

Report of the XXIX Meeting of the Pan American Health Organization Advisory Committee on Health Research (ACHR)

Today more than ever, science and technology development in the health field in Latin America is being pressured by opposing forces. On the one hand, there is the urgent need to respond to the complex problems produced by changes in our morbidity and mortality profile, while at the same time trying to keep up with scientific and technological advances, particularly in the biomedical field. But just as these challenges are becoming more acute, health research is also faced with a general shortage of resources due to cutbacks in support from the public sector, the field's principal source of funds.

This context was brought up in relation to various topics discussed at the XXIX meeting of the Advisory Committee on Health Research (ACHR), which took place from 2 to 5 August 1993. A summary of the discussions and recommendations will be presented to the Directing Council of PAHO/WHO. The paragraphs that follow summarize some of the topics that were discussed, along with the Committee's recommendations.

1. The first topic dealt with the general scenario outlined above. The discussion touched on the bases that should guide the definition of science and technology policies in the health field in the context of current challenges and changes, including the consideration that the field of health science and technology is no longer limited to research basically carried out by physicians within the health institutions. This has meant that the universe of topics, problems, disciplines, approaches, etc. has expanded, making it necessary to revise the bases utilized to define policies in this field. Certain principles are common to all fields of knowledge, notably:

■ **The pursuit of Regional integration for the development of knowledge and technologies.** The need for cooperation between countries in the science and technology field arises from a reality whose problems and challenges are difficult for countries to cope with alone. Inter-country cooperation, therefore, should be a focus not only for countries, but also for agencies of coordination and cooperation such as PAHO, who will find a

broader playing field for their activities in this context;

■ **Integration between the production and utilization of knowledge and technology.** In any field there is a gap between the producers of knowledge and those who should be seeking and utilizing that knowledge. This situation has its roots in the orientation of the science and technology policies that have prevailed up to now, whose limited objective has been to strengthen supply, and not to develop any kind of institutional organization that would allow the advances of research and development to flow freely to units that could put them to work for the benefit of society.

■ **Elimination of false dichotomies.** Certain dichotomies have come to dominate the debate over science and technology policies; for example, unproductive questions such as, "Should scientific research be prioritized or not?"; "Should the focus be on basic research or on applied and development research?"; "Should we capitalize on local knowledge or should we import knowledge?", etc. Such dichotomies have proved to be false in light of recent advances in science and technology and the experiences of developed countries.

In order to define science and technology policies in the health field, it is necessary to set priorities, a task that has a strong social component since it involves a variety of players with a wide range of interests and perceptions. Beyond this participatory process, however, there is an important technical dimension to policy-definition which, in the case of health, must be based on the characteristics of the health/disease process in a given society, as well as on actual trends in scientific development. A health science and technology policy is not to be confused with a list of priorities; it should evaluate components related to the dynamics of scientific activity so that they can be put into practice. Such aspects as expansion and diversification of financial sources and mechanisms, strengthening of science and technology management, human resource development for the research field, and strengthening of scientific and technical information systems are

some of the elements to be taken into account in a science and technology policy in the health field that seeks to respond to the new challenges. It is important to promote the incorporation of new players into the process of policy-definition, as well as to try to change the behavior of traditional players, such as the State, researchers, health professionals, and others used to power relationships that are becoming outmoded. The State should assume responsibility for promoting opportunities for various interests to express themselves and to collectively define the directions they will take, making it possible for science and technology policies in the health field to be effectively consolidated as public policies.

The ACHR emphasized the importance of the financial resources used to implement science and technology policies, and highlighted the need to cultivate new financial sources and mechanisms. PAHO's role in this regard should involve more than increasing its own internal resources for research. The Organization should play an active role in promoting such resources, in conjunction with international and national agencies, taking advantage of favorable opportunities such as the existence of investment proposals that are expected to include a research component.

2. A second topic was quality of scientific production and mechanisms for evaluating it. Although some countries of Latin America have shown interest in increasing the effectiveness of research systems, there is still the paradoxical situation that evaluation activities are so much further behind in the countries that have the most serious shortage of material and human resources.

The discussion on this subject began with an assessment of the mechanisms that both research funding agencies as well as journals published by Latin American countries utilize to evaluate scientific projects and articles. With regard to evaluation criteria, conventional performance indicators such as number of published articles and citations, associated with comparisons at the international level, are not always suitable for evaluating research activity and establishing the corresponding policies in countries like those in Latin America and the Caribbean. It is important to look for a combination of "national" indicators, related to specific economic and social development

objectives, and "global" indicators, that make it possible to develop parameters for comparing the level of quality achieved.

The most widely utilized mechanism is peer evaluation, although this approach is increasingly being criticized, particularly on the basis that it is difficult to use in areas of greater cognitive diversity. It is important to take into account that the quality of scientific production depends on the existence of a group of factors, namely well-trained individual scientists, an institutional base favorable to the research process, and science and technology policies that orient and promote scientific development. The Committee's recommendation to PAHO in this area was to continue to explore evaluation mechanisms further, with the most important goal being that of helping to create a culture of evaluation in the Region.

3. The ACHR also looked more specifically at the research activities carried out by PAHO in cooperation with the member countries. The areas and programs of the Organization that were discussed included the following:

- **Communicable disease program.** The promotional strategies and research projects under this program were reviewed. Communicable diseases continue to be a serious health threat that must be addressed in a variety of ways, especially through research to help find new approaches. In view of present financial constraints, there is not expected to be any significant increase in resources for these activities, since in the context of limited funds, PAHO must continue to give special importance to applied research.

- **Program on AIDS.** The discussion covered the characteristics of AIDS research in Latin America and the AIDS research projects that PAHO is involved in. The Organization's Program on AIDS succeeded in identifying and analyzing 561 research projects carried out by researchers in Latin America and the Caribbean through a survey carried out in 1991. These projects added up to a total expenditure of US\$ 27 million, a relatively small amount given that around the world, US\$ 5.6 billion was spent on AIDS research between 1982 and 1991. The 27 million in Latin America and the Caribbean represents only 0.5% of this total, for a geographical area that contains 12% of the world's infected population. The fact that 73% of the projects had

started 2 to 2.5 years before the survey indicates that AIDS research in Latin America and the Caribbean is still in the initial stages, and accordingly is still trying to respond to the most pressing needs of prevention and treatment programs.

The Committee reiterated its concern over the lack of resources and the fact that they are shrinking.

■ **Research activities of the Pan American Centers of PAHO.** There was a discussion of the results of a survey carried out at seven of the nine Pan American Centers of PAHO/WHO. The objective was to describe and analyze certain aspects of the research activities the centers carry out, particularly with regard to science and technology management, the potential for producing science and technology, and actual scientific and technological production. The Committee made the following observations and recommendations:

- Despite the heterogeneity of their focal areas and objectives, the Centers share certain common areas of concern that they should take more advantage of in order to coordinate with each other and thus strengthen their impact and optimize their resources;

- There should be broader application of the research findings from the Centers at both the government and population level. One important outcome of these research activities is human resources education, and it was recommended that expanded opportunities for internships at the Centers be offered to young students;

- A specific report should be prepared on research activities carried out over a 4- to 5-year period in order to evaluate quality and impact;

- The scientific advisory committees at the Centers need to be consolidated, which means that enough financial resources must be available for these committees to be established and convened.

■ **The PAHO/WHO Research Grants Program (RGP).** This program has been in existence for nearly eight years, and has spent nearly US\$ 4 million to fund 243 research projects, of which 103 have been completed. An analysis was made of the results of an impact assessment survey

on the program which was administered to the research teams who had received grants and who had, to date, already finished their respective projects. Of the investigators for the 103 completed projects who were sent questionnaires, 47 (46%) have replied so far. The following findings are noteworthy:

- The 47 completed research projects whose authors responded to the questionnaire have given rise to a total of 87 scientific articles published in national and foreign journals and 7 books. They have also facilitated the preparation of 8 master's theses and 22 doctoral theses in different health fields;

- In more than 70% of the cases, the investigators reported that their research had been utilized as a reference in undergraduate or graduate courses.

- Projects spontaneously developed through the individual initiative of research groups have more of an impact in terms of publications and theses generated than do projects commissioned by PAHO, even though the latter are more carefully monitored and their results better known and utilized by the Organization.

There was a discussion of the new directive proposed by the secretary whose goal is to reorient the Research Grants Program with a view to eliminating the problems encountered and strengthening the program's positive aspects. The directive basically suggests that resources be concentrated in six main areas: health and development; organization of health services; health promotion and protection; disease control; environment and health; and biotechnology and current scientific progress in the health field. For each area, more specific terms of reference will be prepared describing the topics and approaches that will receive more support. The new directive will also seek to combine the positive aspects of both commissioned and spontaneous projects. This new orientation will encompass support for project preparation and publication of findings through workshops organized for this purpose.

The Committee recognized how important the Research Grants Program is to research promotion,

and decided to support, along general lines, the proposed directive for reorienting the program, as well as the decision to continue supporting spontaneous projects since they provide scope for the initiative and creativity that the scientific community display toward the subjects and problems they think are important.

It was recommended that quality standards be maintained for the proposals, even at the cost of not spending all the available funds. The Committee regretted that there continue to be occasional surplus resources in the program, and recommended that every possible effort be made to expand the search for good projects. If any surplus resources remain despite this effort, they should be channeled into research promotion activities.

■ **PAHO/WHO Program on Biotechnology.** In 1987 PAHO established an ACHR Subcommittee on Biotechnology. During that same year the subcommittee drafted the Regional Program for the Development of Biotechnology Applied to Health, whose main activities included support for research, human resources training, and institutional development. The activities related to these components were reviewed, particularly those from the last two years.

With regard to research activities, support has been provided through the Research Grants Program for 19 projects in the biotechnology field. Twelve are already completed and 7 are still in progress. The achievements of the completed projects include development of procedures for malaria diagnosis using monoclonal antibodies; preparation of serum reference panels for AIDS; isolation of HIV-1 from more than 30 patients in Argentina, Brazil, Mexico, and Venezuela; completion of a HIV diagnostic test kit using recombinant antigens that is currently being marketed by Cuba; and development of monoclonal antibodies for hepatitis B resulting in a reagent that is being utilized by the Malbrán Institute.

Of special interest is the project to develop an HIV diagnostic test kit that is being carried out as a collaborative effort by four institutions in Argentina, Brazil, and Mexico, with financial support from PAHO/WHO. The prototype kit is ready and the preliminary evaluation shows that

it has good possibilities for being utilized. As an additional result of this project, peptide synthesis laboratories have been set up at two laboratories in Argentina and Mexico, and several researchers have been trained.

In the area of human resources training, PAHO and the Regional Program on Biotechnology (RPB) of UNDP/UNIDO/UNESCO jointly defined a program of courses on advanced techniques in biotechnology. This program was submitted to the Regional Directing Council of the Regional Program on Biotechnology in December 1992, which approved three courses for 1993. Regarding cooperation activities to define policies on biotechnology development, there was a discussion of the initiative--already underway--involving a joint project with IICA for the preservation and exploration of biodiversity through biotechnology, with an emphasis on medicinal plants.

In relation to biotechnology, the following observations and recommendations were made:

- It is important to provide an updated impact evaluation of the projects supported by the PAHO Research Grants Program in the biotechnology field. It was recommended that there be monitoring and evaluation of the courses jointly sponsored by PAHO and the Regional Program on Biotechnology. The Advisory Subcommittee should prepare the terms of reference for the notices going out to projects requesting support from the PAHO Research Grants Program in the biotechnology field, in accordance with what is established in the new directive regulating this program.
- Those of the Pan American Centers that have experience in the biotechnology field should play a more active role in the program activities, including participation in the meetings of the Subcommittee.
- The work carried out by the Advisory Subcommittee on Biotechnology has been satisfactory, which shows that, in addition to playing an advisory role, it provides an important mechanism for the scientific community to participate in the programming, execution, and evaluation of cooperation activities in this field.

■ **PAHO/WHO Fellowship Program.** A study of this program carried out by the secretary showed

that, of 5,219 fellowships awarded during the 1983-87 period in 22 countries, none had the goal of providing training for research. Only 2% of the fellows held the post of researcher, 11% worked in teaching and research, and 8.7% were linked with a university. In 1992, 476 fellowships were awarded for a total of US\$ 2.6 million.

The program administration is decentralized, its resources being handled outside PAHO Headquarters. The distribution of fellowships and fellows indicates that this mechanism is basically an instrument to provide continuing education to public sector administrative personnel in health services delivery. The criteria are very flexible since structures and procedures have not been clearly defined. Except in a very few cases, national fellowship committees are not in operation.

Concern was expressed over the situation of the Fellowship Program, since training and fellowships have traditionally been one of the Organization's principal technical cooperation mechanisms. The Organization was recommended to correct the various distortions observed, and especially to focus on the recommendation from a previous meeting to create a central fund that would be able to award approximately ten long-term fellowships for advanced training each year, particularly in the area of public health research.

■ **Regional System of Vaccines for Latin America and the Caribbean (SIREVA).** SIREVA is a project for technical cooperation between the countries of the Region which combines the objective of developing new vaccines with that of strengthening scientific and technical infrastructure in this field. At the meeting there was a discussion of the principal activities carried out as part of the system's implementation during the last two years. An important line of action has been the effort to expand the base of support for the initiative, which has resulted in technical and scientific and/or financial support being obtained from national and international cooperation agencies and universities worldwide.

In the technical sphere, master plans have been prepared to develop vaccines against *N. meningitidis* (serotype B), *S. pneumoniae*, *S. typhi*, and dengue virus, and the respective steering committees have been set up. The Canadian International Development Agency (CIDA) has transferred nearly

Can\$ 1.5 million to PAHO/WHO for a study, already in progress, on prevalence and epidemiological surveillance of *S. pneumoniae*, with a view to developing a pneumococcal vaccine. Work is also underway on the field tests of a new cholera vaccine, with the support of Sweden, which has provided close to US\$ 1.2 million. Other activities in progress are the preparation of a Regional plan for the production of improved DPT vaccines; the creation of a reference laboratory network for quality control of vaccines utilized in the Region, particularly under the Expanded Program on Immunization (EPI); and the organization of courses on good manufacturing practices for vaccine production. It was recommended that, in light of their achievements and strategic importance, both SIREVA and the EPI be given the Organization's fullest support and highest priority.

At the end, the agenda for the next meeting was discussed and it was recommended that the topic of funding for science and technology activities in the health field be given special attention. It was suggested that a study be done ahead of time on the movement of economic forces in this field and the research funding mechanisms available in the Region: sources, how they work, how they might be expanded, etc. Other topics will include an analysis of experiences in the Region with science and technology career plans; a situation analysis of training for health researchers with a special emphasis on graduate training and fellowships; bioethics and ethics in health research; the preservation and exploitation of biodiversity and its importance to health; evaluation of the quality of projects supported by the PAHO/WHO Research Grants Program; and evaluation of the quality of science and technology activities at some Pan American Centers.

Source: Research and Technological Development in Health Program, HDR/HDP, PAHO.