

*directing council*



**PAN AMERICAN  
HEALTH  
ORGANIZATION**

XXXVIII Meeting

*regional committee*



**WORLD  
HEALTH  
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## **REPORT OF THE ADVISORY COMMITTEE ON HEALTH RESEARCH**

The Advisory Committee on Health Research (ACHR) held its XXX Meeting in Salvador, Brazil, 20-22 April 1995. Dr. Naomar de Almeida Filho served as Chairman, replacing Dr. Adolfo Martínez-Palomo.

The issues considered in the meeting fall under four main topics:

1. Role of research in the implementation of the Strategic and Programmatic Orientations (SPOs) for PAHO, 1995-1998. As an introduction to the discussion of this subject, the five orientations were presented by the Division Directors within the Secretariat.
2. Situation analysis of scientific output in health in Latin America and the Caribbean and of the graduate programs in public health in the Region.
3. Analysis of PAHO cooperation activities concerning research, emphasizing the Research Grants Program and Cooperation in Biotechnology.
4. Analysis of the structure and functions of the ACHR.

The following recommendations stand out among those made by the ACHR on each of these topics:

1. PAHO must clearly define the subjects, problems, and questions that orient the development of research to support SPO implementation. Given the challenge posed by such new approaches as Health and Development, Health Promotion, and Environment and Health, the Committee has noted the need to promote the development of new methodological approaches, specify concepts, and rethink frames of reference and

indicators. Recognizing the importance of Health Systems and Services Research to support the processes of sectoral reform, the ACHR has recommended the development of cooperation activities with a view to strengthening the capacity of the countries of the Region for this type of research.

2. In the discussion on the status of health research in the Region, it was recommended that studies on scientific production be continued with expanded consultation sources and that they combine qualitative and quantitative analyses in order to develop a better approach to the regional situation. A recommendation was also made to undertake a study on the research funding situation, particularly research sources, amounts available, and new forms and mechanisms of funding. Another study was recommended on the status of periodicals in the Region, with a view to stepping up BIREME efforts to improve their quality.

3. The Grants Program discussion engendered a positive response to new project promotion and support procedures, such as the competitions on selected subjects and workshops to facilitate the preparation of research protocols. It was suggested that the grant amounts be reviewed, while recognizing the importance of continuing to finance medium-sized projects between US\$ 20,000 and \$30,000. With regard to the Grants Program, better dissemination of project results and data on researchers and institutions was also suggested.

4. With regard to the structure and operation of the ACHR, the principal recommendations call for a more active role for the Committee and its members in the work of the Organization, more frequent meetings, and continuation of the current Subcommittees on Biotechnology and Health Systems and Services Research with the possibility to form other ad hoc subcommittees with well-defined and limited functions for specific subjects. It was also recommended that in the next meeting the role of the Committee be discussed in greater depth. During the meeting, the Director of PAHO announced his decision to expand the number of members of the Committee from 12 to 15, to convene annual meetings, to maintain the current Advisory Subcommittees on Biotechnology and Health Systems and Services Research, and to review their structure and functions.

Annex



*Pan American Health Organization  
World Health Organization*

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***XXX MEETING - ADVISORY COMMITTEE ON HEALTH RESEARCH  
Salvador, Bahia, 20-22 April 1995***

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**ACHR 30/95.15  
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**FINAL REPORT OF THE  
XXX ACHR MEETING  
  
REPORT TO THE DIRECTOR**

**Research Coordination (HDP/HDR)  
Salvador, Bahia, Brazil - 22 April 1995**

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**REPORT TO THE DIRECTOR  
XXX MEETING OF THE ADVISORY COMMITTEE  
ON HEALTH RESEARCH (ACHR)  
20-22 April 1995  
Salvador, Brazil**

**I. OPENING SESSION**

Participating in the opening session were Dr. José María Magalhães Neto, Secretary of Health of the State of Bahia, Dr. Eduardo Andrade Mota, Secretary of Health of the Município of Salvador, and Dr. Carlos Morel, representing the Minister of Health of Brazil, Dr. Adib Jatene. Following the opening remarks of Dr. George A. O. Alleyne, Director of the Pan American Health Organization (PAHO/WHO), the officials in attendance welcomed the members of the Committee, stressing the importance of the meeting and the fact that it was being held in Salvador, Bahia.

**II. INTRODUCTION TO THE MEETING**

Dr. Alleyne opened the meeting with an historical overview of the activities of the Advisory Committee on Health Research (ACHR), noting that the Committee had initially devoted itself to discussing the latest research advances in the areas of interest to its members. A gradual change in focus has taken place, and the Committee now discusses and makes recommendations on PAHO research activities.

Next, PAHO's Director suggested what the ACHR's role should be: The Committee cannot simply endorse what PAHO does and serve as a rubber stamp; that would be a waste of time and resources. Nor can it hope to discuss the progress of science, since it would be impossible to cover all the areas and topics of health research.

The Committee should focus its efforts on orienting PAHO research policies, which, along with other technical cooperation activities of the Organization, should be concentrated in the five areas selected by the Governing Bodies as SPOs, which will be discussed during the meeting.

Regardless of the subject matter, PAHO should promote the type of research that produces the knowledge necessary to improve health—knowledge that is oriented toward the problems of the Region. Promotion of collaborative efforts between groups and countries is an important orientation, but individual initiatives must not be neglected. It is necessary to define problems whose solution requires research and to strengthen the infrastructure of human, financial, physical, and organizational resources.

The last session of the meeting was expected to allow discussion of the role of the ACHR and its operating mechanisms. Dr. Alleyne asked the members to consider the following questions:

- What is the appropriate structure for the ACHR? How many members should it have?
- How frequently should meetings be held, and what should the agenda be?
- What is your opinion of PAHO research cooperation in the selected areas?
- Is PAHO's presence in the countries appropriate, and are the promotion instruments it uses relevant?

In conclusion, Dr. Alleyne noted that research promotion is not solely the responsibility of PAHO's Research Coordination but of the entire Organization; the same holds true for the Division of Health Promotion and Protection and the Women, Health, and Development Unit. Indeed, only a small portion of PAHO research resources are earmarked for Research Coordination. The purpose of all these questions and observations is to take maximum advantage of the ACHR's great potential.

### **III. ACTIVITIES OF THE GLOBAL ADVISORY COMMITTEE ON HEALTH RESEARCH**

In the absence of Dr. T. M. Fliedner, Chairman of the Global ACHR, Dr. B. Mansourian, who is responsible for research at WHO, gave the following presentation:

The great majority of people tend to think about local and short-term problems. In contrast, the Global ACHR is necessarily concerned with long-term problems at the international level, such as those related to the environment and the impact of demographic changes. If WHO resources devoted to research were allocated to resolve these types of problems, we would have some US\$ 30-\$40 million available to study them.

The Global ACHR should act as a bridge between the various actors involved in research in order to mobilize scientific resources. Two weeks ago, all the regional ACHRs were represented at a meeting held to discuss the research promotion activities that should be conducted by the ACHR system over the next two years. Emphasis was placed on a review of the research component in the new strategies promoting Health for All by the Year 2000. At this meeting, the original ACHR terms of reference were reviewed, and strategies to strengthen the entire system were discussed.

Three items on the agenda of the last Global ACHR meeting in October 1994 stand out: updating WHO research strategies; the impact of scientific progress on the future of health; and health policy research.

With regard to the first item, the updated version of the document prepared by Dr. McKeown in 1988 was reviewed. In that document, research strategies were established to combat diseases related to both poverty and affluence, infectious and non-infectious diseases

in tropical countries, and to promote the study of health service delivery. The 1993 version of this document also stressed the economic and health environment, global problems such as population growth, AIDS, behavioral aspects of health, and the development of research capacity.

As for the second item, Dr. Mansourian indicated that discussions had taken place with qualified experts in relation to the impact on health of the progress in basic and applied sciences, changing concepts of health and disease, and the areas of public health and economics.

Finally, with respect to the third item, Dr. Mansourian presented a classification of health research, which included basic, applied, and policy research carried out to enrich the decision-making process in health. This type of research should make use of different approaches and methodologies, and Dr. Mansourian mentioned some examples. In reference to the disease burden estimate, he compared the DALY and infant mortality indicators to analyze inequalities among countries and found that the DALY indicator tended to reduce the apparent inequalities.

#### *Observations and Recommendations<sup>1</sup>*

The XXX meeting of the ACHR demonstrated its regard for the work carried out by the Global ACHR. It indicated that an important topic that should be included in the search for equity is the promotion of technological developments that permit low-cost interventions to be carried out at the local level.

#### **IV. THE CONTRIBUTION OF RESEARCH TO THE IMPLEMENTATION OF THE STRATEGIC AND PROGRAMMATIC ORIENTATIONS FOR PAHO/WHO 1995-1998 (SPOs)**

##### **1. The SPOs for PAHO/WHO, 1995-1998**

In his presentation on this subject, Dr. Alleyne reported that, during the last three quadrenniums, the Pan American Sanitary Conference has decided to define the principal areas in which PAHO should concentrate its efforts. The SPOs for 1995-1998 have been conceived to take into account the restatement of the goal of Health for All by the Year 2000, the WHO Ninth General Programme of Work (GPW), and the realities of the Region of the Americas.

The SPOs spell out the Organization's commitment, which is understood as that of all the Member States and the Secretariat. The area of Environment and Health is included for the

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<sup>1</sup> The observations and recommendations that follow the summary of the presentation of each topic are based on the main points discussed by the ACHR. These points are often more general in nature and can be applied to other topics as well.

Region of the Americas, although it does not figure in the GPW. The organizational structure of the Secretariat was reconfigured to better reflect the five areas covered under the SPOs.

The decision to include the SPOs as the central theme of the ACHR meeting reflected the need for recommendations on research opportunities under each SPO. In conclusion, Dr. Alleyne requested that these recommendations take equity into account; that is, identifying and reducing inequities within a strategic vision that focuses on topics of greater medium- and long-term importance.

## **2. Health and Development**

In his presentation, Dr. José Romero Teruel, Director of the PAHO/WHO Division of Health and Human Development, spoke initially of the links between health and development. He observed that an increase in wealth alone does not guarantee an improvement in health status and, hence, more equitable access to the benefits of development is required.

In addition, there is growing recognition that health makes a crucial contribution to economic activity and that investment in health is indispensable for a competitive work force and economic growth.

At the World Summit on Social Development, held in Copenhagen, Denmark, 6-12 March 1995, there was broad consensus that the development process must not only promote economic growth but should be centered on human beings and lead to an improvement in the quality of life.

There is a current tendency to associate the market economy with the democratic ideal and overestimate the ability of the private sector to act as the engine of human and economic development. Human development, including health, is a social responsibility and is therefore indispensable to maintain a good balance between the demands of the market and the common good.

Referring to the issue of equity, Dr. Teruel mentioned the latest UNDP report, which takes note that 20% of the world population holds more than 80% of the wealth. The Region of the Americas is characterized by large social inequalities and inequities that have limited the human development of a high percentage of the population. Inequities of all kinds are observed, especially those connected with income, race, and gender. For 1990, it was estimated that at least 196 million people in Latin America, or 46% of the total estimated population, were living below the poverty line. In half of the 24 countries for which information is available, 25% or more of the population do not have access to basic health services (CSA94).

These inequities are expressed in highly polarized levels of health and epidemiological profiles that demand multisectoral interventions and a broader utilization of national and international social resources. One of the most complex challenges for social policy in the Americas is to achieve human development with equity that will improve the current levels of



well-being and health among the population. The health status of the population—as a whole and broken down by age, sex, and socioeconomic status—is an indicator of the human results of development and highlights the health disparities of different members of society.

Referring specifically to the Health and Human Development SPO, Dr. Teruel mentioned the following lines of action:

- Develop the capacity for policy analysis, planning, and formulation to prepare and manage health sector projects;
- Strengthen national competence in epidemiology;
- Strengthen the ability of legislative bodies to take up health matters and enact national laws that will permit the effective exercise of the rights and responsibilities of citizens, the State, and private institutions with respect to health;
- Promote health research and support the formulation of science and technology policies in health that meet social demands.

In conclusion, Dr. Teruel pointed out that in order to support the implementation of this SPO, principal research efforts should focus on the following subject areas:

- Analysis of social and health policy decision-making—in particular, political feasibility studies and the study of social actor dynamics;
- Health situation analysis, particularly support for research that makes it possible to analyze differences in health conditions and health care coverage at national and local levels and to take into account social class, income, age, gender, place of residence, and educational level, *inter alia*.
- Research on the sectoral reform process under way in most countries of the Region, with a view to contributing to scientifically based solutions to problems that countries face in reforming their health policies and systems. Among the principal sectoral reform topics that were mentioned were:
  - Studies on financing, expenditures, and investments in health; behavior and trends in health expenditure at the household level and by socioeconomic level and population group.
  - Analysis of care models and strategies to offer universal health care as a basic package of services; targeting; health insurance, etc.
  - Analysis of policies and regulatory frameworks for human resource development in the sectoral reform processes.

- Analytical studies on institutionalization processes in the sector.
- Political processes and legal aspects of sectoral reform; the role of the State and civil society.
- Analytical studies on the ethical foundations of sectoral reform and their contribution to the development of democratic processes in health.

### *Observations and Recommendations*

The Committee recognized the importance of promoting knowledge generation in the areas indicated. However, it also expressed concern that a great wealth of knowledge produced in these areas is not applied in health services, thereby creating the need to promote research and bolster mechanisms and instruments to disseminate and utilize this information.

Another recommendation referred to the breadth and diversity of topics related to Health and Human Development, and the consequent need to identify those of strategic importance.

### **3. Health Promotion and Protection**

Dr. Helena Restrepo, Director of the PAHO/WHO Division of Health Promotion and Protection, first gave a historical overview of the concept of health promotion.

Taking as her frames of reference the 1974 Lalonde Report, the 1978 Declaration of Alma-Ata, and the 1979 Report of the Surgeon General of the United States, Dr. Restrepo observed that the 1970s brought a great change in the sector's orientation. These three documents place systems to treat diseases, lifestyles, the environment, and economic and social factors, on the same plane in affecting the health of the population, thus shifting the emphasis away from the biomedical model that had prevailed until then.

However, the Lalonde Report and the Report of the Surgeon General both place great emphasis on the concept of self-imposed risk, transferring the responsibility for health from governments to the people. Health promotion programs, therefore, were—and continue to be—associated with an approach aimed at modifying individual behaviors that produce disease, through health information and education and an emphasis on personal responsibility for health.

The criticisms and limitations connected with this approach gave rise to a debate that demonstrated the need to consider health promotion from a broader perspective, focusing less exclusively on lifestyles and individual responsibility. A more comprehensive concept of health promotion was developed and is reflected in WHO discussion documents (1986), the Ottawa Charter for Health Promotion (1986), the Declarations of Santafé de Bogotá (1992) and the Caribbean (1993), and in various other documents along the lines of the Ottawa Charter in the developed countries.

Based on these documents, the current concept of health promotion (still being developed) has grown beyond a narrow interpretation in which risk factors related to individual behavior are modified through health education. The current concept is a broader one that incorporates this interpretation into concern about social and political health activities that attempt to create and promote lifestyles and living conditions conducive to individual and collective well-being in the cultural context in which the individual exists. This new concept emphasizes the close relationship between well-being and development, placing individual and social participation at the heart of the strategy, and it reshapes the role of the sector, recognizing the need to link it to other sectors to improve health.

After touching upon a number of demographic, epidemiological, economic, political, and sociocultural aspects of the Region, Dr. Restrepo presented the principal areas and lines of work under this SPO and referred to two major mutually dependent lines to orient research in health promotion which should not be examined separately:

- knowledge generation concerning the modification of individual behavior and activities so directed;
- knowledge generation about activities directed at modifying living conditions that determine individual and collective well-being and influence unhealthy lifestyles.

Seven research areas are derived from these two lines: sound public policies; community participation; healthy environments; lifestyles; reorientation of health services; individual and collective empowerment; and evaluation of interventions. Dr. Restrepo presented the approach intended to promote each of them and the corresponding priority topics.

In conclusion, she mentioned approaches and methodologies for research in health promotion, pointing out the need not only for epidemiological and biomedical research, but for the promotion of approaches and investigative methodologies to make it possible to interpret, understand, and act on complex social, political, and behavioral phenomena that determine societal development and well-being. Participatory action-oriented research, qualitative research, and operations research are some of the tools available to deal more adequately with aspects of health promotion than traditional research approaches to biomedical science.

### *Observations and Recommendations*

Dr. Restrepo's presentation led to a discussion on several points, in particular:

- The loss of relevance of the disease prevention model and the emergence of the health promotion approach present a series of conceptual and methodological challenges. It is necessary to define what is understood by "promotion" and by "health" as well as other related concepts such as quality of life and lifestyles. The concept of risk, which is basic for epidemiology related to disease prevention, cannot continue as the basis for an epidemiology geared toward health promotion. The shift from disease prevention to

health promotion would entail no longer initiating research or activities to prevent a specific, clinically defined disease, but rather studying a complex social process that is taking place in order to redirect it for the sake of a health concept that is still being developed. The challenge is to construct an entire new discipline, which will not be achieved with the simple incorporation of the social sciences.

- The Committee has stressed the importance of mentioning both lines of work together—lifestyles and living conditions—and leaving behind past discussions in which one or the other received greater emphasis. The subject of differences in importance between the two lines has arisen in dealing with various social groups. This does not mean that when dealing with underprivileged groups, only factors related to living conditions are considered and those related to lifestyles are ignored. A broader concept of lifestyles, taking cultural aspects of the group into consideration, is required regardless of the social group concerned.
- Also mentioned was the importance to define indicators that facilitate the implementation of poorly defined concepts, such as quality of life. The DALYs indicator considers the years of life lost due to disabilities; would it not be appropriate to consider using a "disability indicator" that accounted for lack of access to food, housing, education, and other needs? Regardless of the importance of the development of new indicators, it was emphasized that it is necessary to continue to use the ones currently available in a creative and disaggregated fashion.

#### **4. Health Systems Development**

Dr. José María Paganini, Director of the PAHO/WHO Division of Health Systems and Services, began his presentation by referring to the sociopolitical, demographic, and epidemiological context of the next quadrennium, and to health sector reform processes under way in most of the countries in the Region. He mentioned that PAHO/WHO is implementing lines of cooperative activities to support countries in dealing with challenges posed by current circumstances and that Health Systems and Services Research is a material component of these cooperative activities.

Health Systems and Services Research is defined as the application of the scientific method to study relationships between the population and the health care system. It consists of a systematic search for information and new knowledge on the needs of the population and the best ways available to society to respond to these needs with equity, quality, efficiency, and broader participation.

This definition encompasses a broad range of approaches, including evaluative research; research on quality and efficiency; clinical epidemiology; technology assessment; clinical decision analysis; operations research; economic and health studies; and studies in sociology and medical anthropology.

Health Systems and Services Research concerns health problems and health care in socio-political and economic contexts, whose characteristics vary according to the level of the system under study. Therefore, contributions to this area should be made from different disciplines and levels of systems management. These include disciplines such as demography, epidemiology, economics, political science, management, social and behavioral sciences, statistics, and biological and clinical medicine. In addition, it is essential that all interested parties (the community, health managers, policy- and decision-makers, and researchers) take part in the process to identify problems and research subjects in order to focus research and apply the knowledge that is produced.

The following research priorities support sectoral reform processes:

- Studies of equity, coverage, and accessibility of a system at the macro-institutional level, taking into account structural characteristics of quantity and quality of resources and organizational aspects.
- Alternative forms of central management and information systems for implementation, evaluation, and mobilization of resources.
- Decentralization, community participation, and development of local systems.
- Cost-effectiveness and cost-benefit studies, analysis of economies of scale in terms of the result and cost of care.
- Health care models, intersectoral relations of health services, health promotion, and disease prevention.
- Analysis of treatment outcomes and their relation to structural and procedural characteristics, especially at the local level and among health care institutions; identify specific health problems and priority groups (indigenous population, poor, marginalized population).
- Human resource management within the framework of health systems and services, including the analysis of relationships between personnel management models, the organization of work, and continuing education, on the one hand, and productivity and health service quality on the other.

In conclusion, Dr. Paganini listed the following prerequisites for a country to conduct health systems and services research:

- Qualified personnel capable of carrying out essential research tasks.
- Execution of university-level and in-service training programs.

- Courses offered to health authorities to foster appreciation of the role of research and how it can improve the decision-making and policy-formulation process.
- Improved methods to disseminate findings.
- Involvement of local health and community authorities, beginning with the identification of research topics through the analysis of results.
- Creation of units with technical and financial capability in state or private institutions (universities), with a support capacity in biomedical, social, epidemiological, and statistical sciences, as points of reference, and in research with a broad interdisciplinary base.
- Establishment of an order of priorities for relevant research topics based on the needs of the population and problems in health organization and financing.
- Promotion of cooperation between countries through collaborative networks that increase opportunities for communication and collaborative efforts between social and health scientists and professional and regional organizations.

#### *Observations and Recommendations*

The following observations were made on this topic:

- It was recognized that the areas and topics covered are very important, particularly with regard to the privatization process and its consequences.
- Promotion of health systems and services research should involve the different actors involved in knowledge generation, dissemination, and utilization. New and traditional ways to disseminate results should be promoted. Exchange mechanisms for health systems and services researchers should be promoted. Private organizations should be advocated to finance studies on health services and the ensuing results.
- The Committee recalled the importance of strengthening research at the local level, particularly through an analysis of experiences, which requires strengthening information systems and data analysis capacity at the local level as well as developing more appropriate indicators for local situations—without, however, abandoning more universal ones that allow comparative analyses to be made. Notwithstanding the importance of the local level, certain topics, such as mutations linked with pollution, require work with more aggregate data and participation at other levels.

## **5. Environmental Protection and Development**

This presentation was given by Mr. Horst Otterstetter, Director of the PAHO/WHO Division of Health and the Environment. Environmental Protection and Development was established as one of the five SPOs in response to the global and regional agreements clearly established during the 1992 United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro, for the preservation, protection, and restoration of the environment, focusing on the relationship of the environment to human well-being.

Most of the countries in the Region are paying insufficient attention to environmental management to ensure safe drinking water, the protection of public areas, sanitary waste disposal, and the preservation of air and water quality. Urban development has also been a serious problem, since it increases economic production, on the one hand, and the demand for urban goods and social services, on the other. To a great extent, the majority of prevailing social and psychological problems in urban environments (such as mental disorders, drug addiction, and violence) have frequently been associated with poor living conditions, housing, and environmental quality.

Mr. Otterstetter next remarked on the two areas of work and five lines of action under this PAHO/WHO SPO for 1995-1998. With respect to research in health and the environment, he remarked that, despite great developments worldwide of numerous new methods, techniques, and research strategies, significant gaps can be observed in the existing capability of developed and developing countries. Due to the level of ignorance about the effects of the environment on people's health in these countries, priorities established to improve the environment are often based on findings from other places, without due consideration of their applicability in the Region.

The environment area poses a series of difficulties for research development in the Region, such as multiple causes and effects in addition to the lack of research infrastructure and access to information. Despite these limitations, several centers have been organized in the Region for health and environmental research, and traditional groups in the health sector have been oriented toward the field. The strategy for organizing these groups has focused on graduate-level training of human resources, establishing research projects in conjunction with groups from the more advanced countries, and efforts to fund the installation of an appropriate infrastructure.

The main topics on which research groups in the Region have focused include:

- Adaptation and testing of methods and techniques appropriate to the conditions in the countries and that generate satisfactory results of a quality acceptable at the international level;
- Characterization and identification of risk situations;

- Applied research to specific problems and workers' health. This last area has yielded the greatest number of technical and scientific works, which have helped emphasize the importance of the topic and orient specific policies in the countries.

In conclusion, Mr. Otterstetter mentioned the following principles that orient PAHO technical cooperation in health and environmental research:

- Promote interregional technical and scientific exchange with the effective participation of scientists in the developing countries, as opposed to the use of resources of the less developed countries as simple agents for the field work component of research protocols designed to satisfy outside interests.
- Support the formation of research groups with the academic training and basic resources for the conception, preparation, and execution of high-quality research protocols, as opposed to protocols prefabricated in circumstances that are not relevant to the countries in the Region;
- Ensure that the countries' few existing research resources are used for achieving country goals, as opposed to goals that are not national research priorities;
- Promote research in countries on the following topics:
  - the effects of both the general and work environment on health;
  - environmental quality;
  - the characteristics of exposed populations and high-risk groups; sources of environmental pollution;
  - the determination of pathogenic agents in the environment and their ergonomic and psychosocial origins;
  - the interaction among biological, physical, and chemical agents;
  - the condition of basic and environmental sanitation services;
  - appropriate environmental management technologies;
  - appropriate technologies to minimize and control hazardous conditions;
  - expansion of the workers' health research conceptual framework to include organization of work, changes in the labor market, and work force composition, as determinants of workers' health;
  - development of alternative research models on workers' health.



Mr. Otterstetter mentioned the activities in which PAHO is involved, directly and indirectly, in order to make this agenda viable, and gave examples of specific research on water resources, energy, industry, urban development, and human settlements.

### *Observations and Recommendations*

The Committee made the following observations on this topic:

Until recently, ecological studies were considered of secondary importance in the area of epidemiology. This position is currently being revised, and the validity of these studies is better appreciated with the design of analysis of aggregates and revision of the concept of ecological fallacy. Thus, what had been pointed out as a difficulty for the environmental area (i.e., the diversity of risks and effects) is becoming a preferred area for this type of methodological approach. PAHO, which in the 1950s and 1960s promoted a more conceptual ecological perspective when methodological developments were just beginning, should promote them once again—this time, however, with greater prospects for success due to current methodological advances.

## **6. Disease Prevention and Control**

Dr. Gabriel Schmunis, Acting Director of PAHO's Division of Disease Prevention and Control, gave this presentation.

This Division's lines of action include:

- Evaluation of the socioeconomic impact of cardiovascular diseases, cancer, and accidents, integrating prevention and control activities into health services and attempting to correct the health care inequities that affect the most disadvantaged social groups.
- Improvement in animal health, with a view to improving food safety and productivity.
- The struggle against AIDS and other STDs.
- Determination of risk factors for food-borne and diarrheal diseases and acute respiratory infections.
- Promotion of prevention and control of TB, malaria, dengue, parasitic, bacterial, and viral diseases.
- Elimination of leprosy, foot-and-mouth disease, onchocerciasis, rabies, *T. infestans*, and interruption of disease transmission from transfusions.

Research supporting these lines of action should be essentially utilitarian and respond to the questions and needs of health services that conduct prevention and control programs. Thus,

research should be promoted utilizing instruments ranging from molecular biology to the social sciences.

The following examples of this type of research were mentioned:

- Research on cardiovascular diseases, the leading cause of death in most of the countries of the Region, focusing on the analysis of the capabilities of health services to treat these diseases and effective promotional activities;
- Research related to cervical-uterine cancer prevention using pilot or demonstration studies as promotional elements;
- Improvement in the characterization of foot-and-mouth virus strains, vaccines, and diagnostic methods in order to eliminate this disease completely; this has been achieved from Central America northward and in practically all of the Southern Cone;
- Studies of ARI and diarrheal diseases, which display the heaviest disease burden in the Region, followed by AIDS, Chagas disease, TB, and others. Examples of studies on these diseases include:
  - Risk factors in the domestic environment for ARI and diarrheal diseases (still claiming from 100,000 to 200,000 children's lives in the Region each year); risk factors for food contamination (accounting for as much as 20% of diarrheal diseases in the Region); and studies to improve case management.
  - Baseline data to test AIDS vaccines; social studies to improve prevention activities among high-risk groups and the general population.
  - Now that *T. cruzi* has largely been eliminated from Southern Cone countries, work is now required with asymptomatic infected children and ways to improve surveillance activities. The solution to these problems requires additional research.
  - In the case of TB, operational studies should be carried out to understand why adequate use is not being made of the available diagnostic methods and drugs.
  - Finally, regarding malaria, the availability of a potential vaccine raises the need for more specific knowledge of its effectiveness and for testing possible strategies for its use. Alternative prevention and control methods for individuals and groups need to be developed and put into practice.

#### *Observations and Recommendations*

- The Committee considered the significance of the problem posed by re-emerging and emerging diseases, particularly the need for surveillance systems for early detection.

This capability would also imply being on the alert for "different" cases. Also noted as necessary was the capability to monitor changes in infectious agents, which should be the responsibility of the competent institutions of the Region, through a network of collaborating centers established for this purpose.

- The Committee supported the promotion of diagnostic and disease control studies, reiterating its concern about the application of existing knowledge, and recommended exploring to the utmost the margin of action this knowledge allows. There is a need to clearly identify activities that could be carried out but are not, and the reasons for inaction.
- The Committee noted that nearly 98% of the resources to eliminate diseases come from the countries and that PAHO should promote efforts to expand international cooperation. The decision by the Program on Research in Tropical Diseases (TDR) and other programs to cut funds budgeted for Chagas' disease was mentioned as a cause for concern.

## **V. STUDIES ON THE STATUS OF HEALTH RESEARCH IN LATIN AMERICA**

### **1. Scientific Output in Health in Latin America 1973-1992**

This presentation, given by Dr. Alberto Pellegrini Filho, Coordinator of the PAHO/WHO Research Coordination, was based on work carried out in collaboration with Dr. Moisés Goldbaum and Mr. John Silvi, with the objective of describing and analyzing trends in health science output in six Latin American countries during the period 1973-1992.

Dr. Pellegrini began with some remarks on the conceptual and methodological aspects of these types of studies, emphasizing the need to use caution in policy-making. He noted that, despite their limitations, these types of studies offer some analytical insight on trends in scientific activities and, in the case at hand, their relationship to scientific and technical, political, economic, and social factors in this time period.

This work is part of a series of PAHO/WHO activities geared toward cooperating with countries in the Region in meeting the challenges facing their science and technology (S&T) systems.

The study used the database of the Institute for Scientific Information (ISI) in Philadelphia, Pennsylvania. This database does not provide a complete inventory of scientific production in the countries under consideration, but it affords an inventory of the highest quality research published internationally.

The six selected countries—Argentina, Brazil, Chile, Cuba, Mexico, and Venezuela—are the source of nearly 90% of total scientific output of Latin America and the Caribbean, both in

general and in the health sciences in particular. For the entire period 1972-1992, there were 72,899 entries by authors residing in one of the six countries. It was decided to work only with regular articles, which reduced the number of entries to a total of 41,238.

A specific study was also conducted of the epidemiological articles produced by authors from these countries. Some 40 journals on public health research were included in the database, 11 of which were selected as international journals of greater importance; 95 articles on epidemiology published in these 11 were selected for more detailed analysis.

Despite the preliminary nature of the analysis from the ISI database, there are some interesting findings:

Throughout the period, a significant increase was observed in the number of articles. However, the rate of growth varied by country and type of research. It is clear that there have also been periods of decline or inactivity in scientific production that can be associated with political and economic events, which would seem to reflect the vulnerability of scientific activity to changes in these areas.

The concentration of scientific output in these six countries is increasing, with the proportional share from Brazil and Argentina having grown from 57% in 1973 to 68% in 1992. The concentration has varied according to the types of research; clinical research is the most homogeneously distributed, public health research the most concentrated (60.7% of these articles are from Brazil). This last point raises grounds for concern because public health research requires greater decentralization, given the diversity of problems faced and their influence on decision-making affecting health care.

Throughout the period, there has been a trend toward growth in public health and biomedical research, reflecting an approximation between the production profile in the Region and what is observed in the international literature. Other indicators of modernization in scientific production in the Region are the relative reduction of the number of articles by a single author, reflecting a trend toward greater collaboration, and an increase in articles whose authors hail from two or more national or foreign institutions, indicating growth in interinstitutional and international cooperation.

The average number of citations for an article whose first author resides in one of the six countries studied is three per article, less than half of the average citations per article for the total number on the ISI database (7.78%). This average is not uniform for different types of research. The average number of research citations of a biomedical article were 4.03, whereas public health articles were 1.61. In addition to a potential difference in the quality of the articles, these figures indicate the greater universal applicability of biomedical research.

The more detailed study of scientific production in epidemiology in the six countries (95 selected articles) indicates a high concentration in a single country—Brazil, which is the source of 66%. While a large proportion of articles are published by only one (31%) or two

(25%) authors, far more domestic and international inter-institutional cooperation is observed with regard to the total number of articles. The vast majority of the articles (96%) refer to infectious and maternal and child diseases, with a far smaller representation of studies on chronic diseases (4%). This distribution is quite different in the international literature, where almost 78% of the articles concern chronic diseases. The articles on epidemiology received an average of 4.36 citations each, which is higher than the public health articles (1.61) and the entire set of articles in general (3.1).

In conclusion, Dr. Pellegrini noted that this type of study, although quite preliminary, makes it possible to document the general research trends in the Region objectively and formulate hypotheses on factors that influence these trends. More specific studies on certain areas or topics will generate more precise knowledge about the status and dynamics of research activities. The challenges to S&T in the Region must be taken into account in policy-making. There is a need to promote more refined qualitative and quantitative studies on characteristics in this field in order to support policy-making.

#### *Observations and Recommendations*

The Committee made the following observations on this topic:

- Despite the constraints indicated by Dr. Pellegrini, studies of this type can be important for research situation analysis, and their potential should be used to the utmost. An example would be to establish productivity indicators that take into account the characteristics of each discipline or type of research. Performance analysis makes it possible to identify and monitor those institutions that can serve as important resources to promote research. Qualitative and quantitative approaches should be combined in a manner to provide a better understanding of the research process and identify more accurately the relevance and importance of research and the degree to which it relates to trends in scientific literature at the global level.
- For a more accurate depiction of the regional situation, other sources of information and dissemination of scientific output should be considered, including the so-called "gray literature."
- The Committee reiterated its concern about understanding better what is happening with research funding in the Region, particularly the analysis of funding amounts, sources, and mechanisms. It also noted that even though research is basically carried out with public funds, its orientation does not respond to the major public health problems.
- The Committee mentioned the need to promote a "publication culture" in the Region, particularly in the area of public health research, because many of the results are not published in widely circulated journals. PAHO should also step up the activities of the Latin American and Caribbean Center on Health Sciences Information (BIREME) that

are currently in progress to improve the quality of journals published in the Region and have them included in international databases.

## 2. Graduate-Level Public Health Research in Latin America

This presentation was given by Dr. Adolfo Chorny, Professor of the National School of Public Health of FIOCRUZ in Brazil. The impetus for this study was the apparent contradiction between the number of graduate programs in public health in the Region and the relatively weak scientific output in the field. A survey was conducted of 72 master's and doctoral programs in nine countries in the Region. Dr. Chorny submitted a preliminary analysis of the data for 61 programs (14 from Brazil, 13 from Venezuela, seven from Mexico, and the remainder from other countries).

The creation of these graduate-level programs is a relatively recent phenomenon; 60% of the master's programs and 100% of the doctoral programs (eight in total, six in Brazil) have been created since 1985.

Seventy-eight percent of the programs are located in public institutions. In selecting incoming students, few programs require previous experience, and none of the master's programs require research experience. Only 11 master's programs require a knowledge of foreign languages, although all of the doctoral programs require a master's degree and a second language.

Of the 523 students for whom resumé data are available, 205 are women; 89.1% are health professionals (46.8% physicians), and 10.7% belong to other professions. Of the 258 that reported having participated in some research before entering the program, 109 had published (52 refer to manuals and guidelines).

Of the total 288 educators, 133 are from Brazil (43.3% are physicians, 34.4% from other health professions, and 20.1% from other professions); the majority are men; 70 indicated not having had prior research experience. The average educator had produced three publications over the previous five years (10% were manuals). The vast majority of publications concern medical diagnosis and treatment evaluation.

Very rarely do courses include specific training in research methodology.

### *Observations and Recommendations*

- The Committee mentioned the need for greater exploration of the data from surveys of graduate programs. Analysis of the results should take into account the potential impact of structures to coordinate and evaluate graduate programs in the countries.
- Given the importance of graduate-level research development, PAHO should promote activities to review the role of these courses in Latin American countries. It was noted

that master's programs in the Region fulfill or are intended to fulfill a quite different and far more ambitious role than is expected of such programs in more developed countries.

## **VI. COOPERATIVE ACTIVITIES IN SCIENCE AND TECHNOLOGY IN HEALTH PROMOTED BY THE PAHO/WHO RESEARCH COORDINATION PROGRAM (HDP/HDR)**

### **1. New HDP/HDR Lines of Cooperation**

This presentation was given by Dr. Pellegrini, who first covered the strategies and lines of work of the PAHO/WHO Research Coordination Program, undertaken to support the countries of the Region to strengthen their health research capability.

Among the activities in 1994 are the following new initiatives and lines of cooperation that merit attention:

- Cooperative activities in policy-making and management of research institutions have been undertaken. The degree of institutionalization of scientific activity in health and the complexity of the S&T system have made it necessary for institutions in the Region to define more precisely their S&T activities, institutional policies and priorities, forms of interaction with the S&T system, mechanisms and criteria to evaluate their activities, and management methods and technology transfer. In order to discuss and exchange experiences in these areas, a group of five directors from prestigious S&T institutions in Southern Cone countries participated together in traveling seminars, visiting several institutions in the Region and meeting with the respective management. A meeting of Argentine and Brazilian research institutes is being planned for 1995 to discuss these same topics on the basis of a diagnostic analysis of these institutions.
- The performance of the Research Grants Program (RGP) was reviewed, with the idea of it taking on a wider role to initiate and support project promotion and preparation. A report on the RGP will be submitted during the 1995 meeting.
- In the areas of public health research and biotechnology, support mechanisms have been launched combining training and support for research projects, institutional development, and more ties between institutions in the United States, Canada, and Europe and those in Latin America and the Caribbean. Thus, through an agreement with the National Institutes of Health (NIH), three research grants, valued at \$40,000 each, were awarded for research projects using biotechnology techniques. The grants include a three-month training period at NIH (or an affiliate institution) and at least one supervisory visit by an NIH researcher to the LAC institution in which the project is under way.
- Nine grants for public health research (of \$30,000 each) were awarded for one-year periods, so LAC researchers could complete their education in institutions in the United

States, Canada, or Europe. By the end of the year, the researchers should present a project to the Research Grants Program in order to obtain a grant on returning home. This Program will be expanded with the awarding of approximately 12 fellowships over a three-year period, thanks to an agreement with the Canadian International Development Research Center (IDRC).

- In 1994, activities were undertaken to support policies in order to preserve and explore biodiversity through the use of new technologies related to drug development and food production. In conjunction with the Inter-American Institute for Cooperation on Agriculture, a meeting of experts was held to discuss several aspects of this topic (scientific and technical, economic, political, and legal) and a number of current activities in the Region. The documents and the minutes of this meeting are expected to be published in book form in 1995.
- Another new line of cooperation is the promotion of research on the history of public health in Latin America. Promoting this area will provide a better understanding of the current public health problems in the Region and will test a new comprehensive approach to health within the social sciences that can be extended to other areas of interest. This line of cooperation includes: the creation of an electronic communications network, which already has some 38 members, for research groups and individuals investigating the history of health in the Region; the creation of a bibliography with approximately 1,000 references on the history of public health in Latin America, compiled from the MICROISIS system and available on diskette; the announcement of a competition, under which the Research Grants Program will fund winning projects on the topic of the history of sectoral reform in the Region; and the drawing up and proposal of a syllabus to teach the history of public health in public health and history courses in institutions of higher learning.

## 2. PAHO's Research Grants Program: Evaluation and Perspectives

In her presentation on this topic, Dr. Rebecca de los Ríos, PAHO/WHO Regional Advisor in Public Health Research, offered a description and analysis of PAHO's Research Grants Program (RGP) during its 10 years of operation, from 1984 to 1994. She discussed the Program's philosophy and evolution, as well as its principal activities and results with respect to each of its components: research promotion, project review and approval, and dissemination and utilization of the findings. RGP objectives and priorities for the 1995-1998 quadrennium were also presented, along with the respective strategies and lines of action.

Since 1984, the RGP has been viewed as an instrument to facilitate knowledge generation and the integration of its production and use to enhance technical cooperation in health. The RGP has sought, at least in theory, to respond to specific demands for knowledge from PAHO Technical Programs and, in so doing, to collaborate in order to resolve the principal health problems of the Region.



After reviewing the principal problems and achievements of the RGP, Dr. De los Ríos discussed new priorities and forms of action.

While the Program's objectives and policies have been retained, in 1994 new RGP priority areas came into effect. These were redefined in terms of PAHO's Strategic and Programmatic Orientations (SPOs) for 1995-1998 and WHO's Ninth General Programme of Work for 1995-2001. The priorities stress equity in health and the effectiveness of health interventions.

The RGP's promotion strategies during the past 10 years required leadership and initiative on the part of the Technical Programs to direct these processes. Evidence demonstrates that the leadership was not sufficiently effective to have an impact on the number of projects undertaken or the quality of proposals submitted. Therefore, in 1994, steps have been taken to implement new promotional strategies that assign an active leadership role to the Research Coordination and the Internal Advisory Committee on Research (IACR).

The new strategies take into consideration the experiences and results obtained in the period 1985-1994 and are oriented toward the following objectives:

- To mold demand so that the projects presented address questions that are relevant to established priorities. The goal is not so much to increase demand, but to diversify the topics handled by the RGP and, insofar as possible, to diversify the participation of countries in the Region.
- To increase the quantity and especially the quality of proposals. This would have the overall effect to strengthen the capacity of researchers to formulate and carry out research and disseminate the findings.
- To encourage the scientific community, young researchers, and those in training to focus their attention on priority public health problems in the Region.
- To collaborate with technical programs in promoting research based on their priorities and to foster a steady inflow of projects.

To further these objectives, the global strategy to promote research launched in 1994-1995 will focus on what are called "research competitions." These competitions, which may be national, subregional, or regional, begin with the selection of a line of research within the framework of the priority areas. They will establish the terms of reference in order to acquaint the interested scientific community with the content and types of research being requested. To ensure appropriate projects, the competitions will provide for project prescreening and workshops in which researchers receive technical advice on their projects from experts.

Beginning in 1995, the role of the IACR will be complemented with the formation of ad hoc committees consisting of external reviewers who are experts in certain areas. These

committees will review proposals presented within the framework of the competitions and make recommendations to the Director with regard to their merit.

The effort to generate demand through research competitions will take place in tandem with steps to foster the publication and dissemination of research findings. Researchers may publish their findings as they see fit, but will also be invited to participate in the publication of special issues of PAHO periodicals, monographs, or non-serial publications, if merited.

### *Observations and Recommendations*

The ACHR made the following observations on the above-mentioned presentations:

- The Committee discussed aspects of Dr. Pellegrini's presentation related to cooperative activities linked to the exploration of biodiversity through new technologies, such as biotechnology for the development of new drugs. It underscored the need to define the types of relationships and forms of negotiation with the large international pharmaceutical companies. PAHO's Director pointed out that this is not a priority area for the Organization.
- In the discussion of the RGP, it was mentioned that research in the Region suffers from a lack of financial resources, limited points of contact with society, and limited integration at the international level. Given the scarce resources and limited integration, greater creativity is needed to augment available resources. PAHO can play a catalytic role in that process by promoting collaboration with other agencies or encouraging greater private sector participation. The need for a better understanding of the research funding situation in terms of sources, flows, and mechanisms was underscored.
- In relation to management of the RGP, emphasis was placed on maintaining accuracy and excellence. The harmonization of RGP and SPO priorities was considered highly appropriate, as was the consolidation of the RGP as a mechanism to foster research in the Organization's chief priority areas.
- It is important to strike an appropriate balance between research in specific areas and spontaneous research. Competitions are important mechanisms to involve the scientific community in specific subject areas, create networks for research exchange, and amass a strong portfolio of potential projects for the RGP or other programs to fund.
- The Committee urged the Secretariat further greater dissemination of the information that the RGP has on projects, researchers, and research institutions in the Region.
- With respect to grant amounts, the Committee recognized the importance to thoroughly explore the niche that the RGP occupies in terms of clientele and project size. It also recommended that it fill other niches with larger projects, either by reserving some resources for them, or through cofinancing in partnership with other agencies. The

possibility of "career grants" with no strings attached to a specific protocol was also mentioned as a possibility worthy of study.

### **3. Cooperative Biotechnology Activities**

Dr. Elsa Segura, Chairwoman of the ACHR/PAHO Biotechnology Subcommittee, who gave this presentation, recalled that although PAHO/WHO has been carrying out activities promoting biotechnology since 1983, it is only since 1987 that a cooperative program in this field was established and the Subcommittee created to advise on its activities. Throughout these years, the program has been conducting basically three types of activities:

- those related to country support to define policies for biotechnology development and regulation;
- training in selected technologies; and
- support for research projects in priority areas.

In 1992, joint development of training activities began between PAHO and the UNDP/UNESCO/UNIDO Regional Program on Biotechnology. The Chairwoman of the PAHO Biotechnology Subcommittee and the Director of this regional program have been meeting to define plans for training and course selection. Six courses were jointly financed; they lasted a minimum of two weeks and were approved on the basis of subject matter, scientific excellence, and geographical location.

Since 1988, 26 biotechnology projects have been financed under the Research Grants Program (RGP). Dr. Segura summarized the topics and principal findings or contributions of these projects. In addition to the regular research grant support for biotechnology, in 1994 PAHO established a special initiative with the U.S. National Institutes of Health (NIH), calling on other countries of the Region to present joint projects with U.S. researchers in order to develop biological markers and therapies, vaccines, and diagnostic reagents to combat important public health diseases. There is a new effort to integrate training, research, and interinstitutional collaboration (the proposal requires a three-month training period in an NIH laboratory or an affiliate institution). Three projects of this type, costing \$40,000 each, have already been approved.

In order to evaluate the impact of PAHO financial support for courses and research projects, a survey was conducted of 19 principal researchers among the 26 subsidized projects, and two directors of the courses already completed. There were 13 responses to this survey, 11 from researchers with projects financed between 1990 and 1994.

Dr. Segura mentioned the principal findings of the survey:

- PAHO has contributed to the fact that biotechnology research groups obtain financing from other sources, and it has promoted graduate study for master's and doctoral degrees.
- PAHO has contributed to the education of other research groups and the continuity of original research teams.
- The research and development grants, and even the grants for courses, are applied to the purchase of laboratory research supplies; computer equipment has not been acquired, and the purchase of bibliographic material has not been augmented.
- Research has led to publications, and the results have been widely disseminated, even though fewer than five years have elapsed. Seven completed projects have produced 16 publications and five master's and doctoral theses.
- Most of the responses point out that the researchers presented projects in response to a request for proposals from PAHO and, usually, they did not require renewed support from the Organization.
- Most of the researchers believe that their research has helped explain or address priority health problems. They have placed emphasis on the concrete application of research results.

With regard to suggestions, the researchers consider it important that formal announcements to submit project proposals on a specific subject be issued (a promotion mechanism that is already being adopted in other areas and was used to a great extent for the PAHO-WHO biotechnology projects). The members of the Subcommittee and the researchers themselves would also be important channels for publicizing calls for research.

#### *Observations and Recommendations*

The Committee congratulated Dr. Segura on her report and made the following observations:

- The scope of the results from this area of cooperation is surprisingly large in terms of both research results and human resource training, particularly in light of the limited funding level. The Committee recommends that this work be continued.
- The Committee expressed the need to analyze the potential impact of the patent laws being enacted in some countries of the Region. Among the potential consequences mentioned is the need to strengthen legal counsel at research institutions. Emphasis was placed on the importance of participation by the scientific community in discussions concerning this kind of legislation. The importance of strengthening S&T infrastructure, particularly for basic research, was underscored.

## VII. EXECUTIVE SESSION: ACHR STRUCTURE AND OPERATIONS

Participation in this session was restricted to ACHR members and the Secretariat. The session was convened by PAHO's Director to discuss the Committee's structure and operation.

The Director reiterated the questions for consideration he posed to the Committee upon his opening address. The following were the principal points of discussion:

- There was a consensus that the Committee should participate more actively in the work of the Organization in the area of research. It was recommended that meetings be held more frequently, that there be greater participation in activities between meetings, that current subcommittees be maintained, and that temporary ad hoc subcommittees be created to deal with specific matters.
- The issue of financial resources for research activities was taken up again, and the need was reiterated to study the regional funding situation. PAHO should play a more prominent role in disseminating information on funding opportunities and in mobilizing national and international resources, including those from the private sector.
- Another recommendation dealt with the important role that PAHO, and especially its technical programs, should play in defining the problems to be investigated. Progress should be made beyond the definition of subject areas in order to clearly identify the questions that research should resolve.

In response to the committee members' recommendations, Dr. Alleyne concluded the meeting by expressing his satisfaction with the quality of the discussions that had taken place and the breadth of thought of the committee members, in particular their systemic vision of the research issue. He announced his decision to return to hold annual meetings and maintain the two existing subcommittees, and he emphasized the need to energize Health Systems and Services Research. The Director suggested that the number of ACHR members be expanded to 15, and he asked the members to suggest possible candidates, particularly female researchers. The recommendations made by the Committee during this meeting will be duly studied in order to implement them, in particular those calling for the strengthening of scientific and technical information systems and the mobilization of resources for research.