

EDITORIAL

PLANNING A NEW DECADE¹

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The Annual Report of the Director of the Pan American Sanitary Bureau is a detailed yearly account covering health problems in the Americas and what the Organization is doing to combat these problems. Naturally the Report for 1972 is far too long to publish here, but the following abridged Introduction provides a brief general overview of recent health events throughout the Region.

"Planning a new decade" might well sum up the work of the Governments and the Organization in 1972. As we said in the Annual Report for 1971: "... at the end of this decade, so rich in consequences, so promising in opportunities, because there are still many who suffer and hope, the Governments have decided to program the decade that follows in order to achieve goals that will surely reflect the enormous wealth of experience, the spirit of progress, and the aspirations of the Americas."²

And so they did, as evidenced by the Final Report of the III Special Meeting of Ministers of Health of the Americas. This document—entitled, very appropriately, *Ten-Year Health Plan for the Americas*³—sets forth the health tasks which the countries of the Hemisphere are solidly committed to carrying out between 1971 and 1980.

Unfortunately, we can no longer express health in positive terms such as "well-being," "welfare," or "quality of life." Progress has made for less illness and death but not necessarily for any greater individual or collective well-being. We have no working definition of "quality of life," much less any indicators for measuring it. We have an idea of social harmony, but we are far from having achieved it.

The problem that all the countries share in common is that 37 per cent of today's population is without access to even minimum health services. A hundred and eight million people are without the opportunity to meet a vital need. This situation is due not so much to man's unwillingness to improve it as it is to obstacles imposed by nature and by the economic infrastructure. Health specialists have probably failed in the past to give full importance to the innate capacity of individuals, families, and communities to alleviate or solve the problems that affect them. Seeking to apply the traditional schemes of urban or industrial societies, they

¹ Abridged version of the Introduction to the *Annual Report of the Director of the Pan American Sanitary Bureau, Official Document PAHO 124* (1973), vii-xxvi.

² *Official Document PAHO 116* (1972), xxii.

³ *Ten-Year Health Plan for the Americas. Final Report of the III Special Meeting of Ministers of Health of the Americas. Official Document PAHO 113* (1973).

unwittingly held back the use of existing rural methods for the prevention and cure of disease.

What is notable, in our opinion, is that the Governments of the Americas have spontaneously recognized the magnitude of this situation and have resolved to face up to it decisively, systematically, and on a scientific basis, using modern techniques. Thus, first priority has been assigned in each country to getting the widest possible health service coverage of its inhabited territory. From the operational standpoint, attention is focused on the control of communicable diseases, maternal and child health, nutrition, and matters related to the physical, chemical, biological, and social environment.

The Ministers drew up a practical and rationally focused rural strategy, based on the cultural characteristics and the life-style of our societies. It calls for a transformation from empirical to scientific medicine through the imparting of new knowledge to those who practice by ancestral methods in rural areas. The health auxiliary—a native of the locality where he works, with responsibilities carefully assigned—is thus at the focal point of preventive and curative activities. It is hoped that this approach will steadily increase the care available to the rural population. This increase, together with improvement in the quality of institutions in the cities, must be accomplished at a rate greater than the increase in the population during the 1971-1980 decade, which is expected to be 33 per cent (94 million new inhabitants) for Latin America and the Caribbean area and 25 per cent (127 million) for the Region as a whole.

Having subscribed to the Ten-Year Health Plan for the Americas, the Governments are taking the necessary steps to meet this complex responsibility in accordance with prevailing circumstances and existing capabilities. The targets contained in the Plan could be interpreted as the average to which the Americas aspire. Some will be surpassed by countries that are in circumstances which others could not hope to achieve, it could be said, within the decade. All, however, have agreed on the need to formulate, set down in explicit terms, and update their health policies—"policy" being understood to mean the art which guides a matter and the paths of action for arriving at a given goal.

The Directing Council of PAHO at its XXI Meeting, XXIV Meeting of the Regional Committee of the World Health Organization for the Americas, in its Resolution XIII, incorporated the recommendations of the Ten-Year Health Plan for the Americas into the policy of the Pan American Health Organization. By this act the Plan became the guide for the cooperative activities of these organizations, and presumably of other international agencies, in the solution of high-priority problems. This decision implies a continuing review of our work in line with governmental decisions.

The Ministers identified a number of problems that are common to all the countries of the Americas. They include: population growth vis-à-vis availability of resources; the environment, insofar as it affects individual and collective health; malnutrition, either from excess or from deficiency; the role of the community, as both the responsible mover and the beneficiary in the health process; preparation of human resources, from empirical health workers to university-trained specialists in complex modern techniques; and the updating of the infrastructure, including the organization and administration of services and of epidemiologic surveillance systems. There are undoubtedly others, but these are cited in the Plan and are common to all the countries, regardless of their level of development. We should therefore like to examine them on the basis of the undertakings in which PAHO and WHO have cooperated during 1972.

Toward a Population Policy

The population of Latin America and the Caribbean area will increase during this decade by some 100 million, despite the shift in some countries toward a downward trend in population growth. And it is very probable that by 1980 the Americas will have 25 per cent more inhabitants than they had in 1970. These facts alone show the magnitude and complexity of the task involved in preventing and curing diseases and promoting health in the Hemisphere. From the standpoint of the planning, organization, and administration of health systems, the technologically advanced and the developing societies are in comparable situations.

Women of child-bearing age and youngsters under 15 make up 63 per cent of the population in Latin America and the Caribbean area. Today we know more about the risks of illness and death for these two groups, and about the steps that can be taken to reduce them. But the important thing is that the resources be made available on a timely basis, that they be sufficiently effective, and that they be provided within a suitable structure. The Ten-Year Health Plan states that coverage of medical care for expectant mothers is generally under 30 per cent; of institutional care during delivery, in about half the countries, less than 50 per cent; and of attention during the puerperium, less than 5 per cent. Mortality in children under 5 years of age still accounts for 37 per cent of all deaths. If we consider that most of the common diseases—with the exception of some associated with the perinatal period—are controllable, we may infer then that prevention, education, and treatment are insufficient in quantity and quality. In other words, there is an unmet demand for coverage of each country's inhabited territory.

These problems, together with social and economic factors, contribute to the population policy that some of the Governments have already enunciated. The policy, guided by concern for the welfare of the family, calls for the reduction of mortality and morbidity in mothers and children. The Ministers of Health, at their III Meeting, recommended that "within the framework of this program, every family . . . have the opportunity of obtaining information and adequate services for problems relating to fertility and sterility, provided it does not conflict with the policy of each country." In so doing, they supported the aims expressed in resolutions of the World Health Assembly and the Governing Bodies of PAHO. They emphasized the health of the family and education of couples so as to prevent the consequences that frequent pregnancies can lead to in certain cases. Naturally, to the extent that this approach is extended, the overall program can affect demographic indexes.

During 1972 the Organization extended advisory services to the Governments on the basis of the principles and standards set by them in this field. A number of the countries formulated family planning programs as an integral part of those for maternal and child care. However, during the year the XXVII General Assembly of the United Nations approved standards and procedures for the United Nations Fund for Population Activities. Hence, in 1973 we expect to reorganize our program so that it will be correlated with this agency.

The Latin American Center of Perinatology and Human Development in Montevideo, which is administered by our Organization, continued to carry on its work and rendered advisory services to eight Governments. All these activities—whether in the form of education, research, or direct services—focused on those critical periods which include the mother's last months of pregnancy, delivery, and the puerperium and the baby's first 30 days of life. Many preconceived notions and techniques that for years have dominated the field of obstetric care are being

radically changed as a result of studies on the physiopathology of human development. For example, research into the effects on the newborn of premature vs. spontaneous rupture of the ovular membranes, carried out at the Center in 1972, has shown that when they remain intact until the time of birth the fetal head is protected during delivery, thus preventing compression and deformation. This finding is of tremendous practical importance in that it demonstrates the advantages of "natural" physiological, as opposed to medically induced, delivery.

The Center also extended its research on hypothalamic control of ovulation and on isolation and titration of oxytocin and human chorionic somatotrophin. In addition, there was an intensive program of instruction on the factors that increase perinatal risk in Latin America, as well as on the scientific bases for comprehensive care of the mother, the fetus, and the newborn.

Controlling the Environment

Climaxing the "Year of the Environment," the United Nations Conference on the Human Environment, held in Stockholm, Sweden, in June 1972, brought together almost all the governments of the world and produced a series of agreements responding to the nearly universal outcry of recent years against the actions, conscious or unconscious, that men perpetrate against their own well-being. Twenty-three countries of the Region participated in this meeting; our Organization had collaborated actively in the Latin American Regional Seminar on Problems of the Human Environment that preceded it in Mexico City on 6-11 September 1971.

The work of PAHO/WHO in this field has been and should continue to be concentrated in four basic areas: research, or the transfer of new technology; advice on the application of measures to prevent environment-associated diseases; development of cost-saving devices for use with various types of installations; and institutional development, with particular attention to organization and administration. It can be seen how these approaches have been applied in our collaboration with the Governments. They will be even more important to the extent that national targets are revised in terms of the international goals for the decade.

A useful form of assistance to the Governments will be the development of principles and standards that will make it possible to identify the problems of greatest priority in accordance with social—including health and economic—parameters. On the basis of these, national plans for the environment can be formulated. Such plans should include projects for the installation of basic services—water supply, sewerage, solid waste disposal, housing—that are closely keyed to the physical environment. We learned from our experience of the last decade—which was very successful, as witnessed by the 161 million people who joined the ranks of those who have the benefit of potable water—that these programs require large capital investments, either from domestic or international sources. The proposed strategy in the Ten-Year Plan, which calls for a continuation of what has already been accomplished, includes the application of new techniques and the use of local materials with a view to reducing costs.

The plans should also provide for activities designed to reduce human exposure to adverse conditions in the environment—projects to combat air, water, and soil pollution; to promote industrial hygiene and safety; to curb noises likely to induce behavioral disorders and deafness; to foster social harmony with a view to controlling violence, crime, and abuse of dependence-producing drugs. In all these cases, the magnitude of the task, the social consequences, the technology required (and not always available), the level of investment, and the inherent conflict with

the aims of economic development make them highly complex undertakings. The situation is most serious in industrial societies, a fact that should prompt the developing countries to take steps so as to avoid similar harmful effects.

We should like to call special attention to the research being done at the Pan American Center for Sanitary Engineering and Environmental Sciences, which has its headquarters in Lima, Peru. This work focuses, among other things, on simple, low-cost plant designs and water treatment methods which, according to the trials carried out, have made it possible to increase the capacity of existing installations.

The value of pesticides and the effects of these substances on human and animal health was a subject that received special attention at the III Special Meeting of Ministers of Health and at the V Inter-American Meeting, at the Ministerial Level, on Foot-and-Mouth Disease and Zoonoses Control. There is no question that insecticides are indispensable given our current state of knowledge about control of vector-borne disease and about agricultural and livestock productivity. But that their indiscriminate and excessive use is harmful to the health of man and animals is also clear. We can accept it as a fact that, despite all precautions, certain pesticides are being spread throughout our agricultural, marine, and domestic ecosystems and are penetrating other parts of the biosphere. Naturally they enter the food production chain and eventually reach human beings.

The simple solution would be to put a stop to their use. However, there are diseases whose eventual eradication depends on them. The most notable case in point is malaria, whose situation changed radically when transmission was interrupted in many countries of the world through the use of DDT—an event that, it is still hoped, may occur in those where the disease's incidence continues. The same considerations apply to the urban vector of yellow fever and dengue, *Aedes aegypti*, and to the insects that transmit onchocerciasis, Chagas' disease, and the viral equine encephalites, to mention but a few.

The problem of pesticides varies depending on the factors of quantity, opportunity, and place. There are techniques that can reduce environmental pollution to a fraction of what it now is without taking away from these substances' effectiveness. If, in addition, an educational campaign is waged on ways to avoid human poisoning, the current situation can be substantially changed. But what is urgent, above all, is to step up the search for biological rather than chemical methods—methods which will interfere directly in the insects' life cycle, particularly their reproduction. Although we recognize the complex implications of any attempt to alter the balance of the species, some of the experiments so far have been encouraging and give reason for us to be optimistic.

Malnutrition

Modern ideas on human growth and development postulate that the process is very similar in different ethnic groups. Given conditions comparable to those in the technologically advanced countries, it is believed, the retarded physical and mental growth seen in children from the developing countries would be proportionately reduced. Their problem has been attributed to the synergy of chronic malnutrition and frequent infection. Historically, attempts at a solution have concentrated on the preschool age group. However, carefully designed and executed longitudinal studies have shown that maternal malnutrition and intercurrent disease during pregnancy have serious repercussions for the child, even when it is breast-fed. There is now a great deal of information available on the effects of malnutrition and infection that points to the need for further research on the gestational and

perinatal period. The Institute of Nutrition of Central America and Panama (INCAP) is engaged in this task.

Observations to date show that the high prevalence of low-birthweight babies in certain rural communities is paralleled by increased risk of contracting disease and dying during the first year of life. Fortification of mothers' diets has had a definite effect on their babies' birthweight, which in turn has been associated with increased resistance and better adaptation to the hazards of the environment. These findings suggest that maternal and child care policy and programs should be revised so as to place greater emphasis on maternal nutrition, the spacing of pregnancies, and family planning with a view toward well-being.

The Ten-Year Health Plan states that the prevalence of advanced malnutrition (degrees II and III) ranges from 10 to 30 per cent among children under 5 years of age in 18 countries which together have 65 per cent of the Region's population. That is equivalent to 5 million youngsters. The Ministers of Health therefore set very definite goals for reducing protein-calorie malnutrition and also for reducing nutritional anemias in pregnancy, endemic goiter, and hypovitaminosis A, as well as malnutrition by excess—in view of the latter's effects in terms of cardiovascular disease, diabetes, and obesity.

The task to which the Governments of the Americas have agreed—namely, to set a food and nutrition policy that will relate the population's biological needs to the requirements of the economy—is a complex one. What is desired is to be able to guarantee the essential foods, whether by producing them or importing them, for all the people, with special attention to mothers and children. If we keep in mind the gamut of factors—physiological, cultural, agricultural, economic, educational, and so on—that have to be considered, we can understand how difficult it is to formulate, harmonize, and execute the various activities necessary to realize this goal. UNICEF, FAO, UNESCO, ECLA, and WHO are working in collaboration with the Governments toward this end. In all this process the specific strategies for meeting the targets of the Ten-Year Health Plan should be included.

The Organization's work in this important field during 1972 included direct advisory services to the countries; analysis of the background data on nutritional status in the Hemisphere presented to the III Special Meeting of Ministers of Health; INCAP efforts to strengthen applied nutrition services so as to help put the results of its research and experience in the Central American area into practice; collaboration in the process of formulating and executing food and nutrition policies; and, through these activities, promotion of other activities of equal importance such as education, research, and scientific communication.

The Caribbean Food and Nutrition Institute completed food composition tables covering 661 items; it also continued to study different animal and vegetable protein mixtures; to analyze data from the Guyana food survey; and to expand its teaching curriculum, as well as its program of scientific and informative publications.

Of the 81 projects in 22 countries of the Americas to which the World Food Program contributed during 1972, 20 were directly related to the protection of vulnerable groups and the strengthening of health services; 44 to the improvement of community organization, training of human resources, and production of food; and 17 to other areas of development. Our Organization advised the Governments in the preparation of project applications under the Program, based on the best data available and on the execution and evaluation of the respective activities contemplated.

Health Planning

No health plan, program, or project is viable without a stable and dynamic infrastructure designed to permit achievement of the goals that have been set. It should be the product of the people's opinions regarding the problems that they consider affect them and of their desire to work toward solutions. This genuine social will is expressed in the law and its regulations and is translated into a coherent policy as well as specific standards and procedures.

Planning involves a rational decision-making process that coordinates the needs to which the society has assigned priority, using the resources available for this purpose. Such a complex activity—which in the final analysis has to do with well-being—cannot be reduced solely to a method, much less to a formula or a set of indicators.

Selection of the methods to be used for implementing the planning process will depend on the goals that have been set, the country's actual capability to apply them, and the determination to make the administrative changes that may be necessary and to carry out the action within the agreed time. National planning should be based on international collaboration, the latter complementing but not taking the place of the former. What is essential is that the Government decide when, how, and in what form it is needed. To this end we proposed, and the Governing Bodies approved, a system of "quadrennial projections" which make it possible to identify precisely PAHO and WHO functions and to specify the corresponding services in detail. Most of the countries of the Region have been using this system over the last four years—and have been meeting their goals satisfactorily. In 1972 the system was further refined by the incorporation of a simplified methodology for program formulation, based on systems analysis theory, which provides for the evaluation of action in terms of specific objectives.

The principles on which the system of quadrennial projections is based may be considered the true groundwork for a health planning process in the sense that, depending on the nature and depth of the latter, other techniques can be applied as well. The arrangement has been designed so that it can be executed at different levels of complexity, which will vary according to the targets as they relate to the overall health system and some of its components. Also, it allows for progressive refinement to the extent that basic conditions improve.

It is considered that it will be possible to finance the Plan if public sector funds are increased by 7 per cent a year. In the event that this does not happen, a series of steps have been listed which, taken together, can still lead to greater yields, in terms of both production and productivity, from the resources available.

Community Participation

There is a long tradition of community participation in the Americas, though it has tended to be concentrated in certain activities. The work of the malaria volunteers and of the community assistants who install water and basic sanitary services is well-known. What is sought now is institutionalization of this genuine joint social action. Given the magnitude of the undertaking to which the Governments have committed themselves for the decade, it will be difficult to meet the overall goals and the specific targets without the contribution of this most important human resource.

In Latin America we have failed in the past to give voluntary community participation—at whatever economic level—the importance it deserves. We have sinned with a skepticism that is derived more from impressions than from realities.

The important thing is to respect cultural values as they are reflected in the traditions, customs, and ways of life of families and groups. It will always be possible, by persuasion, "to tap the rich potential of human beings once they become aware of what their life can mean for others."⁴

Medical Care as a Basic Component of the Health System

Treatment of the sick, whether institutionalized or ambulatory, takes up by far the largest share of Government and private investment in the health sector. Thus great importance has been given to medical care within the health system in the plan for 1971-1980. The current situation is marked by a proliferation of the public and private institutions involved in providing such care and at the same time by an absence of institutional coordination within the sector, making for duplication of effort, uneven coverage of the population, waste of resources, and unnecessarily high costs.

All but four of the countries of the Region have annual hospital discharge rates of less than 10 per 100 population; all but five of them offer less than 1 medical consultation per inhabitant in a year. Of all the discharges, 68.5 per cent involve communicable diseases (many of which could have been prevented); pregnancy, childbirth, and perinatal complications; or accidents. Eighty-five per cent of the hospitals have fewer than 100 beds. Their productivity is low, and their expenditures are proportionately that much higher. At an average per-bed cost of US\$12,000, the 13,853 hospitals registered in Latin America and the Caribbean area, with a total of 867,825 beds, involve an overall investment of more than 10 billion dollars. Nevertheless, only five countries—whose investment corresponds to some 30 per cent of this total—are applying maintenance techniques to keep up their establishments and hospital equipment.

In the light of this situation, the Governments have decided to take a number of steps, including the following: to reduce the construction of new hospital buildings to the indispensable minimum; to rationalize the administration of existing establishments; and to use the concept of progressive patient care as a basis for the technical reorganization of services, with emphasis on community and outpatient care. Moreover, they have noted that the role of nurses and auxiliaries is essential, and that it needs to be reviewed in depth.

Medical care is a basic component of the health system. The important thing is what is done, not how it is done. Naturally, when the entire effort is concentrated in a single national health service, it is less complicated to analyze, organize, and administer as a whole. What frequently happens, however, is that the responsibilities are carried out by a greater or smaller number of institutions that are covered by different laws, standards, and procedures and that provide various kinds of services. In these circumstances, coordination is imposed in order to be able to fulfill the government's objectives and assure the people access to those services that the country has to offer. The activities carried out by our Organization in 1972 envisage a more functional distribution of the hospitals' work—assuring unquestionable benefits to the sick, greater yields from existing resources, and more time for physicians, nurses, and other professionals to exercise their direct responsibilities.

⁴*Publicación Científica de la OPS* 85 (1963), p.7.

Human Resource Development

Until the appearance of *La educación médica en América Latina*⁵ published with PAHO sponsorship in 1972, there was no study available that fully analyzed the process of preparing physicians in the area. It includes an in-depth review of 138 schools of medicine, with particular attention to the student and his learning conditions, the system of instruction, the curriculum, and the organization of the establishments, supplemented by important considerations on the relationship of primary and secondary schooling to medical education and the relationship of the latter to the social structure as a whole.

The information derived from this investigation has made it possible to identify and define the obstacles that are holding back the full development of medical education—such as disparity between demand and institutional capacity; lack of correlation between the number of students graduated and society's needs, both in the public and the private sector; and the rigidity of the instructional and administrative system, which makes it difficult to provide the professional training that Latin America needs in order to solve its current problems and those of the immediate future.

It is recognized today that the student should be both the object and the subject of the education process—an active participant in all its phases—since he, in turn, is expected to give back to society what the university and the country have given to him. The curriculum should be built up not on the basis of departments or static structures, but rather in terms of the most common problems and programs designed to solve them.

Also, under a series of variously named undertakings—such as, for example, “community medicine”—it is proposed to incorporate university students, from the time they enter until they graduate, into the programs of prevention and cure that complement and help give life to theoretical instruction. The “rural internship” to which we already referred—one of the pillars of the strategy the Ministers have drawn up in their plan for the decade—envisages the extension of care to a growing number of those 100 million people living in remote villages and districts of Latin America and the Caribbean area.

These undertakings, like others, point up even more the responsibilities of the physician and the far-reaching importance of his mission. Given the magnitude of the problems that plague us, we must revise the distribution of responsibilities and assign the ones of greater moment and complexity to those who are best prepared.

Combatting the Communicable Diseases

Whether to halt transmission or to reduce the incidence of communicable diseases for which vaccines of long-proven efficacy exist, it is necessary to achieve “useful” levels of immunity and maintain them. Maintenance of such immunity is the objective of epidemiologic surveillance systems. The overall concept of these systems includes: the diagnosis derived from highly sensitive and specific antigens; the timely availability of vaccines that are properly capable of inducing immunity; the necessary health infrastructure for their administration using appropriate techniques in each case; and the prompt reporting and interpretation of data on matters including morbidity and mortality, resources and their utilization, the number of persons vaccinated, and other subjects.

At the end of 1972 a total of 20 months had passed without a single

⁵Juan C. García. *Publicación Científica de la OPS* 255 (1972).

autochthonous smallpox case being identified. By the same token, immunization against poliomyelitis and measles had been extended.

During the year there was also an increase in vaccination with BGG and DPT. Still, we have not yet achieved the coverage that is needed to take the advantage away from the microbial agents and tip the scales in favor of man.

The II Regional Seminar on Tuberculosis,⁶ held at Bogotá, Colombia, in November 1972, analyzed the feasibility of the targets dealing with this disease in the Ten-Year Health Plan. It was agreed that control activities should be incorporated into the local health services and that emphasis should be placed on ambulatory treatment, reduction of hospitalization to the absolute minimum necessary, and intensified application of BCG.

Under the joint sponsorship of the Government of Venezuela and the Organization, the International Center for Training and Research in Leprosy and Related Diseases has been established in Caracas. One of its principal aims will be to apply a model of the pathogenesis of leprosy to the understanding of other infections that give rise to similar manifestations.

The Ten-Year Health Plan sets the goal of eradicating malaria in areas where 90.7 per cent of the population at risk now lives, and reducing incidence to the greatest extent possible in the zones inhabited by the remaining 9.3 per cent. The latter, located mainly in Central America, present technical problems involving the physiology and ecology of both the vector and man himself.

As of the end of 1972, 67.4 per cent of the population in originally malarious areas was benefitting from programs that had reached the consolidation or maintenance phase. At the same time, there was a decline with respect to the year before in the number of new cases in the Americas. These facts lead us to predict that it will be possible to meet the targets for the Hemisphere if the measures indicated are fully applied on a timely basis, and if the necessary human, material, and financial resources are available.

This tremendous undertaking, in whose coordination PAHO and WHO cooperate, will be facilitated by the results of an intensive research effort that was recently revived.

In connection with this effort, the PAHO Advisory Committee on Medical Research, at its Eleventh Meeting (Washington, D.C., 19-23 June 1972), pointed out: "An effective vaccine and the use of immunologic procedures for determining the antigenic relationships of geographically different strains would contribute a great deal to the goal of eradication of malaria. Currently, emphasis in antimalaria campaigns is on the vector, but the development of insecticide resistance constitutes a serious complication. If a sporozoite vaccine is to be logistically feasible, methods for mass production, as in tissue culture, will have eventually to be developed." The Committee enthusiastically endorsed the continuation of these studies, to which PAHO is contributing.

At its second meeting, held in Port-of-Spain in March 1972, the PAHO Scientific Advisory Committee on Dengue reviewed the current status of the disease, which since 1904 has given rise to sizable outbreaks in the Americas. In these epidemics dengue serotypes 2 and 3, isolated in 1953 and 1963, respectively, have predominated. The epidemiologic mechanisms are still not very well understood, nor are the ecological factors that cause dengue to persist in the Hemisphere. Hence the need for an effective surveillance system for predicting its sudden upsurges.

"The persistence of large *Aedes aegypti* populations, particularly in the Caribbean, and the increasing density of the human population in the Americas will

⁶Scientific Publication PAHO 265 (1973). In press.

be associated with the continuous or periodic presence of dengue. . . . Ultimate control of dengue and other *A. aegypti*-borne diseases such as yellow fever obviously depends on reduction or elimination of the primary vector, but the present eradication program has run into difficulties in several countries and territories. The 1971-72 Colombian dengue epidemic occurred after *A. aegypti* reinfestation." The Committee left us with a valuable set of recommendations, which will be submitted to the Governing Bodies for consideration concerning their application.

The Mycoses

Among the fungal infections that attack one or more organs in the human system, coccidioidomycosis is the most prevalent in the Western Hemisphere. It produces about 50,000 new cases a year, of which 35,000 are in the United States of America. These figures are merely estimates, based on the assumption that a number of cases go unreported in Latin America and the Caribbean area. Clinical diagnosis is complemented by the coccidioidin skin test—which unfortunately fails to give positive reactions in 10 per cent of the patients known to have the disease.

A new antigen called "spherulin," produced from the yeast-like phase of the fungus—in contrast to coccidioidin, which is derived from the mycelial phase—was tested in a trial sponsored by our Organization. With it, 40 to 70 per cent more positive cases were identified than with standard coccidioidin. The control group showed negative reactions with both preparations. The spherulin gave no cross-reactions for other mycoses or infections.

This study is part of the coordination effort in the field of mycoses being carried out by PAHO with the advisory support of a number of distinguished scientists. Activities under these broader auspices have included the definition of a set of objectives for medical mycology, indication of certain problems that are in need of solution, and the formulation of programs in the areas of training, standardization of diagnostic procedures, research, and development of regional centers.

Animal Health

Convinced of the need to halt the loss of essential animal protein required for nutrition, especially for mothers and children, and to prevent the serious economic impact caused by foot-and-mouth disease, the Governments have given priority to combatting the disease and have launched specific vaccination campaigns. The countries in the infected area, which covers practically all of South America with the exception of Guyana, are making an investment over the next four years on the order of \$300 million—16 per cent of which corresponds to IDB loans. It is well to remember that every year 400 million doses of inactivated vaccine are produced, and that the success of this vast undertaking depends in large measure on the quality of this vaccine.

During 1972 the Pan American Foot-and-Mouth Disease Center, in collaboration with the Government of Brazil and with support from the Inter-American Development Bank, started work on the establishment of a pilot plant for training technicians in the production and control of anti-FMD vaccines.

The Center also carried out a program of advisory services and research. The latter included investigations directed toward finding better antigens to control the disease. To this end, endeavors have been made over the last few years to induce mutations through physical or chemical treatment of different strains. Considerable

effort has also been devoted to improving methods of concentrating and purifying the virus, as well as to studying new ways of inactivating it. In particular, it is urgent to standardize methods for controlling vaccine quality, a practice that is far from universal.

Cervical Cancer Control

The Inter-American Investigation of Mortality (in adults)⁷ has called attention to the importance of cervical cancer as a health problem. Data from nine Latin American cities showed that cancer at this site accounted for one-fourth of all deaths from malignant neoplasms in women between the ages of 14 and 61. In one of the cities studied, the toll of young women dying of this kind of cancer was 10 times greater than in other urban areas with correspondingly higher standards of living. These findings support the assumption that the less privileged social strata are subject to greater risk from this disease. It may be that much of the variation is due to differences in sexual hygiene and to lack of regular gynecological and obstetric care. Whatever the real reason may be, the fact is that we in the Americas are faced with this problem, which causes thousands of deaths in women each year and whose incidence could be considerably reduced through the detection and treatment of pre-neoplastic states and incipient invasive lesions.

These facts underline the importance of the *Manual of Norms and Procedures for Cervical Cancer Control*⁸ published by our Organization in 1972. This handbook is expected to serve as a complement to the programs for training cytopathologists and cytotechnologists. To the extent that maternal care programs that include family planning services are carried out, it will be possible to make progress in the early detection of cervical cancer.

Chronic Diseases

The collection of data in the survey on smoking patterns in eight Latin American cities was completed during the year. Preliminary analysis indicates that in all the study areas no less than a third of the adult male population smokes cigarettes and that in three large urban centers this proportion exceeds 50 per cent. The study also shows that smokers, as opposed to nonsmokers, are subject to a higher risk of absenteeism and that they have an excessive frequency of heart and respiratory disease symptoms.

A symposium on epidemiologic studies and clinical trials in chronic diseases, held during the course of the Eleventh Meeting of the PAHO Advisory Committee on Medical Research, reported in considerable depth on diabetes, cirrhosis of the liver, arteriosclerosis, hypertensive cardiovascular disease, schistosomiasis, and Chagas' disease. Frequent reference was made to the study *Patterns of Urban Mortality* which brings together the findings from a comparative epidemiologic investigation sponsored by our Organization. Its results, together with the vital and health statistics available for the Americas, show that the chronic diseases mentioned, plus cancer, are among the five main causes of death in most of the countries.

The panel examined the current situation with respect to each of these diseases,

⁷*Patterns of Urban Mortality; Report of the Inter-American Investigation of Mortality. Scientific Publication PAHO 151 (1968).*

⁸*Scientific Publication PAHO 248 (1972).*

including their epidemiology, etiology, and pathogenesis, and the progress being made in their treatment and control.

Dental Health

For almost a century it has been postulated that dental caries is caused by specific bacteria. Tooth destruction was thought to follow acid production derived from the fermentation of dietary carbohydrate by specific organisms. During that time, the relationship between dietary carbohydrate and prevalence of caries received overwhelming epidemiologic and experimental confirmation. Nevertheless, definite incrimination of the basic role of bacteria proved more difficult, and only since 1954 has it been possible to demonstrate that strains of *Streptococcus mutans* were cariogenic. On the basis of these findings, dental caries is today regarded as an infectious disease.

This problem was also analyzed by the Advisory Committee on Medical Research, and attention was given to the possibility of producing a vaccine for human use, in view of positive results in studies with primates. Much work remains to be done, both in the laboratory and in human communities.

If it turns out to be possible to produce a vaccine against caries, its importance will be tremendous, given the magnitude of this problem and the complications it leads to in the Americas. Although we do not have data for all the countries, the prevalence of caries is unquestioned, as is the shortage of professional and financial resources for applying the knowledge we have available. One of the most important techniques at our disposal is the fluoridation of drinking water, which can reduce the incidence of caries by about 40 per cent. Nevertheless, at present only between 13 and 30 per cent of the population in Latin America and the Caribbean area enjoy the benefit of this low-cost, effective measure.

Our Organization is committed to promoting, through advisory services to Governments and universities, improved understanding of the causes of poor dental health in the Americas, together with means for reducing its impact. In 1972 and other recent years we assisted in the production of simplified, low-cost, effective equipment that can be adapted for use in rural areas; in the training of dental auxiliaries who carry out their work under professional supervision; in the quality control of materials used in daily practice; in the upgrading of university-level instruction so as to provide it with more scientific and socially oriented bases; and in the promotion of drinking water fluoridation—to mention only some activities.

The Marking of Two Anniversaries

The *Boletín de la Oficina Sanitaria Panamericana*—one of the Spanish-language journals of widest circulation dealing with health problems over time in the light of the thinking, concepts, principles, and methods prevailing in each respective historic period—celebrated its 50th year of publication in 1972. So fast has been the pace of events that today we speak of decades where we used to speak of centuries. In our field, fed continually by the prodigious advances in science and technology, this has been especially true. The *Boletín* has given to the growing galaxy of its contributors the opportunity to reach out beyond their immediate circle and to disseminate their ideas and experience. It has been a catalyst for the initiative and intellectual production of Spanish-speaking America. From its pages flows the natural history of health and disease—transcribed as each problem has been experienced and related

to us by those who are dedicated to the various disciplines that constitute the "life sciences." We can only hope that in the years to come the *Boletín* will carry on with its mission to make known what is being accomplished, what is being developed and discovered, and what is still being investigated—toward the furtherance of well-being.

On 2 December 1972 the Pan American Health Organization completed 70 years of uninterrupted existence. This was an important event in the history of the Hemisphere, as the Governments that sponsored ceremonies on this occasion noted in calling attention to the progress that has been made in health and to the meaning of international collaboration. At a function at Headquarters we took the liberty to say: "Today, with 70 years of accomplishment behind us, we may make so bold as to speak of a tradition, since the values that inspire us are universal, incorporated as they are into the cultures of the different societies of which the Americas have historically been made up. They are inherent in the principles, precepts, and customs to which our men and women aspire. Miguel de Unamuno has said, poetically, that this life is 'intra-historic'—silent and continuous like the depth of the sea itself—and that true, eternal tradition is the substance of progress.⁹ Addressing the subject more directly, Sir Berkeley Moynihan, a distinguished surgeon writing during the early years of this century, defined tradition as follows: "Those who have learned from a great master should not be content to imitate his methods; rather, they should make the effort to capture his authentic spirit and yet go beyond to discover even more solid truths. Few virtues are nobler than loyalty to a great tradition. But this tradition is kept alive not through the routine observation of old ceremonies or by blind obedience to a time-worn creed, but rather through an active faith in the search for new truths and the exploration of new paths in accordance with the old spirit and with an unshakable devotion to that great ideal which is venerated by tradition." No concept could be more appropriate for the work of health in a Hemisphere which today more than ever is seeking its own destiny, convinced that in addition to its natural wealth, exploited or not, it can count on the tremendously rich potential that is the human beings of today and of tomorrow."¹⁰

⁹*En torno al casticismo*. Madrid, Biblioteca Moderna de Ciencias Sociales, 1962, Vol. 4.

¹⁰Presentation at the ceremony commemorating the 70th Anniversary of the Pan American Health Organization.