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REPORT TO THE DIRECTOR

Advisory Committee on Medical Research

Pan American Health Organization

Sixteenth Meeting

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PAHO ADVISORY COMMITTEE ON MEDICAL RESEARCH

Report to the Director

1977

Introduction

The XVI Meeting of the PAHO Advisory Committee on Medical Research (ACMR) was opened by its Chairman, Dr. Carlos Chagas. In greeting the participants, Dr. Chagas said that the new structure and methods of work of the meeting offered the ACMR the opportunity to participate actively in the formulation of PAHO research policies. He announced that the Vice-Chairman of the Advisory Committee, Dr. Joaquín Cravioto, would not attend the meeting and invited Dr. Thomas Weller to act as Interim Vice-Chairman. Dr. Weller accepted the designation. Dr. Jesús Kumate was appointed rapporteur of the meeting.

The Assistant Director of the Pan American Sanitary Bureau, Dr. Eusebio del Cid Peralta, welcomed the participants on behalf of the Director, Dr. Héctor R. Acuña. He spoke of the importance of research in the development of countries and of the recommendation of the Ten-Year Health Plan for the Americas that each country adapt its research programs to its own needs. The new members of the ACMR were then introduced: Dr. Eduardo Aldana (Colombia), Dr. Guillermo Arbona (Puerto Rico), Dr. Robin F. Badgley (Canada), Dr. Charles Flagle (United States), Dr. Carlos Luis González (Venezuela), Dr. Jesús Kumate (México), Dr. José Julio Monteverde (Argentina), and Dr. Wladimir Lobato Paraense (Brazil).

Dr. del Cid gave a brief historical account of the evolution of the Pan American Sanitary Bureau. It had grown from an office responsible for the surveillance of quarantinable diseases to an organization that dealt, at the behest of 31 countries, with issues ranging from primary health care

delivery to implementation of recommendations by committees like the ACMR. Such recommendations might modify and influence technological progress and scientific advance in each of the member countries. The Assistant Director reminded the Committee that PAHO's policy for assistance was based on the concept of technical cooperation, rather than on the former postulate of technical assistance. Emphasis on appropriate technology did not mean rejection of all external contribution, but rather a preference to adopt the technology that might be best suited and more representative to each country's needs. The present Committee's recommendations would not only influence PAHO's efforts, but would have repercussions on the programming of activities at country level.

Dr. José Roberto Ferreira presented the proposed method of work of the Committee on this occasion. He explained that in early years the Advisory Committee has received reports on work already carried out, a system he described as retrospective. At the current meeting, a prospective approach would be used and the discussions would focus on the three specific topics recommended last year, i.e., nutrition, ecology, and communicable diseases. As a result of some previous discussions, a fourth topic was added on development and extension of health services. These subjects would make up four special sessions, each followed by a two-hour discussion. This approach would, first, lead to a definition of the gaps as well as the research lines that should be fostered; second, enable PAHO to interpret the recommendations or guidelines arising from discussions; and, third, allow for a continuation of the discussions at country level with a view to adjusting the recommendations to national conditions. Another innovation of this meeting is that it involved the participation of PAHO staff and that of the Directors of its affiliated Centers in the programming and unfolding of its agenda.

A Special Working Group on Nutrition would meet on the second and third day of the meeting, on an experimental basis, to examine in-depth the recommendations made during the Special Session on Nutrition. The findings of that Group would then be presented to the Committee on the following day.

Dr. Chagas submitted the program distributed to a vote, it was approved without change.

Research Development and Coordination at PAHO

The countries of the Americas are increasingly recognizing the importance of research to obtain better knowledge of their health problems and for decision-making. The research in Latin America has been little coordinated and it has not supplied the necessary basis for decision-making. In March 1977, a study of available resources was initiated in Central America and Panama; this pilot area was chosen to test the adequacy of the surveying methods. The purpose is to update the information published over ten years ago and compile the data gathered into a directory of investigators by specialty, which will also include a list of ongoing research projects, scientific associations, and institutions for the dissemination of information. With this objective, PAHO staff conducted personal interviews with researchers of the above areas, explained the advantages of such a study, and distributed questionnaires to various individuals and institutions such as ministries of health, social security systems, universities and private organizations. The questionnaires were to be used as the instruments of information gathering about the conduct of research in the institutions investigated.

The results obtained so far were promising, and it was decided to extend the census to the countries of the Andean Pact. The outcome of this effort will not only be the availability of updated information on research, but also the development of a data bank that will point up the type of research needed in certain areas and the best ways to allocate resources.

Contacts are being established with Science and Technology Committees in Latin America and meetings planned by area to discuss national research policies. The first such meeting will be held in Mexico City next October and the second in Colombia.

The program of work also provides for the identification of PAHO/WHO Collaborating Centers in Latin American and Caribbean countries, since most of these centers are located in the developed countries of the Region.

Among other research coordination and promotion activities are the interdivisional planning of meetings on control and standardization of biological products and a course on quality control of these products.

Answering a question, it was clarified that the World Health Organization does not differentiate between reference and collaborating centers and that it recommends that they be called collaborating centers. Because of lack of time the report presented to the Committee did not include the names of the collaborating centers designated in 1976.

Mention was made of the difficulty to obtain replies to questionnaires from investigators and institutions in Latin America. It was recommended that the information requested be drawn, whenever possible, from annual reports, scientific publications, and direct visits to centers and research workers. It was pointed out that countries experienced in carrying out surveys of that kind or institutes devoted to disease monitoring and reporting could be very helpful in preparing the censuses and collecting the necessary information.

I. TECHNICAL COOPERATION AND HEALTH RESEARCH

Equilibrium in the Transfer of Technology

The transfer of technology is a study of both short- and long-term problems, in which humanistic aspects are assigned the same attention as cost-benefit factors. Instruction in better use of technology should be a multipurpose, intensive and extensive whole. Activities in educational technology should be conducted at four different levels; (1) in research centers, major hospitals, and administrative centers (central level); (2) in secondary hospitals, and branches of research centers (outer circle); (3) in health center units; and (4) at an external level where complexity and simplicity would be combined, and transitory and unexpected problems would be dealt with, and where the fundamental concern would be broad communication of information.

In the present approach to medicine the individualistic hippocratic criterion is differentiated from the probabilistic approach of preventive medicine; the first is directed at the person and the second does not give due attention to the individual because it looks at the community. The two approaches must be made to complement each other, and the inherent deficiency must be corrected for the approach to be whole. The complexity of medicine and the expansion of knowledge have led to specialization. From specialization has come the need to train middle-level personnel to deal with other auxiliary problems. Physicians' activities fall within three categories: (a) basic sciences work (in the laboratory); (b) therapy, surgery, sociology, and psychology (traditional training); and (c) health sciences (preventive medicine).

The discussants expressed agreement with the theses presented and pointed out that the problems involved in the transfer of technology in Latin America are of major importance because of the cost to the countries of royalties and patents. (These were calculated four years ago at one billion dollars; the cost of operations with raw material is three or four times that amount). The chemico-pharmaceutical industry was an example of that situation, and its influence tends to increase rather than to decrease.

Mention was made of the reduced opportunities for postgraduate training in recent years. It was felt that the 'brain drain' resulted from the lack of working chances in the home country after a student had obtained postgraduate degrees abroad.

Scientific Information on the Health Sciences

Conceptual Aspects. Scientific information on health refers to any information that helps to promote the generation, transformation, application, and acquisition of knowledge to improve health. The generation of knowledge, affects laboratory and clinical research and epidemiology and health care, whereas application of knowledge is critical to individual care. Application of knowledge is also vital to the organization and management of health

programs and health institutions, as well as to the formulation of plans and health policies. Individual care must reflect the needs of physicians and those of the entire health team.

Administration and management of services are based on effectiveness and, therefore, require information that goes beyond the purely medical field. Health manpower training provides the tool to bring about the changes desired in this area. Likewise, communities must be in possession of knowledge to play the role assigned to them.

Operative Aspects. To provide each level with the information it needs to discharge its responsibilities and to overcome problems of costs, language, and time. A large part of the information required for the organization and administration of services is not to be found in biomedical journals, but in occasional publications that are not easy to come by.

Future Activities of BIREME. The work of BIREME is oriented towards achieving the priority goals of the Ten-Year Health Plan: (a) to transform its activities into a genuine program of continuing education that will provide all-level professionals with the information they require; (b) extend library services from individuals to institutional users; (c) disseminate varied information on health care from non periodic sources; and (d) process information in the form of abstracts, summaries on the basis of experience gained in specific health programs. These activities are being undertaken jointly with the Ministry of Health of Brazil, the Department of Health of São Paulo, the Brazilian National Cancer Division, and the Brazilian National Nutrition Institute.

It is planned to cooperate with Latin American countries in establishing national centers, training personnel, and running a distribution program of publications on health aspects relevant to conditions prevailing in Latin America. The first issues are already in circulation.

Latin American Cancer Research Information Project (LACRIP)

The purpose of this program is to disseminate information on oncologic activities being carried out in Latin America and to help the research workers, technicians, and administrative personnel of the countries involved to develop better approaches to the problems of cancer prevention, diagnosis, and treatment.

LACRIP specific objectives are:

1. To identify the principal Latin American institutions and centers devoted to research, diagnosis, treatment, rehabilitation, and other cancer-related activities, and to assist the International Union Against Cancer (IUAC) in the editing and updating of the International Directory of Specialized Cancer Research and Treatment Establishments.
2. To locate, collect, and disseminate in Latin America published articles, summaries of published literature on cancer research, proceedings of scientific meetings, and descriptions of ongoing cancer research projects for incorporation into the Program of the International Cancer Research Data Bank (ICRDB) of the U.S. National Cancer Institute (NCI).
3. To provide the means for disseminating ICRDB services in Latin America.
4. To identify appropriate areas for collaborative research in cancer as well as for the conduct of comprehensive cancer control programs in Latin America.

Besides the PAHO/WHO Representatives in the member countries, national coordinators for this project have been identified in nine countries (Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru, Uruguay, and Venezuela). Provision is made for the gradual incorporation of other countries. These coordinators are helping to achieve each of the above-mentioned objectives.

In the discussion of the last two topics, mention was made of the role of computer systems in the storage and retrieval of information at BIREME and the Neoplasm Information Center. Computerized information banks are available at the Library and it has four MEDLINE terminals and simplified minicomputers.

II. SPECIAL SESSION ON NUTRITION

Moderator: C. Monge
Rapporteur: R. Puffer

The general objectives of this Special Session were outlined by the Chief of the Division of Family Health, who also announced that a 2-day workshop would gather the Directors of the Institute of Nutrition of Central America and Panama (INCAP), the Caribbean Food and Nutrition Institute (CFNI), and the Latin American Center of Perinatology and Human Development (CLAP), and the staff of the Organization to examine jointly approaches in nutrition research and integrate them with family health activities for better utilization of the resources. A summary of the report presented by this group and the recommendations of the ACMR, are on pages 11 to 15 of this document.

Research Needs Basic to the Improvement of Nutrition and Health and for the Promotion of Human Development in the Western Hemisphere

Five general areas were selected for basic research during the next few years:

1. Clinical/subclinical malnutrition and evolution of pregnancy.
2. Nutrition and infection.
3. Benign nutritional anemia and latent iron and folate deficiencies without anemia.
4. Hypovitaminosis A.
5. Endemic goiter and cretinism.

Data are needed on birthweights to map in this Hemisphere the prevalence of low-birthweight infants and to develop from this base a profile of environmental context and maternal attributes (physical, physiological, and nutritional) associated with "at risk" populations. Such data are essential to establish minimal nutritional requirements for a successful

pregnancy outcome among women subjected to multiple environmental stresses and to determine possible correlation with the high prevalence of infants born with congenital anomalies of the nervous system.

Basic research is also needed on chronically undernourished children living in their natural surroundings to obtain the relation of nutritional status to morbidity and mortality from infectious diseases. The research design for such studies must document with precision the nutritional status of the child with respect to multiple nutrients, immune status, and infection history. These parameters must then be monitored and evaluated in longitudinal studies that include the period, when clinically warranted, of therapeutic intervention. The role of infant-feeding practices, particularly the duration of breastfeeding and dietary alternatives in neonatal immunity and in childhood mortality and morbidity prevalence needs to be researched.

The multicausal etiology of nutritional anemia should be determined among populations residing in areas of high prevalence as a basis for designing effective intervention programs. Data are needed on the availability of iron and folic acid from typical home diets and on dietary patterns and food handling practices that might, through slight modification, improve availability.

Epidemiologic research is needed to establish the prevalence of nutrient-related diseases associated with affluence, i.e., obesity, cardiovascular diseases, diabetes, and cancer, to monitor changes that could signal need for preventive programs to ward off their increase and frequency.

Operational and Applied Research Needs for Food and Nutrition Planning

In this presentation six fields of interventions were described, which aimed at the prevention of protein-calorie malnutrition. They were:

1. Promotion of breastfeeding.
2. Production and distribution of low-cost nutritious food.

3. Integrated care program for preschoolchildren in impoverished urban areas.
4. Treatment and recuperation of malnourished children.
5. Family planning programs.
6. Intervention programs to increase local food production.

Second priority interventions aimed at correcting certain nutritional deficiencies, such as iron, vitamin A, and iodine, and at enriching fluoride. Third-priority measures were directed at eliminating nutritional alterations resulting from dietary excesses, such as obesity, diabetes, and arteriosclerosis.

The great complexity of nutritional problems was discussed. These ranged from need to produce food locally to family planning. Suggestions were made to include in efforts to increase laborers' nutritional intake, factors related to food production, support of agricultural development, promotion of microfarms, and investigations of legumes.

The elaboration of preventive programs was considered more urgent than the treatment of malnourished children. It was, therefore, recommended that a study be undertaken on the effect of breastfeeding on the quality and quantity of milk, duration of immunity, antibody production, and nutritional status. It would also be useful to delineate serious nutritional problem areas, to study birthweights, and the incidence of low-birthweight infants, which are important indicators of the magnitude of the nutritional deficiency problem.

It was suggested that the research program include cost-benefit studies that would combine preventive measures, family planning, and models of population dynamics. Such efforts should take into consideration social and political factors.

The importance of the development of human resources was also underlined. Experts are needed to face the multitude of problems, as are professionals at all levels (local promoters of community development), so as to

improve the health of pregnant women and advise them on how to avoid having low-birthweight babies.

In the discussion of the five priority research areas mentioned in the first paper, one discussant focused on the complexity of nutrition and infection problems, giving as an example the susceptibility of children to measles in his country. Another emphasized the importance of research into nutritional anemias and the relationship between nutrition and pregnancy outcome.

The Committee agreed in general with the nutrition research areas outlined in the two papers and requested that the concurrent Workshop on PAHO's Nutrition Research Program develop a constructive program for consideration and recommendations at a later session of the meeting.

REPORT TO THE ACMR FROM THE
CONCURRENT WORKSHOP ON PAHO NUTRITION RESEARCH PROGRAM

12-13 July 1977

THE ROLE OF RESEARCH IN PAHO NUTRITION PROGRAMS

The goals of PAHO include advancing and finding ways to utilize knowledge to make health-oriented activities more effective in Latin America and the Caribbean. Research is fundamental to solve health and development problems and to assure that service programs reach the intended beneficiaries. Nutrition in turn is a major contributor to health and human development.

Nutrition research programs developed by PAHO and its affiliated Centers should be "mission-oriented" towards:

1. Determining the prevalence and severity of the problem.
2. Identifying the reasons for the deficiency.
3. Determining the causal and contributory factors.
4. Developing methods for delivering improved services.
5. Evaluating the outcome in terms of improved health and performance.

It must be recognized that solving nutritional and health-related problems must also involve agriculture factors, social anthropology, demography economics, food processing, conservation, and distribution. Research bearing on solutions of nutrition problems must take all aspects of the food chain into account if the research is to lead to realistic recommendations and achievements. PAHO has already adopted this intersectorial approach to its programs directed towards improvement of national nutrition plans and policies.

It is recognized that each country has its own special needs and orientations which make it difficult to establish a common set of priorities for research activities to cover the entire Region.

However, the major nutritional research needs of the Region fall into four primary categories which may be viewed as priority areas:

1. Identification of the main nutritional problems

New methods are needed for the diagnosis of multifactorial causes of malnutrition. In particular, simple functional indicators and methods which facilitate decision-making and evaluation of efficacy of programs are needed.

2. Interventions

Research needs encompass clarification of the consequences of specific deficiency states through identification of suitable vehicles for enrichment, as well as efforts to improve food production and availability. They also include research on the integration of nutrition into health and environmental interventions.

3. Nutrition education

Special attention needs to be given to utilize information to improve the methodology for nutrition education.

4. Comprehensive evaluation

In implementing intervention programs, there is need for baseline data and on-going systems to evaluate the impact of food, nutrition, and related health programs.

NEED FOR COLLABORATIVE NUTRITION RESEARCH NETWORKS

It is increasingly important that the PAHO Centers develop mechanisms for collaborating closely among themselves and with national institutions or agencies to develop stronger networks. Methods to do so were explored and briefly described.

PROPOSED AREAS OF COLLABORATIVE RESEARCH

The discussions focused specifically on areas of collaborative research which could form the basis for a coordinated center-based research network in the Hemisphere. These are strongly oriented toward the dissemination and utilization of existent knowledge and the rapid development of interventions directed toward major regional nutrition problems.

Nutritional anemia should receive high priority as an initial effort of active PAHO-coordinated research.

Appropriate technology. There is a wide range of identified technologies and methodologies adequate for the nutrition component of primary health care.

The research needs concerning nutrition in primary health care are largely, but not entirely, operational in nature. The most suitable technologies are common to all parts of the world, but require adaptation of the local situation.

Dissemination of nutrition information. The development of a nutrition information system that would allow the rapid diffusion of the results of research pertinent to the solution of nutrition problems and to the provision of a better response to the needs of the countries should be a high priority. In this area, it was agreed that collaborative efforts should be developed between INCAP, CLAP, CFNI, BIREME, and CLATES.

FUNDING

It was recommended that, to the extent possible, PAHO should provide the core staff and/or basic funding of such projects which would be complemented by two additional sources:

1. Research grants obtained by the coordinated efforts of PAHO and the Centers involved.
2. Funds from the countries where the research is to be performed in response to their request.

The Committee considered the establishment of working groups useful for in-depth study of specific areas. It recommended simplified methods to develop indexes, diagnoses, and interventions. The Committee endorsed efforts to identify mechanisms for the exchange and quick dissemination of nutrition study results and the decision to approach the nutrition problems from a multidisciplinary point of view.

Finally, the ACMR approved the report submitted and agreed to adopt it in the recommendations to the Director.

III. SPECIAL SESSION ON ENVIRONMENTAL HEALTH

Moderator: J. Lee

Rapporteur: P. Galindo

In his capacity of Session Secretary, the Chief of the Division of Environmental Health reported on the activities under his responsibility and described the research underway at the Pan American Center for Sanitary Engineering and Environmental Sciences (CEPIS) in Lima and the Pan American Center for Human Ecology and Health (ECO) in Mexico. He pointed out that although both Centers were approaching research differently, their activities were complementary.

The 9-year old CEPIS is conducting in-house research, and ECO, which has been established only 18 months ago, is concentrating its efforts to promoting research activities at national institutions and centers.

CEPIS research activities were expanding to strengthen training and information exchange, and ECO, following the recommendations of a panel of consultants, had developed a work plan which placed emphasis on environmental impact assessment of industrial and river basin development projects.

Ecology and Health

This presentation emphasized the difference that exists between ideal health, as described in medical textbooks, and health as defined concept or by-product of the human environment. The latter considers the individual as a whole in his biotic and social environment. The idea then is to maximize the level of health within ecological factors rather than to force man to reach standards that correspond to other environmental conditions.

ECO could act as advisor and evaluator of studies. Financing could come from interested agencies with some small international assistance from PAHO through ECO.

Human Ecology Research and Training Needs in the Americas

The research and training program of the Center consists of the following 10 priority areas:

1. Research and development of environmental and health impact assessment methodologies.
2. Early environmental intervention. Prevention of infestation and infection resulting from development projects.
3. Research and development of environmental interventions to control endemic disease.
4. Health effects of environmental pollutants. Development of appropriate control programs and standards in developing countries.
5. Development of planning public administration and environmental and health protection agencies. Implementation of health protection strategies.
6. Human adaptation to stressfull environments.
7. Health hazards of migration and colonization. Problem of adaptation to new ecosystems.
8. Development of curricula in human ecology and field training programs.
9. Development of environmental epidemiological training programs linked to environmental laboratories.
10. Development and evaluation of early warning systems.

ECO assists national centers and researchers in problem identification, information retrieval and analysis, research design, project management analysis, and publication of results, but is not directly involved in primary data collection. Similarly, the Center does not plan to conduct training programs directly, but to support these activities in other institutions. In general, its role will be to support, supplement, and extend existing national resources.

Research Needs in Environmental Health Engineering

Environmental health engineering research in the American Region must provide a variety of technological and management solutions to cope with complex environmental problems. Basic sanitation problems are yet unsolved in many urban and rural areas. Air and water quality have deteriorated to levels that endanger human health. Improper handling and disposal of solid wastes leads to the proliferation of disease vectors. Noise and congestion increasingly affront urban dwellers, while injuries and occupational diseases due to hazardous environmental conditions are common. Environmental protection technologies and programs must be researched in greater depth to respond to these worsening conditions.

Although there are a few notable exceptions, most environmental health research programs in the Region exhibit common deficiencies - manpower shortages, research structures irrelevant to national development problems, insufficient funding and facilities, and inadequate access to and dissemination of information.

In accordance with the demographic and development characteristics of Latin America and the Caribbean, the following types of research were considered to be of high priority to provide solutions to the most important environmental health problems.

1. Projects aimed to provide a better understanding of the actual magnitude of environmental health problems.
2. Research and development of appropriate technologies incorporating inexpensive design methods, construction, operation, and maintenance.

3. Development of adequate sampling and analytical techniques.
4. Control strategies appropriate to conditions in developing countries.
5. Interdisciplinary and multi-institutional research in related environmental sciences and engineering fields.

The following conclusions and recommendations emerged out of the discussions:

1. In general, PAHO should give high priority to environmental health research balanced against the other priorities of the Organization. Research and training in areas related to water supply should have the highest priority. It was indicated that there is available simple and economic technology and that what is needed is research into how to organize communities to implement programs using such technology. CEPIS, which has done excellent work in this area, should expand its training program and information exchange. CEPIS should be strengthened with additional professionals to investigate the organization and management of programs.

One way of producing useful knowledge in specific areas would be the organization of small interdisciplinary teams to work and do investigations on the basis of the ecological concept of health. PAHO could be instrumental in bringing together experts to start research projects with country resources supplemented with small grants.

In performing an environmental impact assessment it is important to consider:

- a) The identification of specific health problems which could be exacerbated by the impact of project development. Methodologies for environmental impact studies cannot be easily extrapolated from one project to another. They have to be tailored to the social, political, and economic conditions of the specific situation.
- b) The provision of alternative solutions to eliminate or minimize change consequences that could result in adverse effects on health.
- c) The improvement of life styles of the population affected by the development project.

4. *Research in human ecology and health has to go beyond the health sector and include coordination and collaboration with other sectors. ECO's approach to environmental impact assessment and human ecology and health, in general, is appropriate.*
5. *To promote and maintain research it is important to develop an adequate infrastructure. Support should also be given to institutions and individuals interested in research. It is also necessary to identify and develop leaders in the field who in turn would further develop other staff.*
6. *In some of the countries there is need of awareness of the health implications of development projects. ECO many have an important role to play in this regard.*

IV. SPECIAL SESSION ON DEVELOPMENT AND EXTENSION OF HEALTH SERVICES

Moderator: G. Arbona

Rapporteur: R. F. Badgley

The focus of the four expert presentation and their review by the ACMR were concerned with: (a) what principles were involved in the extension of health services; (b) what research had been done and was required in this field; and (c) what were the applicable methods of operational research that would contribute toward greater effectiveness and efficiency in health care. The members of the Advisory Committee were reminded that the principle of the universal coverage of health services had been endorsed for many years by the Member States. Inherent in acting upon these principles were the contingent steps involving the supply of health manpower and resources and the reordering of health systems to provide accessible services on an equitable basis.

In the context of the changed mandate and composition of the Advisory Committee, it was recognized that different interpretations might be involved

in how particular issues were seen, in what was meant by certain terms, or in the rating of priorities. The interests represented in the membership of the Committee were not mutually exclusive but augmented each other. In its work in the future it was acknowledged that the Advisory Committee would seek a balanced and integrated approach in these respects.

Several principles involved in the extension of health services and research and its effects inherent in this process were highlighted by the Committee. These were:

Knowledge of the community. In particular, about its existing ways of obtaining care; its values and priorities on health; and current patterns of motivation and participation, and how these might be altered. There was a deep concern in how the gap between knowledge and its application could be narrowed.

Provision of health services. It was recognized that what was meant by primary care varied greatly. Involved in the extension of health services were the specification of these services, their supply, disposition and funding, the training and the motivation of health workers (understanding of the rigidity and flexibility of the health systems in responding to change).

Strategy of intervention. An understanding of the feasibility among available options.

Research design. It was recognized that the Session had not dealt with this aspect. The points raised considered the utility of case studies and the experimental approach. The dilemma faced by administrators who have to reach decisions in the absence of research finding was recognized. This situation could be partly resolved if there was an anticipation of the types of problems inherent in the administration of health services and if appropriate operational research became integral to the administration of all health services. By relating specific questions in operational research to program objectives, a more effective and efficient use of existing resources might be achieved. The ACMR recognized that applied work called for an interdisciplinary approach, and required sufficient staffing and resources, expansion of training opportunities, and the long-term mounting of the evaluation of health services.

Recommendations

In its concluding comments on the Session the Advisory Committee gave priority to a review of:

1. National policies in health research. Which were they for Member States? From a review of the experience and requirements of member nations, what areas of research might be given priority by PAHO, so as to involve the community in the extension of health service coverage?
2. Extension of health services. An inventory of models, case studies, and utility and application of alternative approaches should be developed. These models should be analyzed and evaluated.
3. Operational research. This should comprise an outline of principles, methods, format, staffing, and resources, and stimulate the interest of governments.
4. Appropriate technology is of paramount importance; the implementation of health service programs should not await investigation results. The two efforts should be made simultaneously.

V. SPECIAL SESSION ON COMMUNICABLE DISEASES

Moderator: T. Weller

Rapporteur: P. Galindo

The Moderator introduced the Session and referred to communicable diseases as an integral part of human ecology. He spoke of the efforts devoted to their control, the interacting existing between the various population species and man, and of the repercussions that health measures may have on man-infecting agents.

PAHO Research Program on Communicable Diseases

Public health research is complex as it encompasses the feasibility of utilizing new fundamental scientific knowledge as well as the evaluation of a community's health status. The Division of Disease Control has defined objectives for the improvement of knowledge on regional pathology, including etiology, distribution, and prevalence. It promotes, coordinates, and evaluates control methods, and undertakes studies for the development of effective measures for the delivery of preventive services. The Division collaborates in the training of personnel at all levels, and instigates research projects channeling financial and human resources for their development. PAHO coordinates and stimulates the exchange of scientific information in research and disease control programs.

The research programs in which the Division participates are: malaria, biology and control of vectors, diseases preventable by vaccination, virology, zoonoses, Chagas' and other parasitic diseases, gastrointestinal infections, tuberculosis, leprosy, congenital malformations, plague, chronic noncommunicable diseases, and blood/serum banks. Among the factors hampering the development of research programs are anthropologic elements, inadequate planning, political instabilities, poor education, and insufficient funding.

Research Prospects in Communicable Diseases in Latin America

Reference was made to a few diseases whose epidemiologic situations made them problems of priority concern.

Research and training of personnel were mentioned as determining factors in the solution of local problems at the country level. In malaria, factors related to the vector, parasite, and man favored transmission persistence in certain areas. Research into the immunology, chemotherapy, sero-epidemiology, vector control, ecology, and vector and plasmodium biology is needed. Proposals for specific research projects are being prepared to secure adequate financing. Such projects include basic and operational investigations for the development of new attack methods.

The diagnosis of Dengue-3 cases in Colombia and the present outbreak of Dengue-1 in Jamaica have alerted Caribbean and Middle American countries to the possibility of appearance of dengue hemorrhagic fever and stimulated the establishment of vector control systems and epidemiologic surveillance. Environmental changes in tropical forest ecosystems are increasing the possibility of arbovirus epidemics. Polyvalent vaccines are not yet reliable and the present situation warrants urgent investigation.

Though leishmaniasis is a pioneer's disease, the modifications in the tropical ecosystems have been the cause of epidemic outbreaks. The African mouse Mastomys is an adequate animal model for chemotherapeutic and immunologic studies.

Artificial lagoons and irrigation projects are providing new habitats to snails of the genus Bionphalaria, and justify studies on the sensitivity of the various species of Schistosoma mansoni and their geographic distribution.

Foot-and-mouth disease vaccine may immunize cattle against the infection, but it has no effect in the multiplication of the virus. More studies on immunization with attenuated virus are required.

It is of great importance to continue studies on the synergistic effects of multiple infections in the tropics, whether they are accompanied by malnutrition, or not. Furtherance of these investigations requires financial backup and a special program for the training of professionals.

WHO's Special Program for Research and Training in Tropical Diseases

The objectives of this Special Program are:

1. To identify methods for the prevention, diagnosis, therapy, and adequate control of vectors of tropical diseases. The diseases selected for priority action are schistosomiasis, malaria, filariasis, trypanosomiasis, leprosy, and leishmaniasis.
2. To strengthen the research capabilities of countries most affected by tropical diseases through provision of biomedical science training and various forms of institutional assistance.

Research will focus on chemotherapy and chemoprophylaxis, immunotherapy and immunoprophylaxis, biologic control of vectors and immunodiagnosis.

The activities and plans of the Special Program are being widely publicized so that interested scientists may identify possible areas of collaboration. It should be noted that problems require a multidisciplinary approach. Thus, the research will not be narrowly confined to those scientists who traditionally regard themselves as parasitologists or specialists in tropical diseases. In addition to the valuable contributions that such scientists can make, it is important to involve other disciplines - immunology, biochemistry, molecular biology, and other basic biological sciences, as well as sociology and health economics.

Regional ACMRs are defining priorities for medical research in their respective regions. It is important to examine how the Special Program can relate to the regional research activities. The aim is to ensure useful collaboration in the areas of common interest for diseases included in the priority lists of both the regional ACMR and the Special Program. Most of the six-above mentioned diseases may feature on the priority list of one Region while in another Region only one or two diseases may be so identified.

We have specifically noted the interest of this Region in the problem of Chagas' disease. In collaboration with the regional office, plans are now advanced for the establishment of the Scientific Working Group (SWG) for this disease. The first meeting will take place in Argentina in November 1977. The SWG will examine previous recommendations for research in this subject as well as on-going activities and will then draw up a strategic plan for implementing the program.

The Committee recommended to consider the possibility to include gastroenteritis and dengue among the selected diseases for priority action of the TDR.

Hemorrhagic Fever in Latin America

The hemorrhagic fever caused by the arenaviruses are gaining increasing importance in the Americas. In addition to the arenaviruses isolated in Argentina (Junin) and in Bolivia (Machupo), which produce 10 to 20 percent of fatal cases of hemorrhagic fever, there are other members of the Tacaribe LCM group of arenaviruses that are not associated with human disease. Aside from the Junin and Machupo viruses, the Tacaribe, Tamiami, Pichinde, Latino, and Amapari viruses have been isolated in Trinidad and Tobago, the United States of America, Colombia, Paraguay, and Brazil. There is no doubt that in the coming years, viruses as pathogenic to men as Junin, Machupo, and Lassa will be uncovered.

Hemorrhagic Fever: Research Needs

Arenaviruses produce chronic infection with persisting virulence in a few rodent species, principally those of the Calomys genus. Significant control of the infection in Bolivia is being achieved through the selective killing of rodents. This method is not followed in Argentina, nor is it considered advisable.

The main goal of research include the improvement of the rapid diagnosis of the infection, the ecologic limitation of endemic zones, and especially in Argentina, the production of vaccines. A vaccine prototype has already been prepared; it appears to be effective and could be used in populations at risk for the infection.

Recommendations

1. In view of the need to improve the quality of research manpower, four types of training programs are required:
 - a) Orientation in research during basic professional education.
 - b) Postgraduate courses (master and doctors degrees).
 - c) Traineeships in special fields.
 - d) Laboratory and field working groups.

2. *It should be suggested to the governments that they establish a "career post" for persons engaged in research on public health problems, whose conditions of employment would be similar to those of university professors and research workers.*
3. *Since research is a collective endeavor for which public funds are required, it must be planned within the general public health framework of the countries and its priorities must be established in the light of the community.*
4. *A preference should be given to programs that have a special impact on the country or on certain areas in the country and to regional cooperative programs so as to utilize better available resources.*
5. *Efficient control methods should be prepared by means of operational research and their applicability studies in the relatively less economically developed problem areas that are affected by the major endemic diseases.*
6. *Anthropological and socioeconomic obstacles to the efficient application of proved prevention methods should be investigated.*
7. *Studies on immunology, chemotherapy, seroepidemiology, ecology, and genetics should be strengthened and expanded with a view to developing new attack methods for use against diseases of priority concern.*
8. *To improve the methods for the parasitological, bacteriological, virological, and serological diagnosis of priority diseases should be improved as should the quality of epidemiological studies as they relate to epidemiological surveillance.*
9. *The countries of Middle America and the Caribbean should be made aware of the importance of the control and eradication of Aedes aegypti in the prevention and control of epidemic outbreaks of dengue and yellow fever.*
10. *Pharmaceutical companies should be stimulated to develop new therapeutic agents for the treatment of priority diseases like malaria, leishmaniasis, schistosomiasis, and onchocerciasis.*

11. *Supporting the Director of PAHO at a high-priority level in the appointment of a qualified regional entomologist at PAHO Headquarters is required to coordinate all necessary programs in the area of vector-borne diseases.*

Chagas' Disease: Research Needs

Chagas' disease is found in an area extending from the United States to Argentina and Chile. About 7 to 10 million persons are infected and are at risk for serious disability and premature death.

The ultimate goal is the elimination of the disease, but the immediate concern is the lack of an efficient method to treat patients. Despite the research carried out in the past 65 years, only 14 basic chemical compounds active against T. cruzi have been found; of these, 8 have been clinically tried. Research will undoubtedly continue on 3 of these drugs as they may present serious problems of mutagenic or carcinogenic toxicity.

The paucity of new compounds for research results from the unavailability of appropriate procedures for the selection of potential drugs. The best method for finding new compounds would be a sequential system similar to that developed by the United States Army Program for the selection of antimalarial drugs, on the basis of their antiparasitic activity. In-vitro assays and the discovery of an animal model (besides the dog) of the chronic infection would be useful.

Further chemotherapeutic and immunologic studies should be undertaken. In view of the complexity of this very varied disease, biological data on the parasite and on the host-response variations should be gathered.

The Role of the Vector Biology and Control Center

The agreement signed by PAHO and the Government of Venezuela defines the Center's role to determine the natural history of Chagas' disease and develop efficient and low-cost measures to interrupt the transmission of T. cruzi infections.

Sylvatic vectors and reservoirs are prevalent in border areas, even where no human parasitemia has been observed. There are domestic and peridomestic reservoirs, especially dogs and rats. In Venezuela, the principal vector, Rhodnius prolixus and the secondary vector, Triatoma maculata, have very varied sources of blood from sylvatic and domestic habitats. Both vectors infest houses actively and passively.

Epidemiological surveys show that transmission varies from country to country. A high number of positive sera in human population does not necessarily imply similar levels of abnormal electrocardiograms. Differences between parasite strains need to be defined.

The most important work of the Center is vector control. Studies with insecticides are being carried out in the laboratory and in a few trials. Laboratory tests are being made with insecticide equipment in collaboration with WHO and alternative methods of eradication, such as biological control and changes in housing are being studied.

Education and training should be increasingly emphasized in the Center.

Potential PAHO Activities in the Study of the Disease

The available control measures are not believed to be totally satisfactory and, therefore, research should be an important component of any control project. PAHO is organizing a cooperative program for the improvement of control methods. The program is being planned as a multidisciplinary effort in which PAHO's different Divisions will collaborate by pooling their technical and administrative resources.

This program will be conducted in cooperation with the countries affected; it will be coordinated by the Organization's Research and Reference Center in Biology and Vector Control and will, in the future, be supported by subregional centers, as may be established for cooperative research on problems affecting countries in certain areas.

Basic and some operational research problems whose solutions may be applied generally, will be dealt in collaboration with the WHO's Special Program for Research and Training in Tropical Diseases.

To conduct an efficient control program with organized research and necessary resources in the countries, manpower training in the various aspects of control and research must be started. The Research and Reference Center in Biology and Vector Control will be a fundamental resource in this endeavor.

In the discussion of the difficulties involved in the treatment of Chagas' disease, special mention was made of the need to investigate drugs that act on intracellular parasites with very varied and complicated physiology.

Recommendations

1. *To follow the WHO policy in the selection of collaborating laboratories and to give priority to those existing in the Americas.*
2. *To integrate the research components of the PAHO Program in Chagas' Disease with the WHO's Special Program for Research and Training in Tropical Diseases.*

Immunization Task Force

The Expanded Program on Immunization (EPI) in the Americas is a component of the basic health services and will progress simultaneously with the extension of coverage of these health services.

Special areas of countries where some population groups are not covered by basic health services will require special approaches, e.g. mobile units attached to a health center. These measures reflect the goal of the Program approved by the 30th World Health Assembly "To provide immunization against diphtheria, tetanus, whooping cough, measles, poliomyelitis, and tuberculosis to every child in the world by 1990."

Problem areas already identified include: lack of long-term programming of the immunization component of the basic health services; lack of proper managerial and administrative methods regarding this health component at central and regional levels in the various countries, and some other technical aspects related primarily to stability and conservation of vaccines.

Problems being addressed or which will be addressed include: (a) vaccines: increasing stability (measles, poliomyelitis, DPT); decreasing reactogenicity (pertussis); (b) vaccine delivery system, reducing the needs for "booster immunization"(DPT, polio), improving vaccine administration techniques, and immunization coverage rates; (c) evaluation of field operations; (d) improving community awareness and motivation; and (e) program management to improve vaccine control and disease surveillance systems, and surveillance of immunization coverages.

Gastroenteritis Task Force

Gastroenteritis has been the leading reported cause of childhood death and morbidity in Latin America and the Caribbean. Because of his concern with the need for an expanded program of gastroenteritis in the Americas, the Director established the PAHO Gastroenteritis Task Force in March 1977. The Task Force works in close association with the Immunization Task Force and has representatives from bacterial diseases, viral diseases, laboratory sciences, maternal-child health (MCH), nutrition, health planning, community education, and environmental health.

The details of the regional program have not yet been developed, but the basic strategies and priorities are clear. They are:

1. Incorporation of enteric diseases within existing or proposed community education projects.
2. Strengthening the oral rehydration component of national primary health care and MCH programs, particularly those in which PAHO actively provides technical assistance.
3. Development of one or more reference laboratories in enteric disease for Latin America and the Caribbean.
4. Assistance to selected laboratories in the service diagnosis of typhoid fever, dysentery, enterotoxigenic E. coli, and rotaviruses.
5. Immediate assistance to all countries in strengthening their emergency response to diarrhea.

6. Assistance to all countries on a long-term basis, in early intervention programs which have as essential components simplified reporting and surveillance, oral rehydration, basic laboratory and patient referral systems, and the production of salt powders and intravenous solutions within countries with a sufficient population base.

The Organization research strategy, therefore, should focus on unknown factors of diarrhea, the knowledge of which would lead eventually to better and more immediate diarrhea prevention and control. The Task Force also feels that the Organization can play an important catalytic role in promoting and supporting collaborative research in enteric diseases within Latin America and the Caribbean.

During the discussion it became apparent that there is not yet a definition of acceptable standards for vaccines in most countries of the Region. This problem will be addressed to in a forthcoming meeting in Mexico City. The ACMR emphasized the importance of arriving at such standardization.

The importance of making the maximum possible use of existing resources in countries was also stressed, particularly primary health services, as the immunization program must be a permanent and not a temporal effort.

The need to develop vaccination calendars for each country based on epidemiological information on the ages at which children become ill and die from each disease was also discussed.

The Committee analyzed the functions of the PAHO Gastroenteritis Task Force, which is providing a focal point for the program, allowing a catalytic effect of the very limited resources of the Organization.

PAHO/UNDP/World Bank Seminar on "The Diarrhea of Travelers - New Directions of Research"

The problem of travelers' diarrhea was analyzed in its relation to the tourist development of many countries and as an indicator of epidemiological conditions.

As was pointed out in the November 1976 Conference on Diarrhea of Travelers, considerable progress has been made in elucidating the causes of

enteric diseases over the last few years. The application of modern laboratory techniques makes it possible to determine the etiology of the majority of acute diarrhea cases. However, such methods are costly and require specialized personnel. Hence it is necessary to simplify the procedures and make them less costly so that they will be accessible to the majority of laboratories.

In Latin America there is an extremely urgent need for current data on the natural history of the disease in conditions prevailing locally. These data can only be obtained through epidemiological research methods.

It is a known fact that there is close relationship between malnutrition and enteric diseases, but it is needed to investigate other predisposing factors, for example genetic and social implications, and to investigate the most effective and least costly means of supplementary feeding acceptable to the population in general which guarantees a nutritionally satisfactory diet.

Although considerable progress has been achieved in regard to environmental sanitation in many urban centers, greater attention should be paid to it in rural zones. Before large scale, costly programs are introduced, it is important to evaluate the resources available in each locality for water supply and effective excreta disposal services.

Effective, harmless vaccines, low in cost and easy to apply, represent an extremely useful resources in the control of enteric infections. It is, therefore, necessary to stimulate research designed to discover new immunizing agents.

The research needs outlined must be carried out not competitively by different investigators in different laboratories, but in a comprehensive, coordinated program with rapid feedback and dissemination of information so that it can be immediately applied to solving the current problems with which we are confronted.

VI. REPORTS ON SCIENTIFIC MEETINGS AND PAHO REGIONAL CENTERS ACTIVITIES

IV International Conference on the Mycoses

At this meeting, papers were presented on the taxonomy of black yeast-like fungi and the treatment of chromoblastomycosis with amphotericin B and 5-fluorocytosine and on pathogenic white yeast-like fungi, in particular candidiasis and cryptococcosis. Attention was called to the presence of candidiasis in humans, who have had prolonged treatment with sample spectrum antibiotics and the growing significance of cryptococcosis when using adequate serological techniques. Information was given on the relationship between doves and cryptococcosis.

Mention was made on the lack of a cutaneous test in cryptococcosis and the lack of information about morbidity due to mycotic infections, which prevented cost-benefit calculations in the development of new antimycotic agents by the pharmaceutical industry. Compulsory reporting of certain mycotic infections should be enforced for greater accuracy in frequency data and to stimulate pharmaceutical companies to investigate other antimycotic agents in addition to amphotericin B.

Workshops on Leprosy

Reports were presented on two leprosy meetings. The first was held at Johns Hopkins University on the progress in the cultivation of M. leprae: redox potential and addition of hyaluronic acid. Reports were also made on the progress of antigens, immunological tests, and immunotherapeutical resources of the animal models available, mice and armadillos, the armadillos were capable of reproducing an infection similar to the lepromatous form of the disease in human beings. The Louisiana armadillo is more sensitive than the South American armadillo.

In the second meeting, it was recommended that efforts to breed armadillo in captivity should be strengthened and that they should be used for the trial of chemotherapeutic agents in leprosy.

Caribbean Epidemiology Centre (CAREC)

A summary report of research at CAREC was presented. It described the activities of the laboratories in the Centre and the health problems present in the countries of the Region; leptospirosis, filariasis, fevers of unknown origins, dengue, gastroenteritis, etc. Research programs were recommended in several instances on the basis of results from services offered.

Study Group on Malaria Control in the Americas

In 1977, 71 percent of the population formerly inhabiting malarious areas, lived in maintenance or consolidated zones. Attention was called on resistance of vectors to insecticides, of plasmodia to the 4-aminoquinolines, and on the changes in population dynamics. Also mentioned were the progresses made in obtaining plasmodium antigens in primates, serologic investigations, search for malaria resistant to chloroquine, and the efficacy of mefloquine. The need to be able to count on a greater number of qualified entomologists was also expressed.

Pan American Zoonoses Center (CEPANZO)

A summary was presented of the activities of CEPANZO under three headings: (1) immunization with Fuenzalida vaccine and various adjuvants in bovine cattle; (2) chemotherapeutic treatment of canine hydatidosis in which a mixture of isoquinoline and piperazine gave excellent results; (3) serologic diagnosis of human hydatidosis in which the sequential combination of the latex agglutination test and immunoelectrophoresis gave reliable results in all cases. Questions were asked about the use of antirabies vaccines produced in human cell lines and comments were made on the possibility of the industrial development of this immunogenic agent.

Pan American Foot-and-Mouth Disease Center

Considerations were offered on the cause of foot-and-mouth disease in animals and the cost-benefit ratio of single and multiple vaccination schedules. Trials with local virus strains and the introduction of oily adjuvants were also discussed.

Reasons were advanced for the absence of foot-and-mouth disease in certain areas of the Americas. Debates continued on the financial problems involved in a possible short- and long-term eradication of the disease.

Report of a Visit to the PAHO/WHO Immunology Research and Training Center
in São Paulo

The report on this consultancy, which had been recommended by the ACMR in 1976, underlined the importance of the activities of the Center, the financial problems it faces, and the lack of information on the available training and technical resources in immunology in the Region. A recommendation was made on the need to train immunologists for biological production programs in the Region.

VII. EXECUTIVE SESSION

The two basic problems raised in the Executive Session were: the role of the Advisory Committee on Medical Research and the logistics of the Committee's annual meetings and activities.

The discussion opened with a presentation by the Chairman, who stated the former problems and indicated that there were others connected with the Committee's activities, like the need to stimulate education for health, which involved the training of research workers, setting up a program of study for them as well as an evaluation of the activities and the follow-up of the research. It would also be useful to know how much was being invested and how much of the investment was being used in the Region.

It was indicated that the selection of topics for discussion in the coming meetings of the ACMR would have to be more balanced than they had been in the past, when meeting frequently emphasized some single field. This year, for example, the emphasis was on communicable diseases and environmental problems, which took up 60 percent of the sessions. It was also proposed that a single topic be chosen for discussion from different standpoints.

This procedure was urged for the coming year and it was pointed out that, to be most productive, the topic should be worked on throughout the year. The proposal was agreeable to other members of the Committee, who added that the discussion should begin with a statement of the gaps in what was known of the topic and with the definition of some concepts - like operational research - that were frequently used without a clear idea of what they covered.

Some new members of the Committee were concerned to understand its specific function, since there had been talk of guidance in policies for research and evaluation. The Chief of the Division of Human Resources and Research said that the ACMR was the only PAHO Committee with the specific mission to advise the Director on the Organization's internal policy in the research field. The work of PAHO is subject to the Ten-Year Health Plans, the last of which clearly reflected the concern of the Member Governments to initiate research policies. In former meetings the Committee had discussed lines of scientific work and the quality thereof, but at no time did it every try to chart policy. Although the Governments are responsible for the formulation of such policies, it is PAHO's obligation to advise them in this task. In his address Dr. del Cid described the extent to which the Committee could help advise and lay down general guidelines. The members of the Committee would also be able to do this in the subregional meetings, being organized for the purpose. As for the membership of the Committee, it was important to consider whether it should include not only researchers, but also people who had worked in the health field, whose experience qualified them to indicate areas in which knowledge or information was lacking, in other words, the advisability of bringing workers in basic, clinical, and operational research into contact with experience health leaders in the Americas.

The role of the Committee was discussed and it was felt that, to accomplish its purpose, the meeting should consider both general topics in plenary sessions and specific topics in working groups, such as the one that this year studied nutrition problems, and the one that ought to have been set up on communicable diseases.

It was also mentioned that papers on the topics of the meeting needed to be seen well in advance and it was suggested that it would be useful to invite officers of the national science and technology councils to participate in these meetings in order to consider how recommendations generated at coming meetings could be implemented. One member of the Committee was sceptical about application of the methodology of operational research in Latin America, since he felt that the infrastructure was not yet adequate and the data to be worked with were highly abstract. In the organizational aspects, too, he cited the disadvantage of allowing the reading of long documents in sessions. These documents should merely be included among the working materials furnished to Committee Members for reading prior to sessions. Nor, it was opined, was it useful to hear the reports of the Centers, and a similar procedure was recommended in which the directors of the Centers would merely appear to answer questions that Committee Members might have after reading the reports.

Questions were asked about PAHO's research policy as background to any Committee decision, to which end copies of the relevant chapter of the Ten-Year Health Plan were distributed.

Another member felt that the Committee should not only advise the Director, but also report to him any noncompliance with a provision.

It was also proposed that the Committee be a "reflecting mirror" for the various PAHO bodies, for which it was suggested that partial meetings of the divisions be held one week before the Committee's meeting to review its work and propose programs of future research to be presented later to the Committee for consideration.

It was felt that the Committee could take advantage of the presence of Dr. Hector R. Acuña, Director of PAHO, in the meeting, to put to him the questions of the new members about its function.

Statement of the Director of PAHO

To begin with, he said that, PAHO was embarked on a colossal undertaking: to provide health services to all the people of the Continent. In this task, for which the Governments bore the heaviest responsibility, PAHO had a decisive part to play, although its resources were modest and limiting. The Committee was a very important element in this role. The Governments had made their commitment on the basis of allocation of additional resources for the purpose, and on a more rational use, utilizing primary health services and ensuring community participation.

Within the administrative, political, social, and economic complex implied by the adoption of these strategies, several imperatives stood out. The most important was that the new concept of technical cooperation be adopted among developing countries. This idea was not a new label to replace the one of technical assistance, but had implications and involved changes that were extraordinary. On the one hand, the Member Governments no longer acquiesced in the old concept of the consultant from the developed country who, after analysing the situation, made a diagnosis and proposed a solution. The consultant now had to be someone who had lived and felt the problems of the developing countries, as did 75 per cent of the staff of PAHO, who came from countries in that stage of development. The consultant needs to join forces with national experts and to work with them as another member of the working team.

In other cases technical cooperation was interpreted as the Organization's participation in the identification of national experts or its helping the Governments to identify them, and ensuring that they were provided with the support they needed to be able to help their governments diagnose and solve their own problems.

The American Region had served as an example to other international agencies for having adopted programs and set up institutions (some of them in existence for 25 years), like INCAP in Central America and CAREC in the Caribbean and programs generated by the Governments.

In this framework and in order to provide services with resources that were often limited, it was becoming increasingly necessary to apply technology. Not, however, a technology developed in more highly evolved countries with another social, cultural, and economic context, which, when introduced in the countries of the Region, came up against a lack of both manpower and financing on the various levels of application, but a technology properly adapted to conditions in our countries or, even more desirable, generated by the countries themselves in response to prevailing conditions.

The Director then asked "What would be the role of the Organization's advisory committees, like the ACMR if it were considered that the greatest asset of a developed country was knowing how to develop technology?" "People like the members of the Committee enjoyed recognition because they had the vision, the knowledge and the experience to develop this technology. In other words, they had the scientific knowledge that enabled them to adapt it to local conditions, which could greatly benefit the Organization and, through it, the governments of the developing countries on the Continent, which were thus able to stimulate institutions and people by providing them with the methodology best calculated to accomplish this purpose."

The foregoing could be achieved by promoting research in connection with the needs of programs for extending the coverage of health services. Basic or applied, this research was indispensable to provide the technology required for health services. Moreover, if this research was necessary in developed countries, it was absolutely vital in the developing ones. If these developing countries were to become self-sufficient and self-reliant, these research efforts of the countries and governments had to be supported. The Committee could powerfully stimulate the development of quickly and effectively applicable technologies.

How could the members of the Committee perform their function efficiently? The Medical Research Council had to stop acting as censors of scientific papers and become active participants by, for example, acting as advisers on the committees of the Pan American Centers. If a relationship

with the centers were established in which their activities could be better understood, the members would be able to help steer their activities and so make these institutions, already productive, much more productive yet. Moreover, if the Members of the Committee sat at the same time on the committees of the Pan American centers, they could tie the entire research program of the Organization together more effectively by impressing on it an approach that was multidisciplinary and, at the same time, more generalized, inasmuch as they represented many specialties that were basic to the development of health services.

He then added: "You have the firm support of the Director of PAHO in carrying out this study, and we will make the study possible by supporting you in any way you may need. If you share my view, we will make the necessary arrangements for selected members of this Committee to serve also on the advisory committees of the Pan American centers."

Finally, he added that what he said was not to be taken as the Organization's last word, and he proposed that they consider whether the Director might invite the Chairman of the Committee, or some other suitable person, to represent the ACMR views to the Directing Council, and that this person bring the views of that Council right back to them. A special meeting of Health Ministers of the Americas was being convoked for 26 and 27 September in Washington, D.C., and would be followed by the XXV Meeting of the Directing Council of PAHO. In compliance with a resolution of the previous meeting, the Fourth Meeting of Health Ministers would analyze the situation of the countries in relation to the coverage of health services and their recourse to strategies for making use of primary services and community participation. In this analysis, which would be presented to the ministers, it was possible that the Committee would consider which were the fields of research, for the new technology in particular, required to achieve that objective already adopted by the countries of the Continent.

The members of the ACMR commented on the address of the Director in connection with the role to be played by members sitting on two committees (those of centers and those of WHO and PAHO), to which the Director replied that there would be no conflict, for the interests involved were the same.

Comments were also made on the benefit that could now be acknowledged to have accrued from the change in the working procedures of the Committee as compared with last year's meeting.

It was proposed that the Committee study a problem on a multidisciplinary basis. To this the Director replied that, though he did not want to influence the decision of the Committee, a multidisciplinary and even a multisectorial approach to problems would generate recommendations of high value. This, he continued, was one of the reasons for appointing to membership on the Committee persons of prominence in widely disparate fields of scientific endeavor.

Plans for the meeting next year

In recognition of the advisability that the members be able to visit personally the Organization's programs and centers in the field, it was agreed to alternate annual meetings between Washington and member countries. It was decided that the first week of May 1978 would be the most convenient period for holding the XVII Meeting of the Advisory Committee on Medical Research. The place of the meeting would be decided in due course.