinations given in the Americas in the period 1958-1961 shows that the level of immunity in the countries is far below the necessary minimum. Until such time as the disease is eradicated, it is essential to maintain suitable levels of immunity in the population so as to avert epidemics which, because of the rapidity of modern means of communication, may be spread from other countries of the world.

As in the past, the Organization is complying with the directions of its Governing Bodies. It has given assistance in the production of vaccine, in the training of techni-

---

cians, in the provision of essential supplies, and in the organization of eradication programs. And it has taken the necessary steps to continue this undertaking until the disease is eliminated from the Hemisphere.

The XV Pan American Sanitary Conference in 1958 declared *Aedes aegypti* to be eliminated in eleven countries and other political units. By the end of 1961, the vector had been formally declared eradicated in sixteen countries and several territories.

Wherever the vector of urban yellow fever is found, the Governments are conducting eradication programs of varying degrees of intensity. These programs will, it is hoped, be accelerated as much as possible, not only because it has been the general desire since 1947 to reach the objective of eradication, but because foci of vector resistance to insecticides have appeared in the Caribbean region.

The Pan American Sanitary Bureau has continued to discharge its function as coordinator of these programs and to provide the Governments with advisory services in accordance with established policy. Joint efforts will, it is hoped, make it possible to eradicate *Aedes aegypti* from the Hemisphere by 1967.

The Oswaldo Cruz Institute of Rio de Janeiro and the Carlos J. Finlay Institute of Bogotá continued to produce sufficient amounts of 17D virus vaccine to meet the needs of the countries. A study on the duration of immunity showed that neutralizing antibodies were present in 97.1 per cent of 108 vaccinees seventeen years after vaccination. Although the sample studied was small, the finding is significant.

In the countries in which the Organization collaborated in yaws eradication programs, substantial progress was made. In Haiti infectious forms decreased, per 100,000 persons, from 100 in 1959 to 1.3 in 1961. It is now evident that diagnostic methods that differentiate tropical ulcers from those produced by *Treponema pertenue* need to be refined.

In the Dominican Republic the prevalence, per 100,000
persons examined, fell from 200 in 1958 to 30 in 1961. Similar findings are reported from various Caribbean islands. An evaluation of this program has therefore become necessary and will be made in the countries mentioned, as well as in others whose Governments have obtained similar results, with or without international assistance, in 1962.

The organization advises Governments in the control of a group of communicable diseases frequently found in the Americas; some of the diseases are common to all the countries while others are not. For biological and economic reasons and because research has yet to yield effective methods for eradicating those diseases, it has been agreed to carry out only control programs, intended to reduce as much as possible the risk of illness and death. A few general comments that complement the information contained in the Quadrennial Report follow.

The work of the Pan American Sanitary Bureau in trials of live attenuated poliovirus vaccines has been significant. Two international conferences—in 1959 and 1960—were sponsored by the Pan American Health Organization and the World Health Organization, and assisted by the Sister Elizabeth Kenny Foundation. They made it possible for outstanding research workers from many countries of the world to exchange experiences and examine biological, immunological, and epidemiological problems connected with the disease, to present their assessment of the value of live attenuated poliovirus vaccines, and to reach conclusions that stimulated field trials of benefit to tens of millions of persons.

Our Organization was able to collaborate on immunization studies covering about one million children in Latin America.

The importance of the two above-mentioned conferences is shown by the wide notice they received and the interest they aroused in these immunizations. In accordance with established policy, it is for Governments
to decide in due course on the type of vaccine they wish to use for poliomyelitis control. It is clear that methods guaranteeing immunization are now available, and that reduced cost justifies large-scale production. Nevertheless, there are still some unknown factors in the pathogenicity and epidemiology of this disease.

Tuberculosis is one of the main causes of death in certain countries in the Continent. A marked decline in mortality occurred between 1945 and 1955. However, the rate of decline has fallen off in recent years. As Frost said in 1937, “the balance is against the survival of the tuberculosis bacillus,” and its disappearance may now be accelerated by using the new drugs available for the effective treatment of patients and the protection of contacts. For that reason, control activities should be included in the general health plan of a country whenever the disease is a major problem. The Directing Council of the Pan American Health Organization at its XIII Meeting examined the financial outlay that would be required for a continental plan to combat tuberculosis, prepared by the Pan American Sanitary Bureau. It is proposed to trace and to treat at least half of the unknown active cases, or approximately 900,000 cases, and to extend case-finding to the goal of five cases per death per year. The cost estimate is based on the discovery and treatment of 1,900,000 active cases in the decade. The data compiled by the Bureau, excluding data from several large countries, which were lacking, show that more than twenty million dollars were being spent on tuberculosis control programs in 1957.

The estimate, which includes the cost of diagnosis and treatment, of prevention (four contacts of each case), and of assistance to be provided by the Organization, totals sixty-three million dollars a year, or three times more than the amount at present being invested by the Governments. Naturally, modern tendencies in tuberculosis control, namely, emphasis on ambulatory and

domiciliary treatment and hospitalization only for those patients requiring in-patient treatment for a short period, were taken into consideration in the plan.

If the Governments decide to carry out this program, the Organization will give more of the same type of assistance it has given during the past four years. That includes assistance with the training of specialists, especially epidemiologists, to permit tuberculosis control to be incorporated into the local health services; the formulation of standards for the application of curative and preventive measures; the evaluation of programs under way; and the collection and analysis of incidence and prevalence data. In a good number of countries the foundations have been laid for carrying out the continental program approved by the Governments.

Leprosy control measures have become truly humane; only those cases whose lesions make it necessary are now being segregated in leprosaria. Most leprosy cases may today be given ambulatory treatment and live in their communities side by side with their fellow men. Although there is still no very efficacious short-term therapy for the acute forms of leprosy, modern drugs, in particular the sulfones, have proved very effective in the common forms of the disease. This development has led to the expansion of control programs throughout the world. There is now a more accurate knowledge of the leprosy prevalence in the Americas. In the period 1958-1961 the Governments, with the assistance of the Organization and of the United Nations Children's Fund, intensified case-detection activities, a development that explains why there has been an increase in the number of cases in many countries. The treatment of leprosy patients and their contacts was also initiated. A series of courses on the diagnosis and epidemiology of the disease was held, and program organization was improved. These activities make it possible to state that there will be a decline in prevalence in the years to come. In the four-year period, the Organization provided all the countries in which leprosy is a
serious medical and social problem with long-term or short-term consultants.

The Organization devoted less attention to certain other communicable diseases because they were less prevalent. Seven countries of the Continent reported a total of 791 cases of sylvatic plague, two epidemic outbreaks having occurred in 1960 and 1961. Nearly all the countries were provided with advisory services for epidemiological and ecological surveys in the known foci. It is clear that studies to determine the characteristics of the disease more accurately and the possibilities of reducing its prevalence are needed.

Mention should be made of the Latin American Congress on Chagas' disease held in July 1959. It was organized by the Government of Brazil and the University of Rio de Janeiro, with the assistance of the World Health Organization and the Pan American Health Organization. A Study Group designated by the Organization met in Washington in 1960. It considered the importance of Chagas' disease in public health, diagnostic procedures, survey methods, available methods of treatment, control and prevention, and recommended investigations in certain directions. The report of the Study Group, which was widely distributed, has reawakened the interest of Governments in extending control programs. In response to requests from some countries, the Pan American Sanitary Bureau has provided advisory services and has taken the necessary steps to draw up a research program on various aspects of the disease. Regardless of the incidence of the disease, it is in any case a welfare problem which is aggravated by insanitary housing. This fact makes it more than ever necessary to find more efficient procedures for controlling the vector and lessening the risk of sickness.

The main aim of the activities carried out in schistosomiasis, onchocerciasis, filariasis, and hydatidosis has been to determine the characteristics of these diseases

---

in foci in some countries so as to organize or extend control programs.

Also worth mentioning is the work done in rabies along the United States-Mexican border, where epidemic outbreaks occurred during the period under review. Assistance was given to various countries in vaccine production and testing, strain identification, the elimination of wildlife reservoirs, and the training of personnel. Some progress was made in the notification of rabies in man and in animals.

THE ORGANIZATION AND ADMINISTRATION of services is one of the fundamental tools for preventing or treating diseases, promoting health, and prolonging life. The modern tendency is to coordinate or, preferably, to integrate all activities conducive to those aims. These activities have been increasing in proportion as life in society has become more complex and more diversified; hence the need to systematize them, in other words to organize and administer resources in order to solve those problems of public concern that have the greatest social and economic importance.

This process is occurring in the Americas, whose Governments are trying to coordinate the services for the protection, promotion, and restoration of health. To separate care of the sick from prevention of disease is an anachronism that should not be allowed to subsist, especially in countries where because the problems are vast and the means limited these means must be made to give a maximum return. It is even less justified if the natural history of diseases is considered, for it shows that the separation of prevention and cure is artificial and not found in nature. All the more reason, then, why it is essential to promote well-being by solving the problems that are most urgent and for which there are time-tested methods, efficient techniques, adequate funds, and effective organization. The characteristics of organization vary from country to country depending on the type
and frequency of the problems, the quantity and quality of the resources—especially well-trained professional and auxiliary personnel—and the administrative tradition.

The countries have now accumulated considerable experience in organizing and administering local health services. Although these services do not yet cover the whole territory, there are sufficient of them in which to demonstrate well-established procedures and to test new techniques. Coordination of health protection and health promotion activities is normal, as is the establishment of a definite system of priorities. Not so frequent is the integration of hospital, ambulatory, and domiciliary care. It is in this field that efforts must be redoubled to organize all services of the country under the aegis of an integrated administration, in which policy-making is centralized and operations are decentralized. Regardless of what local health units are called, and where they are situated, it is essential that they have the responsibility to deal with all problems, including medical care problems. It is on this conceptual basis that each country should build the organization it considers most efficient.

The Organization has been contributing to this process, especially in the last four years. Of the sixteen programs in operation at the end of 1961, only those in El Salvador, Mexico, and Uruguay were being operated exclusively at the local level. Assistance given to the Governments of ten countries covered sixty-three health centers serving a population of slightly more than three million.

Some Governments showed particular interest in reorganizing the ministries of health and their agencies and in bringing their health legislation up to date, and all of them, in the in-service training of health workers and in university studies abroad. Of the various activities undertaken by the Organization, this is one in which, because of its nature and its aims, the assistance given is more difficult to measure. Nevertheless, the very extension of organized services to new regions within a country, which has frequently happened in the last four years, is a good evidence of what has been achieved.
Once the policy of integrating curative and preventive activities is adopted, it becomes even more important to review the organization and administration of medical care services, especially hospitals, their cost and financing, and the techniques being used. Experience in some countries of the Americas shows that the efficiency of hospitals—in outpatient departments or wards—can be increased by as much as 25 per cent. Although statistics show that new institutions are needed, it seems advisable to use modern therapeutic methods to treat as many patients as possible in those already available. Tuberculosis and leprosy are pertinent examples, as are acute mental diseases. In addition to technical reasons there are financial reasons for doing so. Surveys conducted by the Organization showed that the average cost of providing a hospital bed in the Americas today is $8,000-$10,000. The number of beds needed for acute and chronic cases is about one million. Figures of this magnitude make it necessary to limit new construction to what is absolutely indispensable.

It is on these facts that the policy pursued in the last four years is based. Consultants have advised Governments on the training of personnel, medical accountancy in hospitals, and the formulation of programs for new establishments. The work that remains to be done in this fundamental field is enormous. The fact that 80 per cent of the budgets of the ministries of health is devoted to medical care justifies the intention of the Organization to increase steadily its assistance to Governments in this field.

Among fundamental health activities in the Americas sanitation and nutrition hold a special place. Among other things, they both affect mortality in infants and in children under five years of age and also have a very great bearing on economic and social progress.

In the matter of sanitation, emphasis has been placed on the provision of water services. It is estimated that
more than 110 million persons in urban and rural areas lack water services in their homes. It should also be borne in mind that in Latin America more than 50 per cent of industry is located in the capital cities or in large towns, and that water is essential for production and development. The Twelfth World Health Assembly, and the XI Meeting of the Directing Council of the Pan American Health Organization in 1959, assigned priority to the program, created a special fund for the expansion of these activities, and recognized that attention would have to be given to the financial, administrative, and legal aspects of the services if the problem was to be solved. The Act of Bogotá and the Charter of Punta del Este include sanitation among the fundamental health activities. The Charter sets as the target for the next ten years the provision of water supply and sewage disposal services to 70 per cent of the urban and 50 per cent of the rural population of Latin America. The Inter-American Development Bank, which began operations in 1961, the Export-Import Bank, the International Development Association, and the Development Loan Fund of the United States Department of State, among others, have made it their policy to grant long-term, low-interest loans for water services.

The voluntary contributions of the United States of America and of Venezuela to the Special Community Water-Supply Fund have made it possible to expand the sanitation program of the Organization, especially during the years 1960-1961. All aspects of the problem have been carefully examined in seminars and short courses sponsored by the Organization. The training of engineers and other technicians has been fostered by means of fellowships. Consultant services both in sanitary engineering aspects and in legal and administrative aspects have enabled the Governments to recognize the magnitude of the problem, to select the areas on which to concentrate activities, to enact legislation on the organization of water agencies, to prepare requests for loans from the international capital market, to arouse com-
munity interest in the problem, and to obtain greater revenue by raising water rates. The last-mentioned development is especially material to the solution of a problem whose magnitude and financial implications used to make it virtually unapproachable. A new climate of opinion has been created in the Hemisphere and shows itself in the determination of the Governments and the desire of individuals and communities to obtain essential water services. Although enormous capital investments will be necessary, the countries are well aware that it is one of the most productive economic investments.

To illustrate the new way of thinking about the solution of these problems, the report of the President of the Inter-American Development Bank to the Third Annual Meeting of the Board of Governors held in Buenos Aires in April 1962, may be cited: “In our first fourteen months we have approved loans for projects which help meet the requirements for either water or sewerage, or both together, in the following cities: Concepción, Talcahuano, Cali, Cúcuta, Medellín, Cartagena, Quito, Puerto Barrios, Arequipa, Montevideo, San Salvador, Rio de Janeiro and six state capitals in northeastern Brazil (Salvador, Recife, Natal, Maceió, San Luis and Teresina). In addition, we have helped fill these same needs in over 500 small communities and rural districts in the following countries: Mexico, El Salvador, Guatemala, Brazil and Venezuela. In the preparation and evaluation of these projects, we have found a valuable collaborator in the Pan American Sanitary Bureau, whose technical assistance is well known to all our member countries.” This report also states, “In short, we have contributed to twenty-three projects totaling US$127 million and benefitting ten million persons in Latin America.” It should be noted that the investments the countries made in local currency amounted, on the average, to two thirds of the capital from abroad.

An agreement between the Inter-American Development Bank, AG-III/4.
Bank and the Pan American Health Organization enunciates the bases on which assistance is to be given to Governments in the formulation of projects to be submitted to the Bank, either directly or through the Pan American Sanitary Bureau. Extremely cordial relations have been established with the Bank, and their effects will be increasingly seen in the years to come. In the past four years other international credit institutions, in particular the Export-Import Bank and the Development Loan Fund, also approved loans for the construction of new water systems and the purchase of equipment. The loans made to Colombia, Costa Rica, Ecuador, Mexico, Paraguay, and Uruguay total forty million dollars.

In some countries plans for the construction or expansion of sewage disposal systems were prepared simultaneously with those of water services, even though for reasons of cost such facilities could not always be installed at the same time. However, the Inter-American Development Bank did approve loans for some countries for the construction or expansion of both systems, in urban and in rural areas alike.

Mention should be made of the activities in other fields of environmental sanitation such as food hygiene, housing, refuse disposal, and occupational health. Because of budgetary limitations the Organization has limited itself in these fields to gathering information, providing advisory services to some Governments on specific problems, and laying the foundations for larger-scale activities, for example in occupational health and housing.

In no other period in the history of the Pan American Health Organization has there been such a growth of environmental sanitation activities as during the four years 1958-1961.

What has been done up to now is due to the clearly expressed desire of communities and the interest of Governments in a fundamental problem of health and development. This tendency will, it is hoped, continue in the years to come, and the doctrine that inspires it will be extended to other aspects of the prevention and cure of
diseases. Both for the Pan American Health Organization and for the World Health Organization, assistance to Governments in this field is a guiding principle.

Research has shown that malnutrition is the immediate cause of one out of every four deaths of children under five years of age, and a contributing factor in many of the others. Lessened resistance to environmental factors explains the high mortality rates for enteric diseases and common communicable diseases. The problem is a social as well as a medical one, in that it reflects the mores of communities, their customs, traditions, beliefs and superstitions, and the elements they have available for organizing community life. Ignorance, insanitary housing, lack of water supply and sewage disposal services, infectious diseases, and other environmental factors are likewise of moment in infant mortality. If, in addition, the lack or low level of preventive and curative activities is borne in mind, it is not difficult to understand the preponderance of deaths in children under one year of age and of infants in Latin America. A study\cite{horwitz1960} covering eight countries shows a correlation between, on the one hand, the total number of deaths of children under one year of age and of those in the age group one to four and, on the other, four variables of development—average per-capita income, daily intake of animal proteins, water supply, and illiteracy. The relationship is inverse, so that the highest mortality figures correspond to the lowest values for the above-mentioned social and economic factors. Although correlation is not synonymous with causation, these data show that a joint effort covering the most important factors will be needed if this problem is to be solved. Consequently, it will not be possible to reduce infant mortality rates to any appreciable extent merely by treating the sick or even by preventing common diseases; it will in all cases be necessary to improve nutrition and thus to improve the biological substratum so

\footnote{\textit{Horwitz, A.: "Recent Developments in Maternal and Child Health in the Americas."} \textit{Amer J Public Health} 50:6, 1960 (Supplement to June—Part II).}
that it can respond positively to environmental stimuli. It will also be necessary to educate mothers and to provide housing equipped with the necessary services for a healthy life.

The Organization's nutrition activities were considerably increased in the period 1958-1961. They included direct advisory services provided by permanent and by short-term consultants, the training of personnel, and the organization of expanded nutrition programs. These programs have been a cooperative effort of the Governments and international organizations, including the United Nations Children's Fund, the United Nations Food and Agriculture Organization and, in some cases, the United Nations Educational, Scientific, and Cultural Organization. At the end of 1961 expanded nutrition programs were in operation in eleven countries. Their aim is to raise the nutritional level of rural families by means of educational programs linked up with programs for the production of foodstuffs in school and family gardens.

Because of its cardinal importance, attention must be drawn to research on the preparation of vegetable-protein mixtures, high in nutritive value and cheap to produce, which the Organization has fostered in recent years. The research done at the Institute of Nutrition of Central America and Panama came to fruition in the production of INCAPARINA, a preparation based on cottonseed, maize, and vitamins. It has been thoroughly tested and has been shown to have a nutritive value comparable to that of milk and to cost three or four times less for the same protein content. Commercial production began in Guatemala in 1960, in El Salvador in 1961, and by the end of that year arrangements had been made to produce it commercially in another four countries of the Continent.

The amount and quality of the Institute's work in training personnel, in research, and in providing advisory services to the countries of Central America and Panama have made it one of the most outstanding centers in the world for nutrition studies.
In other fields of health promotion, such as mental health, health education, dental hygiene, and radiation protection, much work has been done in the period under review. In some of these basic fields, mental health for example, policy has been spelled out and prevalent problems and existing resources have been determined. The basic philosophy of the Organization is that mental health should concern itself not solely with specific problems but with the potential productive capacity of individuals as well. Although mankind now has a much longer life expectancy than in the past, it is also exposed to greater stresses. Not only industrialization and mechanization but also changes in scales of values induced by economic and social change create new pressures, which are reflected in more homicides, more suicides, and more alcoholism. In consequence, a long-term program for incorporating mental health activities into basic health services has been framed, and a start has already been made on the program.

Radiation protection, perhaps the most recent field for international collaboration in individual and collective medicine, has received great impetus in the last four years. The Organization is cooperating with national health services to encourage them to adopt international standards for radiation protection in using X rays and handling radioisotopes and for the disposal of radioactive wastes; to promote the teaching of radiobiology and radiation protection in medical, dental, veterinary, and other professional schools; and to foster the use of radioisotopes for diagnosis, treatment, and research. For this purpose a unit was established and began work in 1960. It has already provided some Governments with advisory services in the use of X rays and radioisotopes, the training of personnel, and the organization of radiation protection services in health departments.

The recognition that it is necessary to frame health plans in order to reach certain objectives in the decade—
as laid down in the Charter of Punta del Este—has underscored the importance of vital and health statistics. In order to determine the magnitude of problems, their frequency, and their degree of priority, and to ascertain the amount of material resources and the caliber of the manpower available for solving them, it is essential to have a system for the collection and analysis of basic data that build an authentic picture of reality. With even incomplete statistical information, it is possible to formulate a minimum program. However, it will not be possible to improve it unless arrangements are made to obtain more and more accurate data, including vital, demographic, and health statistics.

Statistical services buttress the whole medicosocial organization of a country and have a place in all its activities; accordingly, and in conformity with the decision of the Member Governments, the Organization has given statistical services due importance in the last four years. Consultants stationed in all the Zones and in certain countries have assisted in organizing statistical departments and in analyzing data that enable programs to be improved and extended. Statistics are a means, an essential tool in preventive and curative activities. Programs for the preparation or training of personnel in various branches of this discipline have been expanded.

The results of all these efforts are visible in the quality of the data compiled and published in various statistical publications of the Organization. The Summary of Four-Year Reports on Health Conditions in the Americas—1957-1960 13 is a good example, as are Health in the Americas and the Pan American Health Organization,14 which appeared in 1960, and Facts on Health Problems,15 which was presented at the Special Meeting of the Inter-American Economic and Social Council at the Ministerial Level held in Punta del Este in 1961.

Because of its importance, mention must be made of

13 Scientific Publication PAHO 64, 1962.
the study on causes of death in selected cities in ten Latin American countries. It is proposed to make a detailed study of 40,000 death certificates with a view to ascertaining the most probable cause of death and obtaining data that will make it possible to establish variations in the prevalence of common diseases. This study, which is being planned and coordinated by the Pan American Sanitary Bureau, is financed by a grant from the National Institutes of Health of the United States Public Health Service. From it will spring another series of investigations aimed at explaining the prevalence of certain diseases in the countries, in other words, studies in comparative epidemiology.

Development in Latin America will be achieved if the countries prepare professionals and train auxiliaries that can make sound use of the available resources. What this implies is a concerted movement of modern science and technology to promote well-being in proportion as the economy expands. Such an undertaking can only be tackled by those who have the knowledge, the experience, the sense of responsibility, and the concern to perfect existing methods and explore more efficient and more economical procedures. For that reason education and training are basic disciplines in development and have as their purpose the improvement of human resources, the widening of opportunities, and the better utilization of natural resources. They should be among the activities of all national and international organizations, and constitute a harmonious plan supported by the necessary funds for preparing or training the personnel needed by each profession.

In the Americas today the problem is more one of quantity than of quality. Real advances have been made in the last thirty years in the education of the various professions concerned with the prevention and treatment of diseases and the promotion of health. There is a better understanding today of the aims to be pursued in
education in general and in various types of health training, education being understood as the ability to form judgments and training as the process by which skill and dexterity in an art or trade are acquired. Of course, the way in which these ideas are applied varies in different teaching institutions both within a country and abroad. A good number of these institutions—medical, engineering, and nursing schools, to cite but a few—have been recently organized, not more than ten or twenty years ago, a relatively short period of time in the complex process of personnel training. This fact has been taken into account in the policy of international assistance to improve teaching by applying the experience of outstanding persons and institutions with a similar cultural background. Much has been done along these lines, especially in recent years. Seminars and similar meetings, opportunities for refresher training for professors and their assistants, and the distribution of educational publications are some of the methods that have been employed. These make it possible to state that the objectives of education and training are better known. The problem is quantitative rather than qualitative. The World Health Organization and the Pan American Health Organization have taken an active part in this type of collaboration.

It is clear that there is a shortage of professional and auxiliary health workers in the Americas. Production has not kept pace with the growth of population; nor have the resources necessary to permit health workers to practice their professions increased proportionally. In addition, their distribution as between urban and rural areas in each country is very uneven. The proportion of professionals to population is far higher in the capital cities and in large towns than in the rural areas. In some countries there is one physician for every 1,000 inhabitants in the capital and one for every 50,000 in some rural areas. Similar disparities may be observed in the distribution of other professions as well as in the distribution of facilities.

On the other hand, the indices adopted in countries in
other regions of the world are not always applicable to
the Americas. What must be done, then, is to determine
the number of professional and auxiliary health workers
needed for specific activities, bearing in mind the preva-
lent problems and the policy of each Government. A
study of this kind would throw light on the situation in
each country, regardless of the criteria established. It
would also make it possible to find out whether educa-
tional centers needed to be established or expanded, both
those to provide in-service training to present officials and
those to train others in the minimum number required.
To sum up, what must be done is to fulfill the commit-
ments of the Ten-Year Public Health Program of the Alli-
ance for Progress (Resolution A.2 of the Charter of
Punta del Este).

The preparation of personnel must be adjusted to the
capacity of Governments and private institutions to ab-
sorb them, which depends on their financial possibilities.
As in other sectors of development, the correlation be-
tween economic growth and training must be carefully
studied. In principle, it is possible to accelerate the
production of technicians and of specialists in individual
and collective medicine. It clearly needs to be done
throughout the Region. However, it is important to plan
the number of officials required, to carefully define their
responsibilities, and to establish attractive salary scales.
In sum, education and training is one of the basic parts
of the general health plan of a country.

While the general program of education and training
is being drawn up, current activities designed to improve
existing institutions, to give their faculty members oppor-
tunities for refresher courses, and to train auxiliary
workers must be vigorously pursued. It is an accepted
fact in the Hemisphere that many health activities can
only be performed, at the lowest levels, by auxiliaries
and that professionals must devote themselves more and
more to supervising, organizing, and directing services.
In the field of nursing this approach has made consid-
erable headway in recent years, both in medical care and
in health protection and promotion. It has led to a clearer definition of the responsibilities of professional and of auxiliary personnel and the expansion of training programs for various categories of health workers.

The work of the Pan American Sanitary Bureau in this field is illustrated by the award of 2,098 fellowships in the period 1958-1961, 70 per cent more than in the preceding four-year period. Of these, 804 were for advanced studies leading to a specialist qualification in public health or its equivalent. Six hundred and ninety eight were for special or nonacademic courses, and 596 were for travel grants to enable senior officials of health departments and professors to go abroad to visit preventive and curative services or teaching centers. In addition, the Organization was responsible for the study programs of 544 professional staff sent to the Americas from other Regions.

The medical education policy approved by the Governing Bodies lays special emphasis on preventive medicine and kindred subjects, the basic sciences, and the organization and administration of teaching institutions and clinical departments, especially those connected with major social problems—for example, pediatrics.

Even with its limited resources the Organization was able to assist certain departments in forty-eight medical schools in fifteen countries. These activities were usually carried out jointly with other international organizations and were aimed at raising the standard of medical education. The needs have become clearer during the period under review, thanks to the ideas and experiences exchanged in a series of seminars on various aspects of medical education. Collaboration between different medical schools, both within countries and in the Continent as a whole, was also fostered. The Rockefeller Foundation and the W. K. Kellogg Foundation continued to play their unique and traditional role in this field. Nevertheless, it remains clear that greater investments are needed, in particular financial aid to the most recently established among the ninety-six medical schools in the Americas at the end of 1961. It is this fact that should stamp the
medical education policy of the Pan American Sanitary Bureau.

In 1958, fourteen nursing education programs were conducted with the assistance of the Organization; in 1961 their number had risen to twenty-one, and emphasis was being placed on advanced studies in the organization and supervision of services and the training of professional and auxiliary personnel. Mention has already been made of the growing number of technicians, including auxiliary nurses, being trained in integrated health programs in sixteen countries of the Americas. The experience acquired will make it possible to substantially increase the collaboration of the Pan American Sanitary Bureau at various levels of nursing education. That collaboration will supplement the increasing activities which Governments have been carrying out in recent years and which constitute a recognition of the essential role of this profession in public health.

Advisory services continued to be furnished to all the schools of public health of the Continent. Mention should be made of the conference held in 1959 to discuss teaching methods in general, and that in 1961 to examine the teaching of biostatistics.

The education and training of engineers, sanitary inspectors, and veterinarians is another important activity.

In 1959 an expert committee met to examine the problem of training health workers in the Americas for the next ten years. It recommended that $4,000,000 be assigned annually to improve the various disciplines. Since the Organization has spent an average of $2,000,000 a year in direct support of education and training activities, the recommendation of the expert committee does not appear unreasonable; for the Member Governments themselves have suggested that efforts be made to obtain extrabudgetary funds to implement the plan.

Research in biology, medicine, and the social sciences, directly related to the most prevalent health problems,
has been steadily developed by the Organization. Preference has been given to projects of truly international significance because they interest different countries of the Continent and because, on occasion, they have called for concerted efforts. This research has primarily been ecological, for example that carried out by the Institute of Nutrition of Central America and Panama to determine the interrelation of acute infections, nutritional status, and sanitation as factors conditioning infant mortality; the study on the role of Simuliidae as vectors of onchocerciasis; and the investigation of the part played by migratory birds in the spread of pathogenic viruses. In other cases the studies have been of a biological nature with a social overtone, for example the preparation of vegetable proteins with a high nutritive value, the most conspicuous example of which is INCAPARINA. Trials of new drugs for the treatment of malaria, and of residual insecticides for the control of anophelines, may also be included among these public health research programs of great practical importance. The use of live attenuated poliovirus vaccine is an example of an epidemiological study aimed at controlling a specific disease. Another research project, also an essentially biological one, must be mentioned because of its enormous importance for the agricultural economy of the Americas: the production of a live attenuated virus vaccine against foot-and-mouth disease, which has been carried out at the Pan American Foot-and-Mouth Disease Center. The search for a simplified technique for iodizing salt and preventing endemic goiter is another example of research relating to a prevalent problem. In comparative epidemiology, the frequency of atherosclerosis in various ethnic groups in several continents is worthy of notice.

It is now evident that a long-range research program coordinated by the Pan American Health Organization is needed. This plan must be built on the policy outlined above, and must constitute a single scientific operation with the research program of the World Health Organization. With this in mind, an agreement was concluded
with the United States Public Health Service in 1960. As a result a grant was received in 1961, enabling this plan to be put into practice and an office for research coordination to be established in the Pan American Sanitary Bureau. Medical and social problems characteristic of the Americas will be given priority in this project, as will other problems which, although they affect different regions of the world, are characteristic of the Americas and are thus of importance for comparative studies. Other criteria for the selection of the research projects to be carried out are that the problems affect various countries, are of frequent occurrence and of social and economic importance, and that the anticipated results may be related to practical measures for solving the problems. This does not imply any lower regard for basic research; on the contrary, the application of its results to human beings and communities is a fundamental responsibility of the Organization.

While this long-range plan is being formulated, the submission of specific projects in line with the policy already enunciated has been encouraged. The first two projects for which a grant has been obtained from the National Institutes of Health are worth mentioning: they are a study on the economic impact of malaria eradication in various countries in the Americas, which will be made by the School of Public Health of the University of Michigan, with the collaboration of the Pan American Sanitary Bureau; and the study, mentioned earlier, of causes of death in ten countries in the Americas, which will be coordinated by the Bureau.

It is the complexities of nature that stimulate and at the same time limit human knowledge, and make man's search for truth so difficult. Scientific research is but humanism in its purest form; it is not possible to conceive of research that is not exclusively aimed at the good of humanity.

**To sum up, in the four-year period 1958-1961 the Organization has taken the necessary steps to make health**
a basic component of development and, in doing so, has interpreted the doctrine that governs it in the light of the social evolution of the Continent. At the same time it has expanded its traditional activities and has initiated or extended them in other fields where justified by the circumstances of each country. The results of these concerted endeavors, which are the endeavors of the Governments themselves, are clearly reflected in the reports presented at the XVI Pan American Sanitary Conference on the advances made in individual and collective health in the period under review. It should be pointed out, however, with regard to the fundamental policy regarding health and development established by the Governments, that the road ahead is long and the exertions called for intense. Statesmen, economists, and health specialists, who in recent years have succeeded in more clearly defining their respective spheres of action and influence for the common good, must deepen their knowledge of that organized undertaking which is the government of a country. That health is investment and not expenditure, that its techniques must be a part of all development programs, and that it is a fundamental factor in stimulating production and consumption, that there is no scientific evidence that it leads to an absolute increase in population—these are facts that have been established during the four-year period and which today are accepted by Governments and the majority of experts. The most conspicuous expressions of this assertion are the Act of Bogotá, the Charter of Punta del Este, and the Alliance for Progress. Nevertheless, efforts must be vigorously pursued to make this policy an ever more tangible reality for the peoples of the Americas.

To plan development and social progress and to fuse the natural and the human resources of the Americas into an harmonious whole is the immediate task. Health as a concept and a methodology must be given its rightful place in plans and programs, in keeping with the magnitude of the problems, their social and economic importance, and the concrete possibilities for solving them.
While such health programs are being drawn up, preventive and curative activities must be intensified—they must be integrated—in order to increase the capacity of the peoples of the Americas to learn and produce. It is these basic concepts which in our opinion must inform the future policy and activities of the Pan American Health Organization and the World Health Organization in the Hemisphere.

This pivotal period in the development of community life, the anxiety and impatience that dominate the minds of many, the difficulties in finding just solutions to social problems and opportunities to contribute to the common good justify today, as they did four centuries ago, the counsel of Descartes:

> If any means can ever be found to render men wiser and more ingenious than hitherto, I believe that it is in Medicine they must be sought . . . and that we could free ourselves from an infinity of maladies, of body as well as mind, and perhaps also even from the debility of age, if we had sufficiently ample knowledge of their causes and of all remedies provided for us by Nature.\(^\text{16}\)

\(^{16}\) Descartes, René. *Discours de la méthode.*