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CURRENT SITUATION OF RESEARCH IN PAHO

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1. Introduction

In 1976, following the internal reorganization of PAHO Headquarters, the Division of Human Resources and Research assumed the responsibility for promotion and coordination of the effort of research in the technical cooperation programs of PAHO/WHO.

After five years of this activity, we thought it necessary to give you an account of all the work carried out, to serve as important background to the Advisory Committee on Medical Research's deliberations, on the achievements reached, and the difficulties encountered, so that needed readjustments for a better performance may be started.

This is especially important because we are at this moment initiating a new stage of programming that must be based on the Strategies of health for all by the year 2000, approved by the Directing Council of the Organization at its XXVII Meeting in October 1980. This document is included in the portfolio that has been distributed to you for this session.

We should indicate that the referred reorganization has not only involved a change of administration of the unit and a structural rearrangement of the manpower available, but that it has also permitted a significant expansion of these resources and thereby of the programming of activities.

In addition to pursuing the activities previously established with the meetings of the ACMR, the catalogue of research projects, the grants for training of investigators and the periodic scientific debates on priority topics, the present programming attempts to expand our field of action, adding, among others, the following programs:

Presented by Dr. José Roberto Ferreira, Chief, Division of Human resources and Research - June 1981.

- a) promotion of national research policies;
- b) establishment of permanent priority areas in biomedical, socio-epidemiological and operational research;
- c) development of an information system on research in health;
- d) Institutional development and coordination of collaborating centers;
- e) technical cooperation for training and advisory service in statistical methodology;
- f) coordination of the activities of the TDR at the regional level.

The execution of all this programming has required the hiring of new personnel, increasing, in the last five years, the number of professionals dedicated to the area of research, from 2 to 7.

Concomitantly, all research activities in the programs of the Organization have been increased. This may be demonstrated by comparing the evolution of three items related to 1) the overall budget of the Organization, 2) the specific budget of the unit of coordination of research, and 3) the budget allocated in the countries to the component of research. Table I will illustrate this point.

Table I

	PAHO Global Budget	Research Coordination and Programming	Research Programs in the Countries
1976	63,352,642	331,035	3,814,925
1981	92,117,450	614,800	8,149,069
% Aumento	45%	85%	113%

Though it is expressed in percentage for comparison with the growth of the overall budget of the Organization, the most accentuated increase that appears in country research programs, is not uniform in its content, since it is conditioned, not only by the effective increase in research contributions but also by a more complete recording of the projects in progress. We cannot guarantee, by the way, that these projects will be conducted with the amount indicated for 1976.

Nevertheless, we should clarify that these funds still do not represent the totality of the cooperation offered by the Organization in this field.

To them must be added the resources distributed through the TDR in the Region and the direct contributions of WHO to some of the Collaborating Centers. These represent additional amount of US\$5,400,000.00.

2. Brief review of activities completed

We will not dwell, in this review on the activities of the ACMR itself, one of the central components of the whole program, since they are known to the Committee and are also described in the corresponding annual reports.

2.1 Next we will discuss the DEFINITION OF NATIONAL RESEARCH POLICIES, an area to which we have dedicated ourselves since 1977, taking as a basis the Resolution of the Ten-Year Health Plan of the Americas, which says that:

"Within the framework of national development in science and technology, the Ministries of Health should develop an important role in the research in this sector and especially could formulate a national policy of research in health that gives priority to the prevalent problems and of national interest."

With this objective, 10 national meetings on research policies, have been carried out up to the moment, as a preparatory stage for the subregional meetings.

Furthermore five subregional meetings were organized: the first one in Mexico City, in 1977, with the participation of that country and of Cuba, Haiti and the Dominican Republic; a meeting of the Andean Pact countries, took place in Cochabamba in 1978, with participation of Bolivia, Peru, Ecuador and Colombia; the Central American meeting was carried out in San José in 1978 and had the participation of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panamá; the Cono South meeting carried out in Punta del Este in 1980 with the participation of Uruguay, Argentina, Paraguay and Chile; and finally, of the Caribbean subregional meeting, in April of this year with representatives from Barbados, Jamaica, Martinique, Suriname and Trinidad.

The following aspects were developed in these meetings:

- structure and organization of research;
- strategies of coordination and financing;
- definition of priority areas;
- information systems on research;
- training of researchers;
- ethical aspects of research.

The importance of improved exchanges between universities and health institutions was emphasized, and standards to make uniform the presentation, approval, follow-up and evaluation of projects were proposed.

A concern was expressed that external resources for the financing of research might entail a commitment to the policies and strategies set by the country receptor. All these meetings stressed the importance of the strategy of "technical cooperation among developing countries", recognized as the most proper means of fulfilling the needs identified as common priorities by the participating countries.

Finally, attention was called on the form in which the Organization could cooperate in this research effort, by:

- identifying and evaluating possible sources of financing;
- identifying priority areas that can be covered by this cooperation;
- developing research information systems; and by
- supporting institutional development in this area.

These were well received. The results obtained so far have demonstrated the need for an effort to consolidate this work with a possible convening of a Pan American Conference on Health Research Policies.

2.2 Next we will refer to the programs of research in priority areas and begin with Health Services Research. For this activity, we established in the Secretariat, an interdivisional working group dedicated especially to the formulation of a plan of work that was presented to this Advisory Committee at their 1979 meeting.

Six scientific meetings on the subject were convened, stressing the epidemiological, operational and social sciences aspects, and bringing together 200 specialists from different countries of the Region. The topic of health services research was subsequently included in the various national meetings on research policies, generating thus a broad promotion of the application of the scientific method to the solution of problems in the services, especially for those the extension of coverage, with primary care and community participation.

The Organization has provided technical cooperation in health services research to the countries that requested it, and has included this area in its research projects as well as in the projects for which the grants have awarded to national investigators.

In all this context, the Social Sciences were emphasized through a study of social indicators in the Region and a broad review of the bibliography available and applicable to health. Results were presented to last year's Committee.

Two other areas of concentration were nutrition and diarrheas. A working group was appointed for each of these areas. They were oriented toward the review of the current state of knowledge and redefinition of specific programming. There is no need for lengthy explanations on the subject, since both topics will be reviewed in this meeting.

Finally, in the field of communicable diseases, we have assumed the coordination for the Region of the Americas, of the Special Program of Research and Training in Tropical Diseases, a program known to all for its initials, TDR. The broad gamut of activities that it involves includes epidemiological studies, operations research, vector control, socioeconomic analyses and immunologic, pharmacological, clinical and molecular biology aspects related to the 6 diseases to which it is oriented.

In America, the program has supported 305 projects through grants for research and/or training to individual scientists or for the strengthening of specialized institutions. The resources applied were of the order of US\$12,580,292.00 of which US\$4,420,702 correspond to projects in development in Latinoamerica and the Caribbean.

This included, in addition, the organization of scientific meetings and courses in Colombia, Panama, Venezuela, Trinidad and Tobago, Brazil and Mexico.

In Table II we show in greater detail the distribution of the projects mentioned. Of course, as was to be assumed, the studies on Chagas' disease are concentrated in Latin America, whereas those on malaria, schistosomiasis and filariasis, are undertaken mostly in the United States.

TABLE II

FUNDS RECEIVED BY THE REGIONAL COM DIFFERENT TDR PROGRAM AREAS
(AS OF JUNE 1980)

COUNTRY	TRIPANOSOMIASIS AFRICAN	TRIPANOSOMIASIS AMERICAN	FTLARIASIS	LEISHMANIASIS	LEPRO	MALARIA	SCHISTOSOMIASIS	BERNARDINI SCIENCE	BIOMEDICAL SCIENCE	BIOL- LOGICAL VECTOR CONTROL	SOCIO- ECONOMIC	DOCTOR'S INITIATIVE & SCIENTIFIC FUNDS	TRAINING & VISITING GRANTS	REENTRY GRANTS	CAPITAL GRANTS	LONG TERM GRANTS	MEETINGS & COURSES	TOTAL/ COUNTRY	N° OF PROJECTS
ARGENTINA		352.926			33.000								32.677	24.100	108.500	572.665		1.123.868	21
BOLIVIA				2.000									4.326		136.500			141.826	3
BRAZIL		477.949	11.000	93.150		287.750	189.500	50.000					292.014	16.000		144.700	12.600	1.574.663	47
CANADA	32.685			7.000						12.700								52.385	5
CHILE		5.000											63.391					68.391	4
COLOMBIA		37.503															42.000	79.503	3
CUBA												7.500	21.370			156.000		184.870	6
DOMINICAN REPUBLIC												6.000						6.000	1
FRENCH GUIANA					10.000													10.000	1
GUATEMALA													17.490					17.490	1
HONDURAS				27.500														27.500	1
MEXICO		25.000	5.000								25.000							55.000	1
PANAMA		46.581		44.474		116.522											39.000	246.577	6
PARAGUAY					164.900								18.542					183.442	2
PERU		41.600		36.200								4.200	8.316	13.500		105.800		209.616	8
ST. LUCIA											36.875							36.875	1
TRINIDAD & TOBAGO																	15.000	15.000	1
U.S.A.	382.934	262.209	1.310.300	362.706	1.826.824	2.292.192	911.620	237.300		464.120	20.000	37.000						8.107.205	178
VENEZUELA		39.500		69.741	67.500		6.000					2.200	6.740		50.000	82.000	116.400	440.081	15
TOTAL/ PROGRAM	415.619	1.288.268	1.326.300	642.771	2.102.224	2.696.464	1.107.120	287.300		476.820	81.875	56.900	464.866	53.600	295.000	1.061.165	225.000	12.580.292	305

PAHO maintains also a limited program of grants for support to research of priority areas, which though a great deal more modest than that of the TDR, is awakening great interest in the Region. These grants are oriented toward the training of researchers and the opening of new fields of work in support of other projects that the Organization maintains in the countries.

In the last five years approximately 100 grants were awarded, of which 49 were in the field of the microbiology and parasitology, 25 in public health and social medicine, 11 in internal medicine and specialties, 9 in biochemistry and physiology and 6 in other fields.

2.3 Another area of collaboration has been the work with centers of research in the Region. These includes the Pan American Centers themselves, administered by PAHO, where important research activities are conducted, and the so-called Collaborating Centers of WHO, which are national institutions, identified as centers of excellence in specific areas, which can provide cooperation in the Organization's programs. In both cases, the effort carried out reflect support of the strategy of technical cooperation among the developing countries (TCDC).

WHO has delegated to PAHO the function of identification, designation and follow-up of the Collaborating Centers in the Region of the Americas. We are presently reviewing the situation of all the institutions that have received such designation.

Currently in the Region we have 10 Pan American Centers and 163 Collaborating Centers, distributed as shown in Table III.

Table III

Area	Panamericans	Colaborators	Total
United States and Canada	--	116	116
Latin America and the Caribbean	10	47	57
TOTAL	10	163	173

Of course, the Organization does not have usually financial commitments with the collaborating centers, although in determined cases it has provided them a type of assistance, which in the last year reached US\$977,596.00 distributed through specific programs in a dozen of these Centers.

Nevertheless, in general it is considered that this type of designation confers prestige to the institution and can indirectly facilitate the acquisition of more resources for projects in the field of health.

These Centers have been designated since 1948 but, since 1968 a significant expansion in their number has been observed.

The analysis of the distribution of these centers by field of specialty, shows for all the Region a concentration accentuated in the area of disease prevention and control involving almost 64% of all the centers. On the other hand, taking only of Latin America and the Caribbean, the distribution becomes more equitable in regard to PAHO's three large program divisions, with:

- 38% in (DPC) Disease Prevention and Control;
- 28% in (EHP) Environmental Health;
- 24% in (CHS) Health Services;

the remaining 10% corresponds to Centers in the field of Development of Human Resources, Biomedical Information and Animal Health.

Table IV shows the distribution of all the Centers (Pan American and Collaborating) in the Region, by country and by field of specialization.

TABLE IV

SUBJECT	ARG	BRA	CAN	CHI	COL	CUB	DOM	JAM	MEX	PER	T&T	URU	USA	VEN	Total	%
COMMUNICABLE DISEASES		1	1				1	1		1			29	3	37	21.4
PARASITIC & VECTORS		1											10	1	12	7.
NON-COMMUNICABLE	2		8		1				5				28	1	45	26.1
EPIDEMIOLOGICAL SURVEILLANCE		2	1						1		(1)		11		16	9.2
DISEASE PREVENTION AND CONTROL	2	4	10		1		1	1	6	1	1		78	5	110	63.7
TRADITIONAL MEDICINE									1						1	.6
NUTRITION							(1)	(1)							2	1.1
MATERNAL AND CHILD CARE		1							1			(1)			3	1.7
HUMAN REPRODUCTION		1	1	1	1	1			2				1		8	4.6
STATISTICS		1											1	1	3	1.7
INTEGRATED HEALTH SERVICES		3	1	1	1	1	1	1	4			1	2	1	17	9.7
WATER & SANITATION		2								(1) ⁺ ₂			4	1	10	5.7
POLLUTION	1	2	3	1					(1)	2			8		18	10.5
FOOD PROTECTION		1	2				1		1				4		9	5.2
OCCUPATIONAL HEALTH													1		1	.6
ENVIRONMENTAL HEALTH PROTECTION	1	5	5	1			1		2	5			17	1	38	22.
HUMAN RESOURCES & INFORMATION		(2)							1				1		4	2.3
ANIMAL HEALTH	(1)	(1)											2		4	2.3
TOTAL :	4	15	16	2	2	1	3	2	13	6	1	1	100	7	173	100%
%	2.3	8.7	9.2	1.1	1.1	.6	1.7	1.1	7.5	3.5	.6	.6	58.	4.0	106%	
% PER LATIN AMERICA AND THE CARIBBEAN	7.	26.3		3.5	3.5	1.7	5.3	3.5	23.	10.5	1.7	1.7		12.3	57	33%

Number in parenthesis = Centro Panamericano

In the follow-up of this action we hope to continue, in close cooperation with the other Technical Divisions, to identify new centers, always taking into consideration the priorities of the Organization. We want also in the context of the ties of cooperation that are established, to give them support for institutional development, promoting the training of investigators and of administrative personnel. The latter in those dynamic aspects needed by the research project, for the acquisition of resources and the financial management of grants coming from different sources.

In the expansion of this assistance, we are programming the selective dissemination of information in the field of specialty of each center; statistical methodology; development of projects and acquisition of extrabudgetary funds; and facilities for a broader exchange between Centers and for development of collaborative projects.

2.4 In order to complete this general description of the activity that the Organization promotes in the field of research, a review was made of all the research projects in progress. these reach a total of 177. Table V correlates the distribution of these projects by program area or field of specialty with the countries in which they are being conducted.

NUMBER OF PROJECTS AMOUNT IN US\$ ALLOTTED TO THE PROJECTS INCLUDING THEIR RESEARCH COMPONENT (1980-1981)

TABLE V

SUBJECT COUNTRY	ANIMAL HEALTH	BIOLOGY	EDUCATION AND INFORMATION	ENVIRONMENTAL HAZARDS	HEALTH SERVICES & HEALTH CARE	MATERNAL CHILD HEALTH CARE	MICROBIOLOGY (BACTERIOLOGY AND VIROLOGY)	NON- COMMUNICABLE AND CHRONIC DISEASES	NUTRITION	PARASITIC DISEASE & VECTOR CONTROL	WATER AND SANITATION	TOTAL N° OF PROJECTS PER COUNTRY IN US\$
ARGENTINA	3 15,300	1 10,000					8 368,059			6 122,588		18 515,967
BOLIVIA				1 10,000	1 30,000			1 208,000				3 248,000
BRAZIL	2 851,781				5 36,910		2 800	2 12,320		2 155,761		13 1,057,572
COLOMBIA		1 80,000			1 5,000		1 --	2 665,750				5 750,750
COSTA RICA					2 155,000		1 200			1 1,296		4 156,496
GUATEMALA	1 13,814				4 1,392,193	3 64,022	2 151,277		13 1,834,883			23 3,456,189
JAMAICA					2 12,000		2 11,179					4 23,179
MEXICO				4 124,743			2 14,000	1 --				7 136,743
PANAMA							1 2,100					1 2,100
PERU		5 260,000		1 500			1 7,000	2 44,000		1 8,800	5 378,135	15 698,435
TRINIDAD							1 83,800	1 65,000	1 35,000	2 61,000		5 244,800
URUGUAY					2 610,522	14 678,032				1 8,000		17 1,296,554
U.S.A.					1 5,000		2 18,000			1 8,000		4 31,000
VENEZUELA		1 6,200										1 6,200
SUBREGIONAL			6 103,029		1 10,000	2 116,700	4 326,335		7 188,828	2 522,700	3 63,000	25 1,330,592
REGIONAL	12 3 115,454			1 5,000	2 74,000	3 141,684	3 16,000	3 1,891,895	2 775,480	5 1,500,389	1 3,000	32 7,522,902
TOTAL N° OF PROJECTS IN US\$	18 3,996,349	8 356,200	6 103,029	7 140,243	21 2,330,625	22 1,000,438	30 998,750	12 2,886,965	23 2,834,191	21 2,388,534	9 444,135	177 17,479,459 *

GRAND TOTAL

* US\$6,233,477 Regular funds and US\$11,246,652 extrabudgetary funds

2.5 In the same spirit of giving you a general panorama of health research development in health in Latin America and the Caribbean, I am going to present the first data obtained in the survey being carried out on the institutions, the investigators and the priority fields of work in the Region.

It involves, of course, very preliminary information from the 8 countries surveyed: Central America, Mexico, Ecuador and Bolivia. These countries analyzed the effort of research outside the context of PAHO projects.

They interviewed 700 investigators, distributed according to their profession as follows:

- 58% physicians;
- 18% other health sciences professionals;
- 10% biologists;
- 7% from the field of the human sciences; and
- 5% from the field of objective sciences.

In regard to the concentration of work, the distribution of these same researchers was of:

- 50%, in basic sciences;
- 30%, in clinical research;
- 18%, in social sciences;
- 2%, in other areas (including unknown areas).

Obviously, this distribution applies also in the analysis of the specific projects in which these investigators are working.

Nevertheless, and very subjectively, these same areas of work showed that the 616 projects studied included

- 22% of pure research;
- 73% of applied research;
- 4% of experimental studies;
- 1% without appropriate indication.

Finally, the distribution of these projects by specific disciplines, was analyzed. The results showed that:

- 20% were in public health and social medicine;
- 18% were in microbiology and parasitology;
- 14% were in biochemistry, physiology and pharmacology;
- 11% were in immunology and genetics;
- 10% were in internal medicine and specialties;
- 7% were in clinical pathology;
- 20% were in several other areas of low individual prevalence.

Based on this survey we are preparing a directory of investigators in Latin America and the Caribbean that will serve as an instrument to facilitate better exchanges among the scientists of the Region. Currently, negotiations are being conducted to continue gathering the information in the other countries.

2.6 To conclude I should like to talk to you of the role performed by the PAHO Regional Library of Medicine and Health Sciences - BIREME, as it is called - to support the development of research in health, and of the prospects that are offered to expand even more this effort of cooperation.

Since 1976 a special effort has been made to review BIREME's priorities and operations of its principal programs, its collections and technological capacity to offer services, not only as the largest depository of biomedical information in Latin America, but also as the central nucleus of the entire network of scientific and technological information in health.

Several technical consultation groups were organized, which made available the expertise of 50 specialists in various aspects of the field of scientific information provision in the Region. In addition, studies

were conducted in Latin American countries other than Brazil about the potential of their own library systems and available mechanisms to facilitate the communication and exchange of bibliographic materials.

As a result of these studies, we are introducing important innovations in the utilization of computerized data banks, we are expanding the possibility of utilization of the Medlars System of the National Library of Medicine of Bethesda, (NLM), with the installation, to be completed this month, of direct telex connection widely accessible to all users. We hope also to complete negotiations to increase the availability of the use of the bibliographic computerized system from 4 hours per week for 24 hours per day, every day of the week.

BIREME has at this moment a collection of 2351 journal titles, 1450 of which are by subscription, and it has expanded its field of information from a library basically of medicine to a center of information in all the health sciences.

Among the new initiatives in progress, the Library initiated the "indexing" of the Latin American literature and is publishing semiannually the Index Medicus Latinoamericano that brings together 250 titles of journals with summary of the articles, complementing in this form the limited dissemination of the scientific production of the Spanish- and Portuguese-speaking countries, that appears in NLM Index Medicus.

BIREME operates currently through a network of 20 subcenters in 315 associated libraries in all Latin America. The support that it provides, as much in the realization of bibliographic searches by the MEDLINE and by the Latin American data bank, as through the distribution of photocopies of articles, is complemented by our Library at headquarters, which has in addition the "Dialog System" with more than 100 specialized data banks. In order to give you an idea of what the technical cooperation in this sector represents, we include below the statistics of services in 1980 (Table VI).

Table IV

	B I B L I O G R A P H Y				P H O T O C O P I E S		
	* BIREME	** HQS	CANCER LINE	TOTAL	BIREME	HQS	TOTAL
AREA I	53	43	80	176	2005	120	2125
AREA II	505	190	474	1169	680	1901	2581
AREA III	86	229	42	357	311	983	1294
AREA IV	409	124	23	556	4869	180	5049
AREA V	1233	--	228	1461	26197	220	26417
AREA VI	242	94	248	584	4945	374	5319
CARIBE	18	180	3	201	--	2612	2612
PAHO/HQS	--	210	8	218	--	3216	3216
BIREME SUB-							
CENTERS	1502	--	--	1502	5700	--	5700
TOTAL	4048	1070	1106	6224	44707	9606	54313
PERCENTAJE	65%	17%	18%	100%	82%	18%	100%

* "Medline" and Latinoamerican Index Medicus

** "Medline" and "Dialog"

These data do not yet reflect the totality of the demand for scientific information in Latin America and represent an indirect indicator of the effort of research in health that is being conducted in our countries.

The foregoing is the totality of our presentations to you. It remains only for me to give you a final explanation: the intention of this report was to advise you broadly of the group of activities that make up the technical cooperation program in the field of research in health. Some quantitative data presented do not necessarily constitute the final and exact information. They are, as you know, the result of the consolidation of reports from different sources both at PAHO and at WHO, and are subject to overlap and duplication or to the contrary rejection of dependable information, a subject apparently included in another item. Nevertheless, the most careful criteria have been applied and we hope that in global terms this information is truly reliable.