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RESEARCH GRANTS PROGRAM
EVALUATION AND PERSPECTIVES

Research Grants Program
Research Coordination
Division of Health and Human Development
Washington, DC, March 1995

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SUMMARY

This document presents a description and analysis of the Health Research Grants Program (RGP) of the Pan American Sanitary Bureau in its first decade of operation, from 1984-1994. It describes the Program's philosophy and its evolution, as well as the principal activities and results in relation to each of its components: research promotion, project review and approval, and dissemination and utilization of the results.

Next, the report describes the RGP's new phase and its objectives and priorities for the quadrennium 1995-1998. It presents the principal strategies and mechanisms that have been and will be implemented in order to achieve the RGP's objectives.

Having summarized the RGP's history and future outlook, this document will be submitted for consideration to the ACHR, which will respond with comments, suggestions, and recommendations to the Director of the Pan American Sanitary Bureau.
I. Introduction

In 1984, the Health Research Grants Program (RGP) of the Pan American Health Organization (PAHO) entered a new phase marked by changes in program activities and management. In 1994, after ten years in existence, it was considered appropriate to document and describe the Program's salient characteristics, its operation, and the results achieved to date. This report accordingly synthesizes the contents of several documents prepared by the Research Coordination and the Internal Advisory Committee on Research (IACR) from 1985 to the present, and also organizes the data provided by the RGP's Research Information System (RIS).

It should be noted that the present report, rather than analyzing the problems and reasons for the behavior of the indicators that describe the RGP's functions, merely describes the results obtained and suggests possible explanations for the facts documented by data. This descriptive task is a first step that confirms the need for deeper analysis of the problems facing research development within the active fields of the RGP and PAHO as a whole.

The description of the RGP is organized around the components of the program: its philosophy and objectives; research policies and priorities; research promotion; project review and approval; and the dissemination and utilization of research results.

Emphasis is placed on program evolution and its results, tracing the process from 1984 to the present. Chapters 2 and 3 describe the RGP objectives, policies, and priorities and its results over the last ten years. The results are analyzed based on data showing trends in the principal indicators of the RGP's operation and its components. Chapter 4 sets forth the RGP's new research priorities and new strategies envisaged both for research promotion and for proposal review, project monitoring, and dissemination of research results. Finally, Chapter 5 presents conclusions and outlines recommendations for consideration by the ACHR.

II. The RGP Objectives, Policies, and Priorities: 1985-1994

1. The Concept of the RGP and its Objectives

From 1984 to the present, the RGP has been conceived as an instrument to facilitate the generation of knowledge and the integration between its production and utilization, as a means to further and enhance technical cooperation in health. The program has sought,
at least in theory, to respond to specific demands for knowledge by PAHO’s technical programs and in so doing, to collaborate in solving the principal health problems of the Region.

For ten years, it has been institutional policy that RGP-sponsored research is a fundamental component of technical cooperation and should contribute to its reorientation and enhancement through the incorporation of new knowledge.¹

In response, the RGP has oriented its activities toward the following core objectives:

* To promote research that responds to the demands of technical cooperation and contributes to solving health problems in areas in which the Organization concentrates its priority action strategies.

* To facilitate the organization and dissemination of knowledge generated through research and facilitate its utilization.

In keeping with these objectives, the RGP’s approach differs from that of programs which expressly seek to strengthen the scientific infrastructure of the developing countries, although through its activities, the RGP may have contributed indirectly to that goal. Similarly, by articulating the production and utilization of knowledge in response to the needs of technical cooperation programs, the RGP has sought to move beyond the type of autonomous and vertical action that characterizes the "balcony programs."

2. Policies and Norms Governing the Awarding of Grants

In order to fulfill its objectives, over the past ten years the RGP has had approximately US$ 1,500,000 available funds per biennium. Around 10% of this amount is devoted to promotion and dissemination, and the remainder goes to directly finance projects. Accordingly, the RGP is able to finance no more than 50 research projects per year; the projects it supports are relatively small (costing between $20,000 and $25,000) but seek to produce, within a short time frame, results that will have a high impact in terms of their contribution to knowledge. In accordance with the RGP’s objectives and its financial

¹The objective of the RGP was defined for the first time in Directive 85-01 of February 1985, and this approach has been maintained in the institutional policy of the Office as expressed in subsequent directives (Directive 88-06 of August 1988 and Directive 94-02 of March 1994).
FIGURE 1
COMPONENTS OF THE RESEARCH GRANTS PROGRAM

[Diagram showing the flow of components:
- Health Situation in Latin America and the Caribbean
  - Priorities for Action of the Pan American Health Organization
    - Technical Cooperation Needs of the Pan American Sanitary Bureau
      - Utilization of Existing Knowledge
      - Demand for New Knowledge
        - RGP Research Priorities
          - Production and Dissemination
          - Research Promotion
            - Proposal Review and Approval]
capacity, the policies and standards that have governed the awarding of grants can be summarized as follows:²

* Grants are awarded for research projects that address health problems of the countries of the Region of the Americas and fall within the RGP's defined priority areas and themes. Investigators must be residents in countries of the Region, and they must have institutional sponsorship (governmental, nongovernmental, or academic) with proven capability in the scientific and technical field, and guarantee project implementation and administration of the funds.

* Support is provided principally for applied research in the fields of public health and biotechnology that generate innovative findings and contribute to existing knowledge. Preference is given to studies whose methodologies and/or results can be extrapolated to other situations and which have general applications in the Region, respecting the diversity of approaches or explanatory frameworks of the phenomena under study. The RGP does not support diagnostic or descriptive studies that do not make a contribution to existing knowledge; specific research of strictly local interest; or biomedical research.

* In order to qualify for a grant, a research project must exhibit scientific merit and methodological rigor, and the competence and suitability of the principal investigator and responsible institution to carry out the project must be evident.

* Projects are funded at approximately $20,000,³ for a period of no more than two years. However, the RGP can finance components of broader research projects that have counterpart funding from other national or international sources.

In general, these policies have remained consistent over the last ten years of the RGP's operation.


The RGP research priorities and administrative mechanisms, unlike its objectives and policies, have been reviewed and revised three times in the past ten years. Because of the

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³From 1985 to 1987 grant awards did not exceed $15,000. Beginning in 1988, a policy was established which set grant awards between $20,000 and $25,000 per project.
RGP's articulating nature, the review and definition of its priorities have been carried out jointly by the technical programs and the Internal Advisory Committee on Research through an ongoing process of consultation and exchange.

The research priorities that set the framework for grantmaking by the RGP were defined for the first time in 1985 through Directive 85-01 of February 1985. They were reviewed and redefined in 1988, and continued to serve as a frame of reference until 1994. For the purposes of analysis, therefore, two periods can be identified in the evolution of the RGP: 1984-1988 and 1989-1994.

Although the agenda of priorities in effect during the first period (Appendix I) focused on various lines of research in the field of public health, it reproduced to a certain extent the programmatic structure of technical cooperation at that time. That is, it reflected a thematic fragmentation without a clear ranking of the problems that demanded new knowledge. It was recognized that this agenda required greater precision, and above all, that it was necessary to concentrate on demands for knowledge that were closely connected to the Organization's active priorities.

In 1988, the priorities were redefined, and the number of research priority areas was increased to 13. As can be seen in Appendix II, items from the previous agenda were incorporated, but more specific lines were established in every area. In addition, the updated lines reflect critical concerns that had emerged and required additional knowledge; notable among these were the development of local health systems and the political and financial dynamics of the health sector. Two new areas were added that had not been part of the previous agenda: Women, Health, and Development, and Biotechnology. These priorities served as a framework for the RGP until 1994, when a new review produced the current list of priorities.

4. The Internal Advisory Committee on Research (IACR)

The IACR was created in 1984 and authorized through Directive 84-07 of May of that year. It is made up of nine members of Headquarter's body of advisors, who are designated by the Director, and the Research Coordination functions as the Secretariat. The IACR has functioned continuously over the past ten years, meeting four times per year.

The Committee was initially given the responsibility to advise the Director on the definition of research priorities for PAHO, in coordination with the technical programs and PAHO field offices. Its assigned functions also included advising on the utilization of funds.
for research grants, carrying out project review, and identifying institutions capable of contributing to research activities.

Currently, the IACR limits its advisory function to define research priorities for the grants program. In addition, it advises the Director on the evaluation and overall development of the RGP, reviews and analyzes projects and initiatives presented in response to calls for research, and formulates recommendations to the Director regarding their merit.  

III. Types of Action and Results: 1985-1994

1. Research Promotion Strategies

At the times the research priorities were reviewed, the RGP’s research promotion strategies were also reviewed and revised. In describing the principal mechanisms used and the evaluations of their results, it is useful to distinguish between the two periods.

* Promotional strategies: 1985-1988

Exclusive reliance was placed on a strategy of totally induced promotion which was oriented by the technical programs and carried out through what were called "development plans." In theory, a development plan was to be produced for each of the 11 lines of research that were defined as priorities for that period (see Appendix I). Each plan was to contain an analysis of the subject; research objectives; possible methodological approaches; the countries where research would be carried out; and project selection criteria. Each technical program was supposed to coordinate an inter-program group responsible for preparing the plan and submitting it to the IACR for consideration. Once the development plan was approved, the technical programs with the support of the inter-program groups, would select the countries and research teams in order to proceed with the preparation of research protocols.  

Upon evaluating the results of this strategy, it failed to meet expectations. Although the approach was consistent with the RGP’s objectives, it promoted a plan for research

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4Current functions of the IACR are established in Directive 94-02 of March 1994.

5The promotional strategy and forms of action of the RGP during this period were established by Directive 85-01 of 21 February 1985, "Priorities and Operation of the PAHO/WHO Grants Program."
production based on assumptions that were not entirely valid. These included, on the one hand, the assumption of a homogeneous capacity on the part of all the technical programs to lead research processes, and on the other hand, a presumed knowledge of the real capacities of the countries to formulate and carry out research within the framework of the proposed plans.

In 1985, approval was given to 69 research proposals out of a total of 94 that were presented spontaneously by the investigators. That is, although these proposals fell within the priority lines, they were not necessarily induced as part of the development plans.

For the biennium 1986-1987, the same strategy was maintained. Only one project was approved within the framework of the development plans, while approval was given to 58 proposals initiated by the investigators themselves; the majority of these were approved in 1987. This reality necessitated a review of promotional strategies, and consideration was given to actions to facilitate the presentation of proposals.

* Promotional strategies: 1988-1994

When priorities were reviewed in 1988, promotional strategy results were also reviewed and the following mechanisms were put into place:

a) Research promotion based on development plans, as in the original strategy, but only those development plans capable of promoting projects articulated by a common theme that, taken collectively, would contribute to an understanding of the country and the Region with respect to the theme defined in the plan. This was known as the "induced" component, in which development plan preparation was left to the initiative of the technical programs. In this way, the Research Coordination sought to promote multicenter studies in collaboration with the relevant technical programs. However, this strategy did not achieve the expected results in terms of the number of multicenter projects approved. To date, only one multicenter project has been financed and completed through this process.

b) Research promotion in defined priority areas, with the investigators themselves taking the initiative to describe the problem, methodological design, etc. Under this "spontaneous" component, steps were taken to stimulate independent proposals not linked to a development plan or a common protocol. This approach included information dissemination about the RGP and its priority areas, encouraging the scientific community to present research projects consistent with the established priorities and orientations outlined in a manual prepared for this purpose.
Strategy "b" attempted to stimulate a demand for support in order to increase the number of proposals. Although it was called "spontaneous," the process actually involved a series of actions aimed at generating proposals, which can be summarized as follows:

* Information dissemination about the RGP and its priorities to the PAHO/WHO Field Offices and academic and research centers, encouraging investigators to present their proposals within the established guidelines. This is the form of action that characterizes the "balcony programs," and is the approach that has produced the greatest number of submissions.

* The identification of national research institutions to which resources could be decentralized, enabling these institutions to promote and support research consistent with the RGP's priorities. Under this plan, financial resources were allocated to the National Councils on Science and Technology of Brazil, Peru, Venezuela, Mexico, Colombia, and the Caribbean Community, each of which received a grant of approximately $70,000 and in turn made a commitment to raise national funds in a matching amount. This approach met with success in certain countries, notably Peru and Brazil, while in the others, satisfactory results were not obtained with regard to proposal presentation and approval.

Although these strategies led to a significant rise in demand in the biennium 1988-1989, this was not accompanied by an increase in the number of proposals approved, as will be explained further on. Consequently, at the end of the biennium 1992-1993, the strategies were again evaluated and alternative mechanisms were put into place. These facilitated not only a growth in demand but also an improvement in the quality of proposals presented.

Beginning in 1993, and continuing with greater emphasis in 1994, the new promotional strategy consists of inviting investigators to present proposals and holding seminar-workshops where their projects can be discussed and improved. By encouraging research while taking steps to strengthen the abilities of investigators to formulate proposals, this approach has achieved satisfactory results and is the principal form of promotion in use at the present time.

2. Proposal Review and Approval

At the beginning of the period 1985-1988, the evaluation process conditioned proposal review on the prior approval of development plans by the IACR. It also gave a role to the inter-program groups, which in addition to participating in the formulation of
studies, were involved in the evaluation. In 1988, these prerequisites were eliminated and the review process was redefined, establishing a clear separation between research promotion and proposal review.

During the period 1988-1994, there were two levels of review and one of approval, guided by the universal principles of peer review. The first review was carried out by PAHO's technical programs who, drawing on the knowledge of technical cooperation in their fields, analyzed the relevance of projects in relation to established policies and priorities and the importance for the Region. The IACR functions as the second level of review and sent its recommendations to the Director, who has sole responsibility for making the final decision. Both the technical program and the IACR can recommend that external reviewers be consulted when necessary.

The approved projects with ethical implications must also be reviewed by the PAHO Ethical Review Committee. Unlike the IACR, this committee has decision-making power and can exercise final veto power over a recommendation for approval by the IACR.

Since 1995, within the framework of the new research promotion strategies, new mechanisms for proposal review have been implemented that are consistent with the broader changes being made in this period.

3. Demand Behavior, Project Approval, and Distribution by Country and Priority Area

Demand for support peaked in 1988-1989, the period in which the RGP priorities were redefined, promotional activities were intensified, and steps were taken to encourage spontaneous project presentation. This trend began to show a decline in the subsequent bienniums. By the end of 1993, demand had fallen to a level slightly lower than that of 1990-1991, although there were signs of a recovery in 1994 (Table 1).

The rise in demand was not matched by an increase in approved projects. On the contrary, in the biennium 1988-1989, there was a sharp decline in the proportion of projects approved (Table 1), bringing the rate of approval to its lowest point in the period 1985-1994—a trend which may have served to dampen the interest of investigators in presenting requests to the RGP. During the period under study, approval was given to slightly more than one-fourth of the proposals received that were evaluated (Table 1).
Of the total number of requests received, more than 10% were rejected at the first level of review because they did not conform to the RGP's policies and priorities (Table 1). This was partly due to the nature of the requests, since spontaneous projects rather than projects induced by the technical programs accounted for the greatest share of demand during this period.

With regard to the priority areas, more than 50% of the requests fell within the areas of Health and Development or Health Promotion and Protection. This was partly the result of the concentration of themes in these areas that occurred during the regrouping (see Appendix I). However, although Health Promotion and Protection accounted for the greatest share of demand, it did not necessarily have the highest proposal approval rate. On the contrary, the areas of Health and the Environment and Biotechnology had fewer requests, but exhibited the highest rates of approval (Table 2).

Between 1985 and 1994, 16 countries of the Region each presented 10 projects or more to the RGP. Of the total number of projects received during this period, slightly more than half were presented by three countries—Argentina, Brazil, and Mexico. Thus, these countries accounted for the majority of approved projects and grant monies awarded (Table 3). The distribution of projects presented and approved by country, reflects in large measure the fact that the RGP was not conceived as a program to strengthen the research infrastructure of the countries of the Region, and therefore the review and approval criteria have been rigorously applied, irrespective of the origin of the proposals. This is confirmed by the approval rate by country, which shows no significant variation among the countries which have presented proposals to the RGP (Table 3).

In short, the average overall level of requests to the RGP can be considered quite acceptable, taking into account the financial resources available for each biennium. Indeed, if it were possible to approve 50% of this demand, the RGP would expend 100% of its resources. Under these circumstances, the demand problems that characterized during the program's early years appear less important in the current period.

4. Project Rejection Patterns, by Level

Of the total number of projects rejected, nearly 18% were in the "non-priority" category (Figure 2). As a result, problems with proposal quality and competitiveness must be seen within the context of two related problems: first, the scientific community's level of knowledge about the RGP's policies and priorities; and second, the capacity of
investigators to identify and pose relevant research questions based on an exhaustive review of existing knowledge.

In terms of its evolution, the rejection rate for proposals in the biennium 1986-1987 was approximately 65% higher than in 1985, and was the highest rejection rate of the period. The rate declined subsequently and has been maintained without significant change in subsequent bienniums (Table 4).

In large measure, this is due to the improvement of the evaluation system and changes in criteria in proposal approval and rejection recommendations. In 1985, a sizable number of proposals were given what was called "conditional approval," used when a proposal required enhancement and substantive improvements. Subsequently, the category "conditional approval" was restricted to proposals needing only minor changes, while the category "rejection with reformulation" was adopted for cases requiring major revisions. As will be shown, these changes had an impact on the results obtained with approved research.

Figure 3 offers a comprehensive look at all stages of the process, from the reception of proposals through approval by the Director. Slightly more than half of the proposals received in the period under study reached the evaluation stage by the IACR, i.e. a total of 602 projects. In almost 10 years, a total of 269 research projects have been approved, with an average approval rate of 22.8% for the proposals received between 1985-1994.

An analysis of the trends in request demand and approval points to the need for, not only, greater diversification of demand by country and priority area, but also for a sustained effort to increase the approval rate. The promotional strategies currently in use should be enhanced with mechanisms to ensure that more competitive proposals are presented, even if this results in an average volume of requests that is lower than in recent years.

5. Monitoring of Approved Projects and Distribution, by current status

The RGP has a two-track system to monitor projects. Administrative monitoring is carried out by the Research Coordination, while technical-methodological monitoring is the responsibility, at least in theory, of PAHO's technical programs.

Various evaluations have pointed to insufficient technical monitoring of approved projects as a problem which significantly impacts achievement of the RGP's objectives. This problem is reflected, in part, in the high proportion of projects that are behind schedule in fulfilling their work plans and thus unable to deliver their final reports on time (Figure 4).
The fact that most approved projects are of the spontaneous type has been suggested as one of the principal reasons for this lack of monitoring. In fact, these projects have experienced the most administrative problems, in terms of either delayed delivery of the final report or outright cancellation. In contrast, induced research projects have received sustained technical program monitoring, with progress meetings and evaluation of results being the mechanisms most often utilized. However, these measures have required a great investment of human and financial resources for their implementation.

Leaving aside those projects which are currently active, it appears that approximately 20% of the approved projects did not have a satisfactory outcome. That is, in a total of 40 projects, resource investment did not result in the expected product, a final report (Table 5). Most of the projects left incomplete (92.5%) were approved in 1985 and in the biennium 1986-1987. In financial terms, nearly 13% of the total resources invested to date have not produced results. However, from 1988 onward there is a substantial decline in the number of cancelled projects, and it is assumed that the projects still behind schedule will be completed (Table 5). This reflects the impact of the revisions in project evaluation criteria, in 1988-1989. Despite the significant decline in the project approval rate in these years in comparison with that during the period 1985-1987, better results and thus better returns on investments have been obtained since that time.

6. Completed Projects, Dissemination, and Utilization of Results

As of this writing, 61% of the projects approved since 1985 have reached a satisfactory conclusion with the delivery of their final reports; slightly more than half of these were projects induced by the technical programs. The majority of completed projects fall within the areas of Health and Development and Health Promotion and Protection (Figure 5). With regard to distribution by country, more than half of the finished projects correspond to the same three countries which account for the majority of approved projects: Argentina, Brazil, and Mexico (Figure 6). No evaluation has been conducted on the quality and relevance of this research in its totality. Nonetheless, it is possible to identify certain aspects of this research production's impact at different levels; these are discussed in a 1993 study based on a survey of investigators who had completed their research.6

Information was obtained on 47 research projects; 33 of these gave rise to a total of 87 scientific articles published in national and foreign journals and seven books.

Sixty-nine percent of the publications derived from spontaneous research, and were published on the initiative of the investigators themselves. This finding reveals not only the low dissemination through scientific articles of induced research, but also the limited role of the technical programs in disseminating research through PAHO publications.

Seventeen of the 47 research projects gave rise to 8 master's theses and 22 doctoral dissertations in different areas of health, which indicates extensive utilization of research for human resource education.

The great majority of research teams that carried out induced projects were formed expressly for this purpose and were disbanded once the projects were completed. The reverse was true in the case of the spontaneous projects. This suggests the low impact that the technical programs have achieved through RGP-induced and financed research in terms of consolidating stable groups of investigators in the countries.

Of the 47 projects examined, 31% were induced research that produced high-quality results and had a high degree of utilization by the technical programs; 24% were induced and possessed a high potential to utilize the results, but did not achieve the expected quality. Eight percent were spontaneous research that produced high-quality results and responded to priority questions formulated by the technical programs, thus producing information that could be utilized in the short term. Finally, the remaining 37% were spontaneous research that had low or null impact because of the low quality of the results and their unsuitability for utilization by the technical programs.

In sum, of the total number of research projects examined, one-third (including both spontaneous and induced projects) achieved high-quality results with a potential for maximum utilization by the technical programs. The predominant form of utilization thus far has been the dissemination of research results. However, it is essential to continue to analyze the quality, relevance, dissemination, and utilization of completed research supported by the RGP, with the purpose to obtain more conclusive evidence regarding its impact.
7. Utilization of RGP Program Funds

The average project approval rate of 26% resulted in an expenditure of 62.1% of the total funds programmed between 1985 and 1994 (Table 6). Assuming an average grant award of $22,000, utilization of 100% of the funds would have required approval of approximately 35% of the projects received in the period, that is, around 350 projects in ten years. In theory, funding was halted for some 80 projects. However, in practice this was not the case. The funds not expended at the end of every biennium were reinvested in new research initiatives, and more recently, at the end of 1993, were used to finance nine public health research training grants.

The distribution of funds by priority area generally corresponds to the approval rates, with 60% concentrated in the areas of Health Promotion and Protection and Health and Development (Figure 7). Although the areas of Disease Prevention and Control and Biotechnology have the lowest proportion of projects approved and grants awarded, the average grants per project are higher than the average grants in the other areas.

IV. RGP Priorities and Actions: 1994-1995


While the program’s objectives and policies have been maintained, beginning in 1994 new RGP priority areas came into force. These were redefined in relation to the PAHO Strategic and Programmatic Orientations for the Quadrennium 1995-1998 and the WHO Ninth General Program of Work covering the period 1995-2001. The new priorities emphasize equity in health and the effectiveness of health interventions, with health and development as the integrating theme. Once the priority areas were established, the lines of research that the RGP will promote in coordination with the technical programs were defined with greater precision (see Appendix III).

2. Strategies for Research Promotion

Under the promotional strategies that characterized the RGP’s last ten years, it was assumed that the technical programs possessed the necessary leadership and initiative to take charge of this process. The evidence demonstrated that this leadership was not sufficiently effective to positively impact the quantity of induced projects and the quality of proposals presented. Consequently, beginning in 1994, steps have been taken to implement
new promotional strategies that assign an active leadership role to the Research Coordination and the IACR.

Taking into consideration the experiences of 1985-1994 and the results obtained during that time period, the strategies are oriented to achieve the following objectives:

* To guide the demand so that projects presented address questions that are relevant to the established priorities. The goal is not so much to increase demand, but to diversify subjects dealt with by the RGP, and to the extent possible, to diversify the participation of countries of the Region.

* To improve the quality of proposals presented. This would also have the indirect effect of building the capacities of investigators to formulate, carry out, and disseminate the results of research.

* To encourage the scientific community, especially young investigators and those in training, to focus their attention on the priority public health problems of the Region.

* To collaborate with the technical programs in initiatives to promote research based on priorities they have defined, and to encourage a steady increase in induced projects.

In light of these objectives, the global research promotion strategy launched in 1994-1995, centers on what are referred to as a "research assembly." These competitions, which can be national, subregional, or regional, begin with the selection of a line of research within the framework of the priority areas, and then define terms of reference to acquaint the interested scientific community with the content and types of research being requested. With the objective to obtain competitive proposals, the assembly will include project preselection and workshops in which the investigators receive technical advice from specialists to assist them in strengthening their projects. Appendix IV lists the research assemblies held in 1994 and 1995.

3. **Mechanisms for Proposal Review and Evaluation**

Starting in 1995, the IACR's role will be complemented by 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 assemblies and will make recommendations to the Director regarding their merit.
4. Strategies for Dissemination of Results

The effort to generate an induced demand through research assemblies will be paralleled by steps to induce the publication and dissemination of results. Investigators, in addition to being allowed the freedom to publish their research as they see fit, will also be invited to participate in the publication of special or monographic numbers of PAHO periodicals or non-periodic publications if appropriate.

V. Principal Conclusions

Based on the foregoing analysis of the RGP actions and management over the past ten years, it is possible to suggest several conclusions that are relevant both to evaluative studies of the research supported by the RGP and to the strategies aimed at achieving the program’s established objectives.

1. Taking into account the RGP’s financial capacity, an average demand of 120 requests per year could be excessive if these projects were of very competitive quality. However, given the high proposal rate of rejection, this figure appears low. There is a need to provide more guidance to the demand in order to increase the coverage of subjects rarely dealt with, such as the relationship between the environment and health, or aspects of health systems and services; it is also desirable to diversify somewhat the participating countries requesting research support. Thus, it is essential to take a more active approach to identify investigators and facilitate actions to achieve these goals.

2. The main thrust of future promotional strategies should be to reduce the proportion of spontaneous and non-priority projects, while encouraging the presentation of proposals oriented to questions and problems of interest to the technical programs. Toward this end, steps should be taken to raise the proposal rate of approval—even though this implies lowering the volume of demand—through mechanisms to facilitate strengthening investigators’ capacities to formulate and carry out research projects. Studies that examine the reasons proposals are rejected could provide information to help orient competitive project promotional strategies.

3. Resource mobilization, particularly of the scientific community and academic and research centers, can be achieved through strategies to promote the participation of new actors and investigators in public health-related fields in the Region. The development of research initiatives through collaborative projects to facilitate information exchanges between investigators should be encouraged. Toward this end, a strategy of coordinating
research initiatives through investigator networks, research centers, and institutions should be considered within the framework of the research assemblies.

4. Studies of a more analytical nature are needed in order to identify the type of investigators most likely to present their projects to the RGP. It would appear, based on the average grant award and the data regarding utilization of the studies for master's theses and doctoral dissertations, that the group most inclined to request grants is the community of young investigators in training. Therefore, it would be appropriate to include in the promotional strategies, an appeal to young investigators to address certain subjects relevant to the program's priorities. In order to ensure the competitiveness of proposals and their successful development, this appeal should also be issued to "senior" investigators who could act as advisors or mentors for those projects of the investigators in training, as a condition for approval.

5. In addition to the promotional strategies being implemented, there is a need to design cost-effective mechanisms to conduct technical monitoring and follow-up of projects. Rather than giving primary responsibility to regional advisors of the technical programs, investigators could be identified locally and requested by the programs to provide technical advisory services. In addition, it will be necessary to expand the role of advisors at the PAHO/WHO Field Offices and at the Pan American Centers in providing technical advisory services to the research projects.

6. Alongside the initiatives to induce the presentation of projects, steps should also be taken to motivate the dissemination of research results. Efforts are needed to promote publication of articles based on completed research and collaboration to strengthen capacities of the investigators to write scientific articles.

7. Finally, to facilitate greater utilization of research results in the context of technical cooperation, the technical programs should identify key questions that need to be addressed through research and, on this basis, define the terms of reference for promotional purposes.
APPENDIX I

RGP Research Priority Areas and Themes - 1985-1988

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<th>AREA</th>
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3. Health policies.  
4. Labor market in health.  
5. Utilization and accessibility of health services.  
7. Utilization, accessibility, efficiency, and effectiveness of environmental sanitation services. |
2. Chronic diseases of adults.  
3. Health problems of workers.  
4. Health problems of the elderly. |

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<th>LINES</th>
</tr>
</thead>
</table>
| 1. Health profiles | 1. Profiles of morbidity and mortality of different local populations.  
2. Inter-urban differential profiles according to living conditions. |
2. Technological development policies.  
3. Effects of health technology. |
| 3. The political process and health | 1. Political forces that influence health policies and intervention mechanisms.  
2. Analysis of experiences of health and social development projects. |
2. Sociology of professions.  
3. Work force and production of services.  
| 5. Organization of health systems and services | 1. Local health systems and their relation to the normative superstructure and decentralization processes.  
2. Local health systems and their relation to the overall sectoral structure.  
3. Local health systems and their organizational, material, and human components. |
2. Impact of macroeconomic policies on the availability of resources and sectoral expenditures. |
| 7. Organization of environmental sanitation systems and services | 1. Factors that affect the accessibility, efficiency, and effectiveness of services.  
2. Critical technological deficiencies. |
2. Quality, efficiency, and coverage of services.  
3. Evaluation of policies and programs in this area. |
### AREA

#### 9. Health/disease in the adult population

1. Evaluation of care models or programs.
2. Sociocultural and economic factors that affect the health of the adult population.

#### 10. Health and work

1. Risk factors and health protection of workers.
2. Analysis and evaluation of health care services provided to workers.
3. Health problems of special groups of workers, with emphasis on youth and women.

#### 11. Aging and health

1. Biological, social, and economic aspects of the aging process.
2. Evaluation of policies and programs for the elderly.

#### 12. Women, health, and development

1. Health problems of women associated with their role in society.
2. Evaluation of health policies and current legislation affecting women.
3. Women’s participation in the work force and its effects on health.
4. Violence against women.

#### 13. Development of technological priorities: Biotechnology

1. Development and evaluation of methods to diagnose important public health diseases.

---

**Sources:** Reorientation of the PAHO/WHO Grants Program. Document 3679, Research Unit, Washington D.C., 1988; Appendix 2 of Document CAIS 27/89.5 of the Advisory Committee on Health Research, 1989.

**Note:** In order to maintain historical continuity in the information system, in 1994 the 13 areas were regrouped into six current priority areas as follows: Health and Development (1,2,3,4.1,4.2,6,12); Health Systems and Services (4.3,4.4,5); Health Promotion and Protection (8,9,10,11); Health and the Environment (5); and Biotechnology (13).
<table>
<thead>
<tr>
<th>AREA</th>
<th>LINES</th>
</tr>
</thead>
</table>
| Health and Development  | 1. Health inequities and their manifestations in social groups: Economic, social, cultural, ethnic, and gender factors.  
                            2. Intersectoral relations and health: Public policies and development plans and their relationship to health.  
                            3. State health sector reforms and the introduction of development models.  
                            4. Policies and regulatory measures about human resources in health.  
                            5. Scientific development and technological processes in health.                                                                                                                                                                                  |
| Health Systems and      | 1. Equity, coverage, and quality of health systems and services by population type and specific social groups.  
                            2. Organizational and financing modalities of health systems and services and the incorporation of technologies and inputs in the context of sectoral reforms.  
                            3. Decentralization and social participation of health systems and services, and the development of local systems.  
                            4. Human resource management within the framework of health systems and services.                                                                                                                                                                               |
| Services                |                                                                                                                                                                                                                                                                                                                                                                                                    |
| Health Promotion and    | 1. Analysis of living conditions and behaviors related to health promotion and protection of population groups, taking into account social, ethnic, cultural, and gender factors.  
                            2. Growth and psychosocial development.  
                            3. Evaluation of health promotion and protection interventions.  
<p>| Protection              |                                                                                                                                                                                                                                                                                                                                                                                                    |</p>
<table>
<thead>
<tr>
<th>AREA</th>
<th>LINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and the Environment</td>
<td>1. Development of policies and initiatives on health, the environment, and development.</td>
</tr>
<tr>
<td></td>
<td>2. Assessment of health effects of water and air pollutants and special waste, and measures to control them.</td>
</tr>
<tr>
<td></td>
<td>3. Assessment and control of risks in the workplace on workers' health.</td>
</tr>
<tr>
<td>Disease Prevention and Control</td>
<td>1. Epidemiological and socioeconomic baseline studies to develop and evaluate disease prevention and control interventions.</td>
</tr>
<tr>
<td></td>
<td>2. Development and testing of new methods and techniques for disease prevention and control.</td>
</tr>
<tr>
<td></td>
<td>3. Development and evaluation of models to incorporate disease prevention and control in health services.</td>
</tr>
</tbody>
</table>

### APPENDIX IV

Research Assemblies by Subject, Countries, and Counterpart Institutions - 1994-1995

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>COUNTRIES</th>
<th>INSTITUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The State and health</td>
<td>Latin America and the Caribbean</td>
<td>PAHO Health Policies Program; CLACSO.</td>
</tr>
<tr>
<td>Health Reform in Historical Perspective</td>
<td>Latin America and the Caribbean</td>
<td>PAHO Health Policies Program</td>
</tr>
<tr>
<td>Effectiveness of Interventions for Communicable Disease Prevention and Control</td>
<td>Ecuador, Bolivia, Paraguay</td>
<td>PAHO Program of Communicable Disease Prevention and Control; University of Ecuador; Research Institute of Ecuador.</td>
</tr>
<tr>
<td>Prevention and Control of Malaria in the Amazon Basin</td>
<td>Venezuela, Colombia, Ecuador, Peru, Brazil</td>
<td>PAHO Program of Communicable Disease Prevention and Control; TDR/WHO</td>
</tr>
<tr>
<td>Management of Human Resources: Quality and Productivity in Health Services</td>
<td>Brazil, Paraguay, Uruguay, Argentina, Chile</td>
<td>PAHO Program on Human Resource Development; Research Network on Health Systems and Services, University of Londrina, Paraná-Brazil.</td>
</tr>
<tr>
<td>Evaluation of Health and Nutrition Promotion Programs for School-children and Adolescents</td>
<td>Central America, Cuba, Dominican Republic</td>
<td>PAHO Division of Health Promotion and Protection; INCAP.</td>
</tr>
</tbody>
</table>
TABLES AND CHARTS
**TABLE 1**

**EVOLUTION OF THE RECEPTION AND APPROVAL OF REQUESTS AND AMOUNTS AWARDED BY YEAR: 1985-1994**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>TOTAL RECEIVED</th>
<th>RECEIVED IN PRIORITY AREAS</th>
<th>APPROVED</th>
<th>PENDING REVIEW</th>
<th>AMOUNTS APPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO.</td>
<td>%</td>
<td>NO.</td>
<td>%</td>
<td>NO.</td>
</tr>
<tr>
<td>1985</td>
<td>94</td>
<td>8.0</td>
<td>94</td>
<td>9.0</td>
<td>69</td>
</tr>
<tr>
<td>1986-87</td>
<td>180</td>
<td>15.3</td>
<td>140</td>
<td>13.5</td>
<td>58</td>
</tr>
<tr>
<td>1988-89</td>
<td>291</td>
<td>24.7</td>
<td>255</td>
<td>24.7</td>
<td>43</td>
</tr>
<tr>
<td>1990-91</td>
<td>238</td>
<td>20.2</td>
<td>206</td>
<td>20.0</td>
<td>47</td>
</tr>
<tr>
<td>1992-93</td>
<td>221</td>
<td>18.7</td>
<td>199</td>
<td>19.3</td>
<td>37</td>
</tr>
<tr>
<td>1994</td>
<td>156</td>
<td>13.2</td>
<td>140</td>
<td>13.5</td>
<td>15</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1180</td>
<td>100.0</td>
<td>1034</td>
<td>100.0</td>
<td>269</td>
</tr>
</tbody>
</table>

Source: HDP/HDR RIS Information System.
February 1995.
### TABLE 2

<table>
<thead>
<tr>
<th>PRIORITY AREA</th>
<th>RECEIVED</th>
<th></th>
<th>APPROVED</th>
<th></th>
<th>AMOUNT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO.</td>
<td>%</td>
<td>NO.</td>
<td>%</td>
<td>US$</td>
<td>%</td>
</tr>
<tr>
<td>Health and Development</td>
<td>318</td>
<td>26.9</td>
<td>86</td>
<td>27.0</td>
<td>1,322,590</td>
<td>29.2</td>
</tr>
<tr>
<td>Health Systems and Services</td>
<td>214</td>
<td>18.1</td>
<td>48</td>
<td>22.4</td>
<td>843,446</td>
<td>18.6</td>
</tr>
<tr>
<td>Health Promotion and Protection</td>
<td>361</td>
<td>30.6</td>
<td>85</td>
<td>23.5</td>
<td>1,415,476</td>
<td>31.3</td>
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<tr>
<td>Health and the Environment</td>
<td>55</td>
<td>4.7</td>
<td>23</td>
<td>41.8</td>
<td>380,282</td>
<td>8.4</td>
</tr>
<tr>
<td>Disease Prevention and Control</td>
<td>14</td>
<td>1.2</td>
<td>2</td>
<td>14.3</td>
<td>47,313</td>
<td>1.0</td>
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<tr>
<td>Biotechnology</td>
<td>72</td>
<td>6.1</td>
<td>25</td>
<td>34.7</td>
<td>518,151</td>
<td>11.4</td>
</tr>
<tr>
<td>Non-Priority Areas</td>
<td>146</td>
<td>12.4</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>1180</td>
<td>100.0</td>
<td>269</td>
<td>22.8</td>
<td>4,527,258</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: HDP/HDR RIS Information System.  
February 1995.
## Table 3

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>RECEIVED</th>
<th>%</th>
<th>APPROVED</th>
<th>%</th>
<th>AMOUNT</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO.</td>
<td></td>
<td>NO.</td>
<td></td>
<td>US$</td>
<td></td>
</tr>
<tr>
<td>Argentina</td>
<td>212</td>
<td>18.0</td>
<td>45</td>
<td>21.2</td>
<td>729,925</td>
<td>16.1</td>
</tr>
<tr>
<td>Brasil</td>
<td>212</td>
<td>18.0</td>
<td>53</td>
<td>25.0</td>
<td>914,701</td>
<td>20.2</td>
</tr>
<tr>
<td>Mexico</td>
<td>180</td>
<td>15.3</td>
<td>38</td>
<td>21.1</td>
<td>754,814</td>
<td>16.7</td>
</tr>
<tr>
<td>Chile</td>
<td>96</td>
<td>8.1</td>
<td>18</td>
<td>18.8</td>
<td>253,360</td>
<td>5.6</td>
</tr>
<tr>
<td>Cuba</td>
<td>76</td>
<td>6.4</td>
<td>19</td>
<td>25.0</td>
<td>305,332</td>
<td>6.7</td>
</tr>
<tr>
<td>Venezuela</td>
<td>57</td>
<td>4.8</td>
<td>15</td>
<td>26.3</td>
<td>228,246</td>
<td>5.0</td>
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<td>Peru</td>
<td>46</td>
<td>3.9</td>
<td>11</td>
<td>23.9</td>
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<tr>
<td>U.S.A.</td>
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<td>3.8</td>
<td>10</td>
<td>22.2</td>
<td>193,340</td>
<td>4.3</td>
</tr>
<tr>
<td>Colombia</td>
<td>43</td>
<td>3.6</td>
<td>9</td>
<td>20.9</td>
<td>163,251</td>
<td>3.6</td>
</tr>
<tr>
<td>Uruguay</td>
<td>39</td>
<td>3.3</td>
<td>9</td>
<td>23.0</td>
<td>117,385</td>
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<tr>
<td>Costa Rica</td>
<td>30</td>
<td>2.5</td>
<td>9</td>
<td>30.0</td>
<td>140,959</td>
<td>3.1</td>
</tr>
<tr>
<td>Ecuador</td>
<td>25</td>
<td>2.1</td>
<td>4</td>
<td>16.0</td>
<td>82,769</td>
<td>1.8</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>14</td>
<td>1.2</td>
<td>4</td>
<td>28.6</td>
<td>49,160</td>
<td>1.1</td>
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<tr>
<td>Panama</td>
<td>14</td>
<td>1.2</td>
<td>2</td>
<td>14.3</td>
<td>28,400</td>
<td>0.6</td>
</tr>
<tr>
<td>Canada</td>
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<td>0.8</td>
<td>2</td>
<td>20.0</td>
<td>43,800</td>
<td>1.0</td>
</tr>
<tr>
<td>Bolivia</td>
<td>10</td>
<td>0.8</td>
<td>2</td>
<td>20.0</td>
<td>24,500</td>
<td>0.5</td>
</tr>
<tr>
<td>Remaining countries</td>
<td>71</td>
<td>6.0</td>
<td>19</td>
<td>26.8</td>
<td>312,611</td>
<td>6.9</td>
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<tr>
<td>TOTAL</td>
<td>1180</td>
<td>100.0</td>
<td>269</td>
<td>22.8</td>
<td>4,527,258</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: HDP/HDR RIS Information System.
February 1995.
### TABLE 4

**DISTRIBUTION OF REJECTED PROJECTS PER LEVEL OF REJECTION BY YEAR**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>TOTAL</th>
<th>EVALUATED</th>
<th>REJECTED BY DIRECTOR</th>
<th>REJECTED BY TECH. PROG.</th>
<th>REJECTED AS NON-PRIORITY</th>
<th>CANCELLED*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO.</td>
<td>%</td>
<td>NO.</td>
<td>%</td>
<td>NO.</td>
<td>%</td>
</tr>
<tr>
<td>1985</td>
<td>25</td>
<td>3.7%</td>
<td>25</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1986-87</td>
<td>109</td>
<td>10.1%</td>
<td>51</td>
<td>73.9%</td>
<td>18</td>
<td>26.1%</td>
</tr>
<tr>
<td>1988-89</td>
<td>238</td>
<td>29.7%</td>
<td>96</td>
<td>47.5%</td>
<td>106</td>
<td>52.5%</td>
</tr>
<tr>
<td>1990-91</td>
<td>178</td>
<td>21.5%</td>
<td>75</td>
<td>51.4%</td>
<td>71</td>
<td>48.6%</td>
</tr>
<tr>
<td>1992-93</td>
<td>178</td>
<td>22.9%</td>
<td>67</td>
<td>42.9%</td>
<td>89</td>
<td>57.1%</td>
</tr>
<tr>
<td>1994</td>
<td>98</td>
<td>12.1%</td>
<td>19</td>
<td>23.2%</td>
<td>63</td>
<td>76.8%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>826</td>
<td>100.0%</td>
<td>333</td>
<td>49.0%</td>
<td>347</td>
<td>51.0%</td>
</tr>
</tbody>
</table>

**SOURCE:** HDP/HDR RIS Information System.  
February 1995.

* Projects cancelled due to no response on the part of the investigator and/or reviewers.
# Table 5

**PAHO Research Grants Program**  
**Current Status of Approved Projects by Year: 1985-1994**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total No.</th>
<th>Active No.</th>
<th>Active Amount</th>
<th>Overdue No.</th>
<th>Overdue Amount</th>
<th>Cancelled No.</th>
<th>Cancelled Amount</th>
<th>Completed No.</th>
<th>Completed Amount</th>
<th>Total No.</th>
<th>Total Amount</th>
<th>% Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>28</td>
<td>22</td>
<td>325,000</td>
<td>47</td>
<td>656,369</td>
<td>69</td>
<td>981,369</td>
<td>21.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1986-87</td>
<td>15</td>
<td>15</td>
<td>193,527</td>
<td>43</td>
<td>684,428</td>
<td>58</td>
<td>877,955</td>
<td>19.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1988-89</td>
<td>8</td>
<td>2</td>
<td>32,491</td>
<td>33</td>
<td>634,294</td>
<td>43</td>
<td>821,270</td>
<td>18.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990-91</td>
<td>12</td>
<td>12</td>
<td>246,792</td>
<td>33</td>
<td>546,016</td>
<td>47</td>
<td>834,400</td>
<td>18.4</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1992-93</td>
<td>18</td>
<td>18</td>
<td>288,253</td>
<td>37</td>
<td>679,244</td>
<td></td>
<td>679,244</td>
<td>15.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>15</td>
<td>15</td>
<td>333,020</td>
<td>37</td>
<td>2,661,933</td>
<td>15</td>
<td>2,661,933</td>
<td>7.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>38</td>
<td>689,530</td>
<td>163</td>
<td>2,661,933</td>
<td>269</td>
<td>4,527,258</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: HDP/HDR RIS Information System.
### TABLE 6

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ALLOTTED*</th>
<th>AWARDED**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US$</td>
<td>%</td>
</tr>
<tr>
<td>1984-85</td>
<td>1,200,000</td>
<td>16.5</td>
</tr>
<tr>
<td>1986-87</td>
<td>925,760</td>
<td>12.7</td>
</tr>
<tr>
<td>1988-89</td>
<td>1,120,452</td>
<td>15.4</td>
</tr>
<tr>
<td>1990-91</td>
<td>1,137,787</td>
<td>15.6</td>
</tr>
<tr>
<td>1992-93</td>
<td>1,262,347</td>
<td>17.3</td>
</tr>
<tr>
<td>1994</td>
<td>821,200</td>
<td>11.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>7,288,746</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* Amounts allotted to directly finance projects.
** Amounts awarded to projects according to allotment fund year.
Figure 2
PAHO RESEARCH GRANTS PROGRAM
Distribution of Rejected Projects, 1985-1994

Total Rejected: 826

Director 333 40%
Technical Programs 347 42%
Non Priority Area 146 18%

31 Dec. 1994
Figure 3
PAHO Research Grants Program
Number of Projects Received, 1985-1994

TECHNICAL PROGRAMS

REJECTED
347 29%

Non Priority
146 12%

PENDING
43 4% 42 4%

CLOSED

CALL REVIEWED

APPROVED
602 51%

REJECTED
333 55%

APPROVED
269 45%

As of 31 Dec. 1994

rg94f11/jjs
Figure 4

PAHO RESEARCH GRANTS PROGRAM

Distribution of Approved Projects, by Project Status, 1985-1994

Total Approved: 269

Completed 61%

Overdue 14%

Cancelled 15%

Active 10%

As of 31 Dec. 1994
Figure 5
PAHO RESEARCH GRANTS PROGRAM
Distribution of Approved Projects, by Priority Area, 1985-1994

As of 31 Dec. 1994

[Bar chart showing distribution of approved projects by priority area: Biotechnology, Prev. & Control Dis., Health Promot. & Prot., Health Syst. & Serv., Health & Development, Health & Environment. The chart indicates the number of completed, active, overdue, and cancelled projects.]
Figure 6
PAHO RESEARCH GRANTS PROGRAM

As of 31 Dec. 1994

ARGENTINA
BRAZIL
MEXICO
CHILE
CUBA
VENEZUELA
PERU
UNITED STATES
COLOMBIA
URUGUAY
COSTA RICA
ECUADOR
NICARAGUA
PANAMA
BOLIVIA
CANADA
Rest of Countries

0 5 10 15 20 25 30 35
Figure 7
PAHO RESEARCH GRANTS PROGRAM
Distribution of Awarded Funds, by Priority Area, 1985-1994

Health Promot. & Prot.  
$1,415,476  31%  

Prev. & Control Dis.  
$47,313  1%  

Biotechnology  
$518,151  11%  

Health Syst. & Serv.  
$843,446  19%  

Health & Environment  
$380,282  8%  

Health & Development  
$1,322,590  29%  

As of 31 Dec. 1994