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ADVISORY COMMITTEE ON MEDICAL RESEARCH

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GLOBAL ADVISORY COMMITTEE ON MEDICAL RESEARCH

Report to the Director-General

24th Session

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ADVISORY COMMITTEE ON MEDICAL RESEARCH

REPORT TO THE DIRECTOR-GENERAL

on its twenty-fourth session
held at WHO headquarters, Geneva
4-7 October 1982

Dates for the twenty-fifth session: 10-13 October 1983

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LIST OF MEMBERS AND OTHER PARTICIPANTS

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Professor V. Ramalingaswami (Vice-Chairman), Director-General, Indian Council of Medical Research, New Delhi, India

Professor G. L. Ada (Rapporteur), Head of the Microbiology Department, John Curtin School of Medical Research, Australian National University, Canberra, Australia

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Chairmen of the Regional Advisory Committees on Medical Research

Professor M. Abdussalam, Chairman, Eastern Mediterranean Advisory Committee on Biomedical Research; Lahore, Pakistan, at present: Director, International and Scientific Cooperation, Institute of Veterinary Medicine, Berlin (West)

Dr H Groot, Chairman, PAHO Advisory Committee on Medical Research; Director, Department of Virology, National Institute of Health, Bogota, Colombia

Professor A. A. Loedin, Chairman, South-East Asia Advisory Committee on Medical Research; Chairman, National Institute of Health Research and Development, Ministry of Health, Jakarta, Indonesia

Professor H. G. Pauli, Chairman, European Advisory Committee for Medical Research; Director, Institute for Research in Education and Evaluation, Berne University Medical School, Berne, Switzerland

Professor H. Tanaka, Chairman, Western Pacific Advisory Committee on Medical Research; Department of Parasitology, Institute of Medical Science, University of Tokyo, Japan

Council for International Organizations of Medical Sciences

Dr Z. Bankowski, Executive Secretary, CIOMS, Geneva, Switzerland

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Temporary advisers

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Professor Kaba Sengele, Dean, Faculty of Medicine, Kinshasa, Zaire (member of the African Advisory Committee on Medical Research)

Professor M. Manciaux, International Children's Centre, Paris, France

Dr F. T. Sai, Interregional Coordinator, World Hunger Programme/United Nations University, Accra, Ghana

Dr D. A. J. Tyrrell, Chief, MRC Common Cold Unit, Harvard Hospital, Salisbury, England

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Representatives from the WHO Regional Offices

Regional Office for Africa: Dr A. Teckle, Research Promotion and Development

Regional Office for the Americas/Pan American Sanitary Bureau: Dr G. Alleyne, Chief, Research Promotion and Coordination

Regional Office for South-East Asia: Dr B. A. Jayaweera, Chief, Medical Research

Regional Office for Europe: Professor M. Davies, Consultant to the Global Programme for Care of the Aged

Dr B. Z. Nizetic, Chief, Research Promotion and Development

Regional Office for the Eastern Mediterranean: Dr J. A. Hashmi, Regional Adviser, Noncommunicable Diseases and Research Promotion and Development

Regional Office for the Western Pacific: Dr Y. H. Paik, Chief, Research Promotion and Development

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Dr H. Mahler, Director-General

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Dr F. A. Assaad, Director, Division of Communicable Diseases

Dr M. Belsey, Chief, Maternal and Child Health

Mr R. J. Gallagher, Office of the Legal Counsel

Dr I. S. Glasunov, Director, Division of Noncommunicable Diseases

Dr N. G. Gratz, Director, Division of Vector Biology and Control; Chairman, Research Development Committee

Mrs E. A. Gregory, Special Programme for Research and Training in Tropical Diseases

Dr J. Leowski, Tuberculosis and Respiratory Infections

Dr A. O. Lucas, Director, Special Programme for Research and Training in Tropical Diseases

Dr B. Mansourian, Office of Research Promotion and Development (Secretary)

Dr A. Petros-Barvazian, Director, Division of Family Health

Dr A. Pio, Chief, Tuberculosis and Respiratory Infections

Mrs B. Ruff, Chief, Office of Library and Health Literature Services

Dr N. Sartorius, Director, Division of Mental Health

Mrs C. Standley, Special Programme of Research, Development and Research Training in Human Reproduction

Dr G. Sterky, Secretary, ACMR Subcommittee on Health Services Research (Maternal and Child Health)

Dr J. Stjernswärd, Chief, Cancer

Dr E. Tarimo, Director, Division of Strengthening of Health Services

Dr C.-H. Vignes, Legal Counsel

Dr R. Wilson, Special Programme for Research and Training in Tropical Diseases

SUMMARY

The ACMR made the following observations, recommendations and requests:

Agenda item
6.2

It requested that a study be made by some of its members and Research Promotion and Development officers of the outcome of the various research methodology training courses and workshops organized by several regional offices and programmes, and that a report be prepared for the twenty-fifth session of the ACMR.

Agenda item
7.1

It endorsed the report and recommendations of the ACMR Subcommittee on Information concerning methods of strengthening the library and information networks in developing countries, and the creation of national focal points for these purposes, and stressed the importance of selective dissemination of scientific information to scientists in developing countries while national resources are being built up.

Agenda item
7.2

It recommended that the Director-General continue to improve research administration within WHO and its various programmes in keeping with the principles outlined by the ACMR Subcommittee on Research Administration - namely, the implementation of a central information system for research management, the establishment of mechanisms for setting research priorities within WHO, as well as for the review and evaluation of research proposals and research in progress, and the adoption of clear policies and practices to strengthen the research capability in developing countries.

Agenda item
7.3

It recommended that the ACMR Subcommittee on Health Services Research (maternal and child health) continue its work on the "partnership" approach and report to the ACMR's twenty-fifth session.

Agenda item
8.1

It requested that a report on the planning of the research programme on gerontology be presented to ACMR's twenty-fifth session.

Agenda item
8.2

It endorsed the research programme of the WHO Cancer unit on (a) oral cancer, to be carried out in cooperation with the Indian Council of Medical Research and IARC, (b) liver cancer, (c) oesophageal cancer, and (d) relief of pain in cancer. A progress report should be presented to the ACMR's twenty-fifth session.

Agenda item
8.3

It endorsed the proposal of the Scientific Planning Group on the Expanded Programme of Research and Training in Biobehavioural Sciences and Mental Health that a definitive detailed programme be prepared in three priority fields and that preparations be made for the establishment of a network of centres in developing countries for research in this area. The ACMR recommended that a steering committee be formed by expanding the membership of the Scientific Planning Group in order to cope with the complexity of the area. It also requested that a progress report be presented to the ACMR's twenty-fifth session.

Agenda item
9

It requested a review by headquarters and the regional offices of ongoing and planned research on acute respiratory diseases, to be presented to the ACMR's twenty-fifth session.

Agenda item

10

It recommended that WHO give full support to CIOMS for the preparation of guidelines for the use of animals in biomedical research and expressed the wish to be kept informed of progress in this area.

It recommended that a group/subcommittee of scientists, consisting of ACMR as well as co-opted members, be convened to prepare a document on recent advances in the biomedical sciences and their potential applications in the health field.

It recommended that, in view of recent developments in diagnostic procedures, a group be convened to prepare a manual outlining simple tests which could be used at primary health care centres and in the field.

Opening of the session and election of officers (Agenda items 1 and 3)

The Chairman, Professor S. Bergström, opened the twenty-fourth session of the Global Advisory Committee on Medical Research (ACMR). Professor V. Ramalingaswami and Professor W. A. Hassouna were elected Vice-Chairmen, and Professor G. L. Ada, Rapporteur.

Introductory statement by the Director-General (Agenda item 2)

The Director-General welcomed the ACMR, and particularly its new members, the Chairmen of the six regional ACMRs, the temporary advisers, and the Executive Secretary of the Council for International Organizations of Medical Sciences.

A few months ago the Health Assembly had adopted a plan of action for implementing the Global Strategy for Health for All by the Year 2000. The Strategy involved a major reorientation of research to make it more relevant to the needs of countries in building up health systems based on primary health care. Two main groups of programmes had been identified in WHO's Seventh General Programme of Work, one dealing with health system infrastructure and the other with health science and technology. The former would support Member States in developing, organizing and managing the manpower and institutions forming a health infrastructure. It would be necessary to build up infrastructures starting from primary health care and ensuring the support of the various referral levels by applying systematically a well-defined managerial process and creating the mechanisms for enabling people to absorb and apply technology appropriate to their health and socioeconomic circumstances.

The function of the latter group of programmes would be to identify technologies that could be delivered by health system infrastructures in different circumstances, and to ensure that they were properly understood. Of particular importance would be the assessment of effectiveness, safety and limitations of existing health technology, the cost of alternative technologies, and the search for a balance between what was theoretically possible and what was practically feasible. Furthermore, the search should not be restricted to technical measures; it was necessary to look for social and behavioural alternatives. It was not enough to identify the social and behavioural determinants of health and ill health; the difficulty was to get people to modify their social and behavioural patterns in a manner that would benefit their health.

In WHO's Seventh General Programme of Work a major effort would be devoted to building up national capacities so that Member States could succeed in solving their own health problems through research. That would need much more than the encouragement and support of individuals and institutions in specific health programmes. Scientists would need to use their probing minds to grapple with the formulation of their countries' health policies, to identify the research needed to formulate and carry out such policies, to make sure that priority was given to those research needs, and to organize the pursuit of that research. The approach to health research from that perspective required a very broad view of community health needs, since account had to be taken not only of the life sciences, but of the science and art of living, with all their political, social, economic and organizational ramifications.

The Chairman, Professor S. Bergström, stressed that an important development in the activities of WHO was the increasing participation of the outside scientific community. There had been a great increase in extrabudgetary support for the WHO special programmes on human reproduction and tropical and diarrhoeal diseases. At present, that involved the active participation in those priority areas of some 5000 scientists, many of high academic standing, whereas the total professional staff of WHO numbered less than 1500. That was a bonus for WHO which was likely to grow. In addition, many research organizations, both governmental and private, had become more closely associated with WHO.

The Chairman outlined the history and activities of the ACMR subcommittees and the way they were contributing to the work of the ACMR. Some had been particularly active, and several reports would be submitted at the present session. Finally, he presented two diagrams

underlining the striking differences in age-related mortality patterns in industrial and developing countries, and thus justifying the overriding priority given to research efforts in the field of maternal and child health.

Adoption of agenda and programme of work (Agenda item 4)

The agenda (document ACMR24/82.1) and the programme of work (document ACMR24/82.2) were adopted.

Biomedical and health services research: consideration of the discussions held at the sixty-ninth session of the Executive Board and Thirty-fifth World Health Assembly (Agenda item 5)

The ACMR noted with satisfaction that the subject of biomedical and health services research had been given special attention during the discussions at the sixty-ninth session of the Executive Board and the Thirty-fifth World Health Assembly. The active interest and support of the governing bodies will be required to enable the Organization to continue to expand its role in the coordination of health-related research.

The ACMR noted that WHO had now adopted a policy on patents because of its increasing involvement in goal-oriented research in programmes such as the Special Programmes of Research, Development and Research Training in Human Reproduction, and of Research and Training in Tropical Diseases. The Health Assembly had adopted a resolution (WHA35.14) recommending that WHO should take out patents on inventions resulting from cooperation between WHO and research institutions or industry, as these could be instrumental in promoting the widespread and inexpensive availability to the public of technology resulting from biomedical and health services research.

Activities of the regional Advisory Committees on Medical Research (Agenda item 6)

Reports by the six respective Chairmen (Agenda item 6.1)

African Advisory Committee on Medical Research

The Chairman, Dr Cabral, was unable to attend, and was represented by Professor Kaba Senegale. The report was presented by Dr A. Teckle.

The African ACMR had not met in 1982, as it had been tentatively decided to adopt a biennial cycle to give Member States and the Regional Office more time to implement the Committee's recommendations. In order to strengthen coordination activities the post of Regional Officer for Research Promotion and Development had been filled recently.

Several members of the global ACMR expressed the view that a gap of two years between sessions of the African ACMR was too long, and could lead to a weakening of the momentum needed to maintain and increase research activities in Africa. Reference was made to the need to make a special effort and to organize a series of meetings of representatives of neighbouring countries to assess research priorities and make concrete plans for research efforts.

The general consensus was that it was necessary to make special efforts to mobilize resources to generate the research capability required to help solve the priority problems in different parts of the African Region. The global ACMR was prepared to make special efforts to help in that process. It strongly recommended that the above-mentioned meetings of African scientists take place in the near future to clarify the needs, opportunities and priorities of Africa in health research. Following those meetings, a special meeting could be held for the purpose of mobilizing financial and manpower resources from all possible sources. That meeting might take place in conjunction with the 1983 session of the global ACMR.

PAHO Advisory Committee on Medical Research

The report on the activities of the PAHO Advisory Committee was presented by the Chairman, Dr H. Groot. The major emphasis was on the Committee's twenty-first session, which had been held in Caracas, Venezuela, in April 1982. The Committee had discussed research supported by PAHO directly or indirectly during 1980-1981, and the major recommendation was that the effort should be expanded and more attention paid to health services research. There had also been a review of the mode of selection and functioning of the 162 WHO collaborating centres in the Americas. A report on the study on health research in eleven countries of the Americas had been presented as part of a larger study which would provide ongoing information on research and researchers in the Region.

The Committee had given highest priority to the need for research on acute respiratory infections in children, as this group of diseases continued to be a major cause of mortality and morbidity in the developing countries of the world. The working group on the social sciences had presented a report on its work on the social and economic factors affecting the transmission and control of malaria.

Among the other issues which had been considered were research on the behavioural aspects of health, the health of the elderly, hypertension control, and nutrition. The work of the Pan American Centre for Sanitary Engineering and Environmental Sciences had been reviewed, and it had been agreed that its very satisfactory work should be given high priority by PAHO and that the results should be widely disseminated to promote primary health care in the Region.

The Committee had recommended that a combined research and action programme be established to reduce mortality and morbidity in children under five years of age, and welcomed the initiative of the Government of Venezuela in establishing a research programme on the factors affecting brain and mental development.

Members of the PAHO Advisory Committee had also participated in the Pan American Conference on Health Research Policies. The signatories to the final declaration of the Conference - including government ministers and representatives of research councils, universities and international agencies - had declared their firm commitment to the promotion of national research policies in health and actions emanating therefrom.

A report on the activities of the PAHO Advisory Committee had been presented to the Pan American Sanitary Conference at its twenty-first session, in September 1982.

South-East Asia Advisory Committee on Medical Research

Professor Loedin, Chairman of the South-East Asia ACMR, outlined the three principal mechanisms used to promote and develop collaborative research in the Region. First, the regional ACMR, together with the subcommittees and scientific working groups, provided the Regional Director with technical guidance and advice on research policy. Second, the periodic meetings of Directors of Medical Research Councils or analogous bodies and concerned research foci in relevant ministries (MRC meetings) provided a forum for promoting research, coordination and management at country and regional level. Third, the WHO Secretariat provided the necessary support for implementation of the Region's research efforts. In addition, close collaboration had been established with other regions, particularly the Western Pacific Region, on activities of mutual interest. Regarding regional priorities for research, he referred to those identified in 1976 by the South-East Asia ACMR, and informed the global ACMR that they reflected the aggregate disease burden of the Region. However, since WHO and Member countries were actively focusing their efforts on achieving the goal of health for all by the year 2000, with primary health care as the key approach, the regional ACMR had reviewed the research priorities and identified the research needs as related to strategies for health for all. The direction in which future research should proceed had been determined as outlined in document ACMR24/82.6. That new direction had had a very positive effect on Member countries. The South-East Asia ACMR had also assisted the Regional Office in establishing procedures for implementing its recommendations.

There had been two MRC meetings: the first in December 1979 and the second in November 1981. The third meeting was planned for December 1982. Thereafter those meetings would be held once every two years. At the second meeting, guidelines for the preparation of research applications had been discussed. The purpose of these guidelines, which were now being used in the Region and proving useful, was to provide young scientists with guidance on how to develop research proposals of good quality.

In view of the importance of health services research the South-East Asia ACMR was developing a regional work plan which would be finalized at the third MRC meeting.

At the eighth session of the South-East Asia ACMR, held in May 1982, it had been proposed that a sub-committee on the role of behavioural science in health research be set up. The Region had already made considerable contributions to that programme, and a more concerted effort was contemplated.

Following the recommendations of the second MRC meeting, in 1981, a working group had studied the role of basic and applied research as related to health for all as well as training in research management. It had provided guidance on the type of persons needing such training, as well as course content - bearing in mind the need to avoid overmanagement and stifling creativity. In view of the importance of health services research for achieving the goal of health for all, a health services research information system was being developed as part of the Region's health literature and library information service network (HELLIS).

At its thirty-fifth session, held in September 1982 in Dhaka, Bangladesh, the Regional Committee had considered the Special Programme for Research and Training in Tropical Diseases and the overall management of WHO collaborating centres on the basis of a report prepared by a working group; it had provided useful guidance and expressed greater commitment towards the improvement of the research programme in the Region.

During the ACMR's discussion the Chairman drew attention to document ACMR24/82.8, in which the managerial process of the SEARO research programme was outlined. Following his request, the Secretariat provided a detailed description of the procedure for processing research applications. The ACMR was also informed that approximately 9-10% of the regular budget was devoted to research through country and intercountry projects.

European Advisory Committee for Medical Research

The Chairman of the European ACMR, Professor Pauli, presented the report.

In its first phase of work (1977-1980) the European ACMR had identified a number of research priority areas for the Region. The results arrived at by the respective study groups had been integrated into the planning and work of several technical units of the Regional Office and/or new regional programmes.

In its second period (since 1981) attention had been devoted to more practical matters, (1) at the level of research directly conducted or supported by the Regional Office, (2) in relation to the research components of on-going WHO programmes, and (3) in cooperation with national research organizations. Because of the limited funds available for the Region, little activity had been possible at the first level (examples: a multinational WHO project on nursing and midwifery and a project on care-related hypertension research). Most of the work had been at the second level, concerned with analysis of the research elements of WHO programmes. At the first level collaboration with national research organizations was at present implemented through pilot projects in three countries (Austria, Czechoslovakia and Denmark).

An extensive analysis of WHO programmes had been made by 10 working parties consisting of members of the European ACMR and WHO regional office staff responsible for the respective programmes. The results of the analysis revealed the interdisciplinary and intersectoral nature of WHO research in contrast with the more specialized and technology-oriented nature of current research at the national level in the region.

Three study groups of the European ACMR were at present engaged in supporting the research strategy of the Regional Office: (1) a study group on health services research would set concrete targets for a rational policy in that field, on the basis of recommendations made by a group which had met in 1980; (2) the group on communication and collaboration would conclude the national pilot studies mentioned above; and (3) a study group on theoretical models relevant for scientific analysis of health and health care issues was exploring research theories and concepts that could help to better visualize research priorities that were in accordance with the overall goals of the Organization.

Eastern Mediterranean Advisory Committee on Biomedical Research

Professor M. Abdussalam, Chairman of the Eastern Mediterranean ACMR, presented a summary of the report of the seventh session of the Committee, held in September 1982. Since its inception the Committee had recommended high priority for health services research, and several research and training activities had materialized. However, in view of the importance of health services research for the achievement of the goal of health for all, it was considered that the programme needed to be modified so that special emphasis was given to primary health care. It was felt that an important role of research on primary health care was its catalytic and promotional function among individuals, communities and countries. In this connexion, the Committee had discussed and recommended certain criteria to establish priorities for research and to reorient research programmes.

The Committee had identified the following three major areas for research on primary health care:

- the development of research initiatives in the organization of health care;
- research in continuing education for all types and levels of health personnel;
- research to promote intersectoral approaches and collaboration in primary health care at both community and country levels.

The Committee had recommended the establishment of a task force to advise and foster research on primary health care in the Region, including the above three priority areas. It had been emphasized that individual countries should be actively encouraged to take a lead in this field.

Following the Committee's recommendations at its sixth session, a national workshop focusing on health research had been held in Pakistan. Selected research workers and health administrators had been asked to develop a research protocol for conducting a health coverage study in the country; a proposal had been prepared for submission to the WHO Regional Office for possible financing. The workshop had provided an opportunity to test a draft instructional manual for implementing health coverage projects in developing countries, which had been developed as a result of experience gained during the three-country coverage study in Bahrain, Egypt, and Yemen.

The Committee had reviewed and endorsed proposals concerning research in the field of cardiovascular diseases. It had been recognized that those diseases were becoming a major health problem in the developing countries, and that a combination of operational research and population-based intervention studies for prevention and control was required. In particular, the Committee had felt that there were four project areas that had specific relevance to countries in the Region: the community control of hypertension, and of rheumatic fever and rheumatic heart disease, comprehensive cardiovascular disease community control programmes, and the early prevention of cardiovascular diseases.

Substantial progress had been made in research on diarrhoeal diseases since the Committee's sixth session. It was recommended that more emphasis be given to community-based studies, particularly in view of the anticipated availability of new vaccines and other tools that would be useful in the prevention and control of diarrhoeal diseases.

The Committee had received a detailed report on the research activities in the Blue Nile health project, which had been started in Sudan in 1979 with the aim of controlling the major water-associated diseases (i.e. malaria, diarrhoeal diseases and schistosomiasis) along the Blue Nile River. The project offered a unique opportunity to evaluate the impact of the provision of water supply and other sanitary measures on the incidence of diarrhoeal diseases.

The Committee had reviewed the regional medium-term programme for research promotion and development, covering the period 1984-1989, and recommended new initiatives for the promotion and development of research activities in the Region. It had proposed that all the available mechanisms in WHO be utilized for strengthening the research and training capabilities of selected institutions in the Region.

Concern had been expressed about difficulties in the development of health literature services in countries of the Region, and it had been recommended that a small group be established to examine the situation and make recommendations for further development. It was decided to include this subject in the agenda of the Committee's next session.

The Committee had also reviewed operation procedures and introduced modifications to facilitate its future sessions and ensure closer involvement of the committee members in the regional research programme.

During the discussion in the global ACMR Professor Hassouna commented that the main distinctive feature of research activities in the Eastern Mediterranean Region, especially in the area of health services research, was the use of innovative approaches to encourage the development of appropriate research proposals, such as:

- (1) intercountry orientation courses on health services research, at which research proposals were developed for submission to the Regional Office through the appropriate channels for funding, and
- (2) national workshops at which university researchers and decision-makers (executives of health programmes in the Ministry of Health) were brought together for a few days to discuss research priorities and develop relevant proposals; these had proved to be very successful.

In the Eastern Mediterranean Region health services research was used to assist countries to develop their strategies for achieving health for all. For instance, the three-country coverage study in Bahrain, Egypt, and Yemen had been designed and implemented in 18 months at a very reasonable cost and yielded very useful information, comparing the three countries and recommending suitable strategies for achieving full coverage. A manual had been developed, to assist in similar studies in other countries of the Region as well as other developing countries.

Western Pacific Advisory Committee on Medical Research

The report of the seventh session of the Western Pacific ACMR, held in April 1982, was presented by Professor Tanaka. The main recommendations were as follows:

- The Committee noted with satisfaction the initiative taken by the Regional Office for the Western Pacific in generating interest among Member States in the establishment of a single national focal point for the effective management and coordination of health research at the national level. It emphasized the need to develop national health research management systems capable of reviewing and updating national policy to ensure support for research that is relevant to changing social needs.
- The Committee accepted the report of the scientific group on research needs for health for all and its recommendations regarding priorities in health services, health behavioural and biomedical research. The Regional Office was requested to publicize the list of the proposed research areas and researchable issues within which priorities could be established for the funding by WHO and individual Member States of research programmes directed towards health for all.

- In view of the need for urgent action to bring knowledge and skills from the behavioural sciences to the field of health and to apply them in health promotion, the Regional Office was urged to continue to place high priority on the development of health behavioural research.
- The Regional Office was requested to bring the proposed international guidelines for ethical review procedures - formulated jointly by WHO and CIOMS - to the attention of the health authorities of countries in the Region, especially those that have not yet established ethical review mechanisms, in order to safeguard the rights and health of all human subjects in biomedical research, clinical trials and community-based research.
- The Committee noted with satisfaction the efforts of the WHO Regional Centre for Research and Training in Tropical Diseases, at the Institute for Medical Research, Kuala Lumpur, Malaysia, to support institution-strengthening activities, to establish a data-processing unit, to train national staff in various disciplines, and to equip the Institute to play its role more effectively as a Regional Centre. The Regional Centre was requested to continue to place high priority on the development of national research capability through group training activities.
- The Committee commended the efforts of the Regional Centre in formulating the approach to training in research methodology and in developing many useful training materials which could be effectively used for both national and international training courses. The holding in Beijing, China, in May 1981, of a national workshop on research methodology represented a significant contribution towards the development of research capability strengthening. The Regional Office was requested to continue to place high priority on the development and refinement of tools for research methodology training and to further expand the activities in this area.
- The Committee noted with satisfaction the progress made in the development of a network of biomedical information systems in the Region. The Regional Office was requested to provide consultant services to support the training of library personnel at national level.

It was only in 1978 that substantial funds had been obtained to support the greater involvement of the Region in health research, but the Western Pacific ACMR, at its seventh session, noted with satisfaction the commitments of the WHO Regional Office to strengthening national research capability through collaboration in the design and award of research grants for developing Member States and also to increasing research resources, including trained manpower, through the award of research training grants and through group educational activities with regard to research methodology.

Coordination between the global and regional ACMRs (Agenda item 6.2)

Training in research methodology

During the ACMR's wide-ranging discussion on this item, concerning in particular the development of manpower for carrying out research, reference was made to the need to orient and acquaint medical students and a wide variety of health personnel, including primary health care workers, with methods for carrying out health research.

Recognizing that several research methodology training courses and workshops had been organized by various WHO programmes and regional offices, for different purposes and for different kinds of health personnel, the Committee recommended that a review of these training activities be carried out. It was proposed that the study be conducted by Professors Ramalingaswami, Hassouna, Laidlaw and Ofosu-Amaah, together with the Research Promotion and Development officers and the teachers or experts deemed appropriate, and that the report be presented at the next session of the ACMR.

In view of the increase in research on the socioeconomic and cultural aspects of health in various units and special programmes, the ACMR recommended that mechanisms be established to review progress and the quality, utilization and impact of research in this area. In this connexion it was also proposed that at its next session the Committee should discuss the Scientific and Technical Review Committee's evaluation of the socioeconomic research activities in the Special Programme for Research and Training in Tropical Diseases, which is at present under review, as well as other similar activities in WHO. The Committee would thus be able to discuss the question in depth and make recommendations for action.

Activities of the ACMR Subcommittees (Agenda item 7)

ACMR Subcommittee on Information (Agenda item 7.1)

The Chairman, Professor S. Bergström, and Mrs B. Ruff (Chief, Office of Library and Health Literature Services) introduced the subject. There had been three meetings of the Subcommittee, resulting in the present final report (Annex 1).

The rapidly expanding WHO research and research training programmes during the last 10 years calls for much better access to scientific information, particularly for scientists and others concerned in the developing countries. The Subcommittee had considered means of improving the selective dissemination of scientific information, methods for strengthening library functions in developing countries, and the feasibility of creating bibliographic records of relevant scientific material produced in the regions.

The situation in the regions differs very markedly. At one end of the spectrum, library and information services are well developed in most countries in the European Region where the MEDLARS centres are backed by strong infrastructures and library services. In Latin America great advances have been made through the development of local resources which have been integrated into a cooperative network. Thus in a period of about 20 years there has been a radical modification of the earlier dependence on outside bodies for photocopy services. In the African Region, on the other hand, there are no library facilities in some countries, and few countries have adequate facilities. Moreover, in almost all developing countries even the few well-equipped libraries are under-utilized owing to inadequate communication and transport facilities.

Some of the problems and possibilities for improvement are common to several regions. An example is the limited use made of "fugitive" literature (i.e., literature which is not readily accessible through normal commercial channels) - largely owing to lack of bibliographic control. One way of alleviating this problem is to index the health literature produced in the regions, and this is now being done or planned - e.g. through the compilation of a regional Index Medicus for Latin America, South-East Asia and Africa. Another approach is the formation of networks of medical and health sciences libraries for resource-sharing purposes - e.g. BIREME in the Region of the Americas and the HELLIS project in the South-East Asia Region. Ideally the libraries should be linked by telex.

The limited resources of WHO are now being complemented by information services from Australia, Japan and Sweden to developing countries in several regions as outlined in the report, and it is hoped that in the future it might be possible to make similar arrangements for the African Region.

The report describes in some detail the comprehensive information system developed by the Special Programme for Research and Training in Tropical Diseases (TDR). The TDR Newsletter is distributed free in more than 10 000 copies. The recipients (libraries and individual scientists) in developing countries also receive the Quarterly bibliography of major tropical diseases containing all relevant references and abstracts in MEDLARS/MEDLINE. In addition, all reports of TDR meetings related to the particular field of interest of the Newsletter recipient are automatically mailed to him. Certain monographs are also distributed free on request to scientists in developing countries, while in other cases special prices have been negotiated for distribution in these countries.

Finally, the report outlines the recent work at the National Library of Medicine, United States of America, to create "knowledge bases" (e.g. the "Hepatitis knowledge base") in which a concise summary of basic facts ranging from fundamental science to epidemiology and therapy is continually updated from current literature by a group of experts. At any time selected information can be printed and supplied to scientists, health professionals, teachers or students.

The ACMR welcomed the report. It considered that national support and the creation of national focal points for health information were crucial elements in the development of relevant health information systems. In establishing these focal points it was necessary to ensure that there was close coordination between all relevant health authorities and groups, including the Ministries of Health and Education. The focal point should be responsible for the planning of an effective library and literature information network at the national level, which should have good contacts with similar networks in neighbouring countries as well as with international systems and services.

It was pointed out that developed countries could also obtain valuable information from developing countries. The high cost of scientific publications was referred to as a factor hampering access to health literature. In that connexion, the ACMR was reminded that TDR distributed its publications free of charge directly to the scientific community, and that this remarkable operation cost no more than US\$ 250 000 per year (i.e. less than 1% of TDR's budget). The ACMR found the comprehensive information system developed by TDR highly efficient and cost-effective. It could serve as a model for other health research areas.

The national focal points should be officially designated as centres for collecting "fugitive" literature such as governmental and institutional reports of general interest which cannot be acquired through bookshops and are not indexed or abstracted in well-known bibliographic indexes. The ACMR recognized that many of these reports contained valuable information, but stressed that before indexing them, care should be taken to ensure that the quality of the work justified their dissemination. In indexing "fugitive" literature it was necessary to ensure that the style and methodologies were compatible with international standards so that retrieval would be facilitated. The publication of high-quality papers from developing countries in local journals should be encouraged, but at the same time without entirely precluding the present practice of publishing some papers in international journals of high repute.

Attention was drawn to the fact that the strengthening of health literature services required better training of librarians and information specialists so that they could become more active members of the teams of health professionals. Properly trained librarians could help screen literature and pass on the relevant items to users in accordance with their particular interests.

It was also pointed out that the numerous technical reports and other publications produced by WHO were often not easily accessible, and it was suggested that the WHO programme coordinators could play an active role in improving the situation in many countries.

The improvement of libraries and information networks would be a relatively slow process, which meant that the information flow to scientists in developing countries who are actively cooperating with WHO would have to be improved by further developing the services for the selective dissemination of information.

The "knowledge base" approach mentioned in the Subcommittee's report might be an approach that should be tried out by WHO in a priority health area.

With the rapid developments now taking place, an annual meeting of representatives of the regions to discuss the WHO health literature services programme appeared necessary. The ACMR presumed that WHO headquarters and the regional offices would take advantage of the invitation to participate in the meetings of the MEDLARS centres, which had agreed to keep the problems of the developing countries on their agendas.

ACMR Subcommittee on Research Administration (Agenda item 7.2)

At its twenty-first session the ACMR had recommended the establishment of a Subcommittee on Research Administration for the purpose of proposing administrative mechanisms and procedures to maximize the efficiency and effectiveness of WHO's research. In the course of three meetings, under the chairmanship of Professor V. Ramalingaswami, it had examined the mechanisms and procedures for research administration - including the setting of priorities, planning and evaluation - in national research councils and academies, international agencies, nongovernmental organizations, foundations and industry. These mechanisms had been analysed with respect to the research administration needs of WHO, bearing in mind the Organization's research policy, strategy and funding, and particular features such as the use of international experts, collaborating centres and special programmes.

The Subcommittee found that a pragmatic and technically sound system for research administration had evolved in the South-East Asia Region over a short period of time. It also expressed particular interest in the management information system of the Special Programme for Research and Training in Tropical Diseases, and its possible application to other WHO research programmes or activities. The Subcommittee's report (Annex 2) also contained a summary of the research administration of the Medical Research Councils of India and Sweden.

The Subcommittee noted that WHO did not have a research establishment of its own, and rightly so. However, consistency and coherence in the administration of WHO-sponsored research activities, apart from ensuring rational allocation of scarce resources, would lead to the increased credibility of WHO as a research-sponsoring body with the scientific community and with Member States.

An important role of WHO was to stimulate governments and agencies to recognize their priority health problems amenable to research, to work with governments to establish the mechanisms and infrastructures required to set national research priorities and, when requested, to help implement the research activities. These national research priorities should then be assessed on a regional and global level to identify and plan those research efforts that benefit from international cooperation or coordination of a number of national efforts.

WHO-supported research should, whenever possible, contain an institution-strengthening element, including the training of young scientists in research methods in their own environments.

The Subcommittee made the following general recommendations:

1. A central information system for research management including all WHO research activities should be implemented. This system should provide information to all WHO secretariat (Headquarters, Regional Offices and at the country level) and to Member States.
2. A mechanism for setting priorities for research should be established and applied within WHO, and available resources should be allocated according to the priorities established.
3. A mechanism for the review and evaluation of research proposals and progress of ongoing research projects based upon "peer" review, should be established for all WHO research activities. Research programme reports to governing bodies should indicate precisely their relevance, progress and cost over specific periods of time, as well as their expected results.
4. Clear policies and practices to strengthen the research capability in developing countries should be adopted and applied throughout WHO.

The ACMR recommended that the Director-General continue to improve research administration in WHO in keeping with the principles outlined above.

ACMR Subcommittee on Health Services Research with special emphasis on maternal and child health (Agenda item 7.3)

At its twenty-third session the ACMR had recommended the establishment of a subcommittee for the purpose of facilitating health services research in primary health care with particular emphasis on maternal and child health and family planning in developing countries. The methods of introducing health services research might vary, depending on the circumstances. However, it was felt that the "partnership" approach, bringing together a bilateral donor agency and a developing country, should be tried. The advantage of such an arrangement would be to use the standing of WHO to foster cooperation in health services research and to ensure that resources that might become available from donor agencies were utilized in accordance with national priorities.

Professor Ofosu-Amaah, Chairman of the Subcommittee, presented its report (document ACMR24/82.9) which summarized the overall progress and plans regarding health services research in the WHO maternal and child health programme (including those complementing the initiatives taken by the ACMR), and reviewed the application of the "partnership" approach in the promotion of health services research. The first partnership was between Ethiopia, Sweden and WHO. The Swedish International Development Authority (SIDA) had supported health projects and plans in Ethiopia since the early 1960s. The formation of the Ethiopian Science and Technology Commission had been supported by the Swedish Agency for Research Cooperation with Developing Countries (SAREC), and since 1980 the agreement between Ethiopia and Sweden had included cooperation between institutions in the two countries in carrying out projects on health research together. With WHO participation a working group had been set up, and met in January 1982. Of 24 proposed projects considered, about seven - which were being further developed - were directly related to maternal and child health activities. The organization of this partnership had taken a year to develop. A legal agreement had yet to be signed, and an arrangement whereby all project funds were to be handled by WHO had only just been agreed upon. A mechanism for proper coordination between the three parties with effective management procedures, was still being worked out. However, the Subcommittee was very optimistic about the prospects, and was in fact seeking an opportunity to begin a second "partnership".

The ACMR commended the Subcommittee on its work and considered that projects of this nature ought to be encouraged. In the developing countries there were at least four partners - the governments, the health institutes, the health workers, and the general community. Several speakers stressed that active community participation was crucial to the success of the operation.

In view of the fact that the project was in the early stages of development, it was suggested that detailed recording of the process was essential for further endeavours of this nature. The development of an evaluation mechanism very early in the process was essential. Such a mechanism should give special attention to the utilization of the results of research and their impact on the health system and development of national capabilities for health services research. The importance of integrating TCDC in this experiment was stressed.

As regards activities in health services research the emphasis on the pluralistic approach adopted by the Organization was commended. It was also suggested that more emphasis be given to developmental health systems research to facilitate progress towards the achievement of health for all through primary health care.

The ACMR recommended that the Subcommittee continue its work and report back to the twenty-fifth session.

Progress report on action taken on recommendations made by the ACMR at its twenty-third session (Agenda item 8)

Research in gerontology (Agenda item 8.1)

The ACMR considered document ACMR24/82.10 presented by Professor Davies, describing briefly preparations for the meetings of the two scientific groups established to investigate the epidemiology of aging and senile dementia. As the scientific groups would not meet until early 1983, the ACMR postponed discussion until its next session.

Cancer (Agenda item 8.2)

At its twenty-third session the ACMR had approved a new orientation of WHO's cancer research programme. Recognizing that more than half of all cancer patients were at present in developing countries, and that most of these countries lacked appropriate cancer control systems, the ACMR had urged that the WHO Cancer unit select some concrete problems for research development.

In October 1981 a meeting of international experts recommended that the WHO unit should focus on four problems, three of which were related to primary and secondary prevention of cancer:

- (1) Oral cancer is the most common cancer in certain geographical areas including a total of about one-sixth of the world's population. In Sri Lanka, for instance, where a study has been carried out on the feasibility of early detection of oral cancer through primary health care workers, nearly 30 000 people were screened and about 4% referred to a dental school for examination. Although only 50% of referred cases arrived for examination, pre-cancerous lesions, oral cancer or related mucosal disease, was confirmed in nearly 90% of the cases examined. The study showed this was an efficient and cost-effective means of disease detection.
- (2) Liver cancer is also very common, particularly in many developing countries. A meeting will be held in January 1983 to review the available evidence of major causal factors of primary hepatocellular carcinoma and assess the possibilities of prevention and early detection of the disease. It may be possible to propose an intervention study.
- (3) Oesophageal cancer is also widespread, particularly in parts of Asia and Africa. Early diagnosis is important, because 40% of cases are cured in developed countries, whereas about 80% of cases in developing countries arrive for treatment when it is too late for successful therapy. A project is being planned in collaboration with China.
- (4) A proposed project on the relief of pain in cancer has begun with extrabudgetary support. A meeting of experts will be convened in 1982 with the aim of analysing and summarizing the status of pain relief globally, preparing a practical manual for pain relief, and identifying problems yet to be solved. It is possible that this approach could result in an authoritative field-tested manual on the management of cancer pain in about three years' time.

In opening the discussion in the ACMR, Professor Ramalingaswami welcomed the progress in planning that had been achieved in the past year. Although the nature of the carcinogen involved in oral cancer was unknown, there was a clear association between the disease and personal habits. The Indian Council of Medical Research was planning a comprehensive trial, involving between one and two million people; the cooperation of the WHO Cancer unit and IARC in that project would be most valuable.

The work of IARC on the identification of carcinogens and on epidemiological studies on cancer was described by Dr N. E. Day. IARC welcomed the new approaches of the WHO Cancer unit and would be pleased to participate in oral cancer projects.

On the subject of liver cancer, vaccines were now available against hepatitis virus, but they were unlikely to be widely used - especially in developing countries - because of their cost. However, recent research had indicated that in future there might become available vaccines composed of synthetic polypeptides or a viral vaccine engineered to contain in its genome DNA coding for the hepatitis surface protein. This question should be clarified at a meeting scheduled for January 1983, whereafter further plans might be agreed upon.

The ACMR welcomed the well-structured programme on cancer. Regarding oral cancer, it recommended that the WHO Cancer unit and IARC proceed as previously described with research in India and Sri Lanka.

The Committee also commended the programmes on oesophageal and liver cancer. It felt that the proposed programme on the relief of pain in cancer might benefit from contacts, on the one hand, with more general research on the mechanism of pain and, on the other, with the essential drugs programme.

The ACMR recommended that a progress report be presented to its twenty-fifth session.

Mental health (Agenda item 8.3)

The report of the scientific planning group on the Expanded Programme of Research and Training in biobehavioural sciences and mental health (document ACMR24/82.12) was presented by its Chairman, Professor D. Hamburg, and Dr N. Sartorius, Director of the Office of Mental Health at WHO headquarters.

The planning group had worked under the mandate of the earlier ACMR subcommittee on mental health and had taken into account the previous considerations on the subject by WHO governing bodies, the global and regional ACMRs and their subcommittees, and the coordination group for the mental health programme, in addition to relevant documentation.

The proposed programme involved three important elements:

- (1) understanding of the ways in which behaviour affects health;
- (2) communication of this information to people in ways that are culturally acceptable, comprehensible, and trustworthy;
- (3) providing people with the scientific capability enabling them to make the changes they desire for the improvement of their health.

Three topics were selected, each representing a priority problem and a subject for research:

- (1) adaptation to rapid societal and technological change;
- (2) alcohol problems, with special reference to research on preventive intervention in adolescence;
- (3) the promotion of child and family health through the application of biobehavioural principles in primary health care.

The fundamental need for human attachment is expressed within the rapidly evolving societal and technological context of the present day. The cumulative findings from studies in this area strongly suggest that social support can foster health and promote recovery from illness resulting from a wide range of disorders. There are many opportunities for research which may lead to a better understanding of the interaction between stress, illness, support from the social environment, and the utilization of health services.

Alcohol-related health problems constitute an extremely heavy burden in the world today, and there is an urgent need for research to understand these problems and find ways of preventing or solving them.

Research is also needed in order to formulate strategies for the incorporation of psychosocial information into general health services, particularly in the context of primary health care and its components dealing with child and family health, family planning, nutrition and environmental sanitation.

The planning group recommended that in the 1982-1983 period three activities be undertaken simultaneously:

- (1) task forces should meet to produce research protocols on the three priority topics;
- (2) a monograph and a series of papers on the topics should be prepared;
- (3) preparations should be made to establish a network of national centres which would collaborate with WHO and with each other in the research activities on the three topics.

A possible next step would be to help establish three mental health and biologically-oriented behavioural research centres in developing countries: one in Africa, one in Asia, and one in Latin America.

The ACMR supported in principle the plan of action, and members made a number of suggestions, including a wide range of important health-related problems in developing countries that have a strong behavioural component. The proposed plan would complement research on social and economic conditions related to health. It was noted that PAHO was ready to sponsor the task force meeting dealing with psychosocial aspects of primary health care with special emphasis on maternal and child health.

The recommendations of the scientific planning group for specific activities were supported. The ACMR recommended that a steering committee for these activities be formed by adjusting the composition of the planning group as appropriate. The group's report should be forwarded to all the regional ACMRs for consideration, and a definitive, detailed programme of research should be prepared by the steering committee for discussion at the 1983 session of the global ACMR.

Research on acute respiratory infections (Agenda item 9)

Dr D. A. J. Tyrrell, Chief of the MRC Common Cold Unit, Harvard Hospital, Salisbury, England, introduced document ACMR24/82.13. Acute respiratory infections, together with diarrhoeal diseases, stood out as the major cause of morbidity and mortality in children in developing countries, and an important cause of morbidity in children in developed countries. They were caused by a variety of agents, including viruses, mycoplasma and bacteria. It had been estimated that non-bacterial agents were responsible for 95% of cases of the upper respiratory tract and a considerable proportion of cases of the lower respiratory tract. The most frequent viruses were respiratory syncytial viruses, adenoviruses and parainfluenza viruses. Streptococcus pneumoniae and Haemophilus influenzae were the most frequent bacterial agents. Preventive immunizations were rather limited. The Expanded Programme on Immunization included vaccination against measles, pertussis and diphtheria, but vaccines against other diseases had generally not been so successful. The improvements in socioeconomic and nutritional factors were thought to be responsible for the great decrease during this century in mortality from acute respiratory infections in children in Europe and North America. Improved nutrition, antimicrobial therapy and oxygen administration were important means of controlling the diseases, but national plans could not be formulated until more was known about variations in the diseases and the circumstances characterizing each country and sometimes different parts of any one country. A series of questions on the various aspects of the situation had been formulated: for example, how were cases diagnosed, referred and/or treated, and could the situation be improved; and could better education bring about appropriate changes in the ability of mothers to recognize mild and severe acute respiratory infection, to provide supportive care, and to bring children earlier for treatment in the course of a severe illness?

Projects had been initiated in about 30 countries, one more advanced project being at Goroka (Papua New Guinea). Some regional ACMRs had set up advisory panels on acute respiratory infections, and a meeting of principal investigators had been held in Manila. In addition to the health services research referred to above, there was a great need for research on aspects such as vaccines, antiviral drugs, the extent of antibiotic resistance, and the basis of the host resistance or susceptibility to these diseases. The required health services and laboratory research would call for considerable financial resources which could only be met from extrabudgetary sources.

During the discussion the ACMR noted that the Regional Office for the Americas had developed an operational plan whereby research on acute respiratory infections was being strongly promoted. Research centres had been started in Brazil and Costa Rica, and several others were planned. The aim was to obtain basic epidemiological data. A project in the Philippines would be financed by the Australian Development Assistance Bureau. Programmes in Trinidad and Tobago, and in the United Republic of Tanzania were being supported by Canada and the Federal Republic of Germany respectively, and a proposed study in India was likely to receive external support.

The ACMR fully recognized the seriousness of these diseases and the need for outside funding. It recommended that the WHO Secretariat, together with the regional ACMRs, obtain information on the current situation concerning acute respiratory infections in the different regions, document what action was being taken and what extra specific action was needed and/or planned, and submit this information to the ACMR's next session.

Future ACMR initiatives/reviews/subcommittees (Agenda item 10)

(1) Guidelines for the use of animals in biomedical research

The ACMR was informed by Dr Z. Bankowski, Executive Secretary of the Council for International Organizations of Medical Sciences (CIOMS), of the Council's programme to develop guidelines for the use of experimental animals in biomedical research. The guidelines would address themselves to the problem of using live animals for experiments and to the possible use of alternative approaches such as tissue and organ culture. The welfare of experimental animals would also be considered. The guidelines would be developed in collaboration with WHO and various other interested bodies, and would involve scientists concerned.

Realizing the urgent need for authoritative guidelines on this topic, the ACMR commended the initiative of CIOMS and recommended full WHO support. It expressed the wish to be kept informed of progress in the preparation of the guidelines, and hoped that, once prepared, they would be widely disseminated to interested parties.

(2) Items for reconsideration at the 1983 session of the ACMR

Matters which had been discussed during the twenty-fourth session of the ACMR and would also be before its 1983 session included acute respiratory infections (item 9); gerontology (item 8.1); mental health (item 8.3); cancer (item 8.2); the Subcommittee on Health Services Research (MCH) (item 7.3); training in research methodology; and the use and conservation of non-human primates.

(3) Contribution of modern scientific concepts and methods to human health

The last decade had seen spectacular advances in our understanding of cellular mechanisms and our ability to manipulate biological processes. This had already led to significant inputs in some WHO programmes; it could potentially offer more, and make great contributions to human health by the year 2000. It was proposed that a small group of biologists be convened to prepare a document for distribution to a wider audience.

(4) Diagnostic tests for use at the primary health care level

Recent years had seen the development of diagnostic procedures, many of which were immunologically based and were both sensitive and simple to use. So far their use had been

confined to laboratories, but it was believed that it would be possible to simplify them so that they could be used at least at primary health care centres and in some situations in the field. It was proposed that a group be convened to prepare a manual outlining tests of this type which already existed or could be readily developed for use at these levels.

(5) Biobehavioural research and mental health

In view of the variety of activities recommended by the scientific planning group on biobehavioural sciences and mental health, it was recommended that a steering committee be formed by expanding the membership of the scientific planning group.

(6) Occupational health

The socioeconomic importance of health protection for agricultural manpower, particularly in developing countries, was brought to the attention of the ACMR. Whereas the knowledge and technology were available, the organization and delivery of occupational health services faced a variety of obstacles, and health services research was urgently needed in this field. The ACMR recommended that a position paper be prepared so that the matter could be examined in depth at its 1983 session.

(7) The function and role of WHO collaborating centres

Some participants in the ACMR's discussion voiced the opinion that there had been a proliferation of WHO collaborating centres, and that there was reason for reviewing their role in the promotion of research networks within a region and globally.

Other business (Agenda item 11)

The ACMR was informed that Professor V. Ramalingaswami had been designated by the Director-General to succeed Professor S. Bergström as Chairman of the global ACMR.

Adoption of report (Agenda item 12)

The ACMR reviewed and adopted the draft report subject to its finalization by the Chairman, the Rapporteur and the Secretary.

Closure of session (Agenda item 13)

1982 was the last year of Professor Bergström's term of office as Chairman, and he was addressed in very warm terms by the chairmen of the regional ACMRs, several members of the ACMR, and the Deputy Director-General. They all underlined his outstanding dedication not only to the global ACMR but also to the work of the regions and of WHO's programme in general. Apart from his exceptional intellectual and professional abilities, his humanitarian qualities, simplicity and kindness impressed all those who worked with him. The Organization as a whole had benefited considerably from his chairmanship, and was looking forward to his continued participation and interest in its research efforts.



WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTÉ

ACMR24/82.14 Report

ANNEX 1

ACMR24/82.7

ORIGINAL: ENGLISH

RESTRICTED

ADVISORY COMMITTEE ON MEDICAL RESEARCH

Twenty-fourth Session

Geneva, 4-7 October 1982

Agenda item 7.1

ACTIVITIES OF THE ACMR SUBCOMMITTEES

ACMR SUBCOMMITTEE ON INFORMATION

Final report

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- ANNEX 1: ACMR Subcommittee on Information - List of Members
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1. Introduction

Since its start, WHO has devoted considerable efforts to have expert committees collect, review and report on progress in many fields of medicine on a regular basis.

During recent years improved availability of relevant health information in developing countries has become a prerequisite for the ambitious health manpower development programmes of WHO. During the last ten years the new and rapidly expanding WHO research and research training programmes also demanded much better access to scientific information in developing countries. Thousands of scientists and many institutions in developing countries are now participating in coordinated research efforts with colleagues and institutions in the industrialized countries. There is therefore an absolute requirement that they have rapid access to relevant scientific information if this cooperation is to function properly. This sometimes means that isolated scientists in a developing country without access to appropriate literature or information must be supplied directly through selective dissemination of scientific information.

The development of national libraries and information resources is a time consuming process. Interim arrangements must therefore often be made so that active scientists have a reasonable chance to follow the scientific progress in their field while appropriate national or regional library facilities are built up.

The Regional ACMR's have discussed and stressed the need to improve the scientific information in developing countries at practically all their meetings. At its meeting in June 1978, the global ACMR discussed the question of dissemination of biomedical scientific information and recommended the establishment of a Subcommittee on Information to study this problem. The Director-General agreed and a Subcommittee was established that was to address itself to studying (1) the means to improve the selective dissemination of relevant scientific information, (2) methods for the strengthening of library functions in developing countries, (3) the feasibility of registration of relevant scientific material in the regions.

The Subcommittee met 7-8 September 1978 in Geneva, 11-13 September 1979 in Washington and 9-10 September 1982 in Stockholm.

2. The present situation in the regions

Since the first meeting of the Subcommittee a considerable development has taken place at Headquarters and in the Regions. An outline of the objectives, approaches and strategies of the global WHO Health Literature Services Programme and of the Headquarters role is given in Annex 3. A short summary of the situation in the Regions as it was presented at the last meeting follows.

2.1 African Region

In this Region a few very well developed medical libraries exist but in some countries there are almost no library facilities. This means that the resources must be shared. Some libraries have recently intimated their willingness to provide cooperative services within the framework of a network.

Two examples of preparations for cooperation are (1) the compilation of a union list of periodicals holdings in seven African medical libraries and (2) a Workshop on Health Sciences Library Cooperation held in Arusha, Tanzania in July/August 1982, which was sponsored by the German Foundation for International Development, the WHO Regional Office for Africa, the East and South Africa Management Institute and UNESCO.

Although WHO/AFRO will appoint a Librarian/Indexer to coordinate the production of an African Index Medicus and the development of a network of cooperating African medical libraries, formal commitments of support will be required from Member States before any meaningful cooperative activities can be established. Such support should come from the ministries of health and ministries of education as well as from research councils and universities.

As African Member States are working towards the strengthening of research institutions and the training of researchers, a recognition of the vital role of information transfer and health literature services is necessary. An example of a bilateral agreement is that between Ethiopia and the Swedish Research aid authority SAREC. In this case the Ethiopian authorities have set aside part of the support for improving scientific information resources and training.

This particular region still urgently requires assistance in gaining easy access to international services such as MEDLARS and photocopy services. Hopefully support for the African Region could be obtained from countries outside the Region as is now being done in several other regions. Parts of the region could also benefit from inter-regional cooperation, e.g. Portuguese-speaking African countries with BIREME in Sao Paulo, Brazil.

2.2 Latin America (AMRO)

The idea of creating a Latin American regional centre was formally proposed at the IV Conference of Latin American Schools of Medicine in August 1964. On that occasion, while discussing the deficiencies which hindered the improvement of medical teaching, the precarious condition of most medical libraries was pointed out. The needs of these libraries were highlighted by a US National Library of Medicine (NLM) staff member when he recorded that, in 1963, NLM had filled 130 000 photocopy requests coming from Latin America.

Contrary to the idea of creating a large self-sufficient library the policy of BIREME has been to stimulate the development of local resources which would be integrated into a cooperative network. The positive results of this network approach are today sufficiently demonstrated by the fact that the about 90% of photocopy requests are met from the network resources within the Latin American Subregion.

For countries where a national network is functioning satisfactorily, BIREME acts as a coordinating centre, a regional resource for back-up services, a training centre and, also as a central collecting point for the processing of health literature published in the Region. In countries where a formal network does not yet exist, BIREME's role is that of a promoting agency for an effective resource sharing scheme at country level. BIREME's services to the subregion include: document delivery (more than 40 000 transactions yearly); bibliographic searches (about 5000 a year, mainly from MEDLINE); training courses (more than 400 librarians trained so far); indexing activities (Index Medicus Latino Americano).

Further Regional plans for Central America, the Andes and the Caribbean area are being developed.

2.3 Eastern Mediterranean Region

The Regional Network for Health Science Information consists of 14 National Focal Point Libraries which were nominated by their governments. In early 1978 the National Medical Library of Iran, which was designated the WHO Regional Medical Library for the Eastern Mediterranean, planned for an extensive literature collection including over 2000 currently-received health science periodicals, mainly in English, French and German. That Library had the first regional on-line connection to the MEDLARS data base at the US National Library of Medicine and was supplying free MEDLARS searches throughout the Region.

At the present time the MEDLARS searches and photocopies that are supplied to health personnel free of charge, are purchased by WHO outside the Region. Preparations are now well under way in Kuwait to establish a MEDLARS centre that could serve the Region.

Two stages are now envisaged for the development of regional health literature services. The initial phase, involving the utilization of international resources, is considered as a basic and promotional stage which can be expected to stimulate regional and national health science information programmes. The aim of the second phase is to

promote joint national and regional action for the organization, storage and dissemination of health literature and information of direct relevance to the developing countries. The systems which will result from this phase, examples of which already exist in Latin America, are not meant as a substitute to information sources utilized in the first phase. Rather, these should be planned and coordinated in a way to complement existing resources.

EMRO is planning the development of a curriculum for a course on health literature and bibliography. This course is intended for postgraduate students in the life science institutions.

2.4 European Region

Library and information services are well developed in most countries of the Region but in some they are either insufficient or poorly equipped. Such countries would profit from WHO cooperation in building up and maintaining a health literature infrastructure, and in identifying and purchasing adequate documentation.

The European MEDLARS Centres are backed by strong information infrastructures and library services. They are therefore being encouraged to supply MEDLARS searches and photocopies to developing countries and to obtaining funding from their government aid agencies so that the services can be made available free of charge. Following the example of the Government of Australia who offers free MEDLARS searches and photocopies to the developing countries of WHO's Western Pacific Region, a similar arrangement is now being implemented between the Karolinska Institute Information Centre in Stockholm and the WHO Regional Office for South-East Asia.

It is hoped that other countries in the European region will join in similar efforts for the benefit of developing countries in other Regions.

2.5 South-East Asian Region

At its second meeting in 1976, the WHO South-East Asia Regional Advisory Committee for Medical Research recommended that a biomedical research information network be developed in the Region. In 1978 the WHO Regional Committee for South-East Asia also requested WHO to organize and support a network of national medical and health libraries for the provision of health literature and information.

An inter-country consultative meeting of senior librarians, administrators and users of libraries was therefore organized in 1979 in the Regional Office. The meeting recommended that networks of medical and health science libraries should be established in the countries to provide Health Literature and Library Information Services (HELLIS). One of the libraries in each national network would function as the national focal point. The national networks would be linked through their focal points into a regional network with SEARO acting as the coordinating agency.

To date, seven of the eleven countries of the Region have held national meetings to establish national HELLIS networks and have designated their focal points. A Regional HELLIS Committee has been constituted in the Regional Office to advise on the development of HELLIS. The Chief of Health Manpower Development is the Chairman of the Committee and he is also operationally responsible for the HELLIS programme. The network is open for participation of all health science and medical libraries in the countries.

The main purpose of HELLIS is to ensure easy and improved access to the relevant world's health and medical literature and information to all health personnel. This is to be achieved by making better use of (a) existing resources in the country, (b) resources in the region and (c) resources in other regions, through resource-sharing networks.

HELLIS activities are being carried out at both national and regional level. The Regional Office has conducted two training courses for librarians participating in the national networks. The production of an Index Medicus for South-East Asia, the first

issue of which is scheduled to be published in December 1982, is a cooperative effort of the National Focal Points. They take responsibility for indexing their national periodical literature according to internationally accepted rules and procedures. Resource sharing activities have already begun, some bibliographical tools necessary for cooperative activities have been produced and others are in preparation. The first number of a HELLIS Newsletter was issued in March 1982; it is expected to continue twice a year.

A cooperative agreement is being concluded with the Karolinska Institute Medical Information Centre in Stockholm that will provide MEDLARS searches, SDIs and training opportunities.

2.6 Western Pacific Region

A Regional Biomedical Information Network was recommended by a working group of senior medical librarians which met in October 1978 further to the recommendations of the Western Pacific Regional Advisory Committee on Medical Research. Considerable impetus for its further development has now come from an agreement signed by the World Health Organization with the Government of Australia. Under that agreement the National Library of Australia and the Library of the Department of Health are supplying free MEDLARS searches and photocopies to the developing countries in the Region. National Focal Points have been designated by the Member States. The initial plans are for two years. Realizing that it does not represent a full answer to the health information requirements of the region, the Government of Australia sees the service as an example of its desire to assist. Indeed, one of the recommendations of the Working Group of the National Focal Points of the regional network which met in Manila from 14-18 December 1981 is that WHO should sponsor an in-depth technical study to "make precise and detailed proposals for a comprehensive regional biomedical information network applying advanced telecommunications technology, and centered around a strong regional resource centre."

It should also be noted that part of the medical information needs of some WPRO and SEARO countries are being met by the South East Asian Medical Information Centre (SEAMIC), which is funded by the Japanese Government.

2.7 Conclusions

The reports from the Regions (2.1-2.6) indicate that a promising and increasing activity of planning and developing library and information networks is going on in close contact with the Office of Library and Health Literature Services at headquarters.

This is also evident from the report by Mrs Ruff on "WHO Health Literature Service Programme from a global point of view" that is attached to this report as Annex 3.

The most advanced development of a library and information network is represented by BIREME in the American Region. As this project can serve as an example that could be studied in other Regions, BIREME'S last annual report is attached as Annex 2.

In conclusion the Subcommittee considers the development and planning of library and information networks during the last few years as very promising. Nevertheless, support must be forthcoming from many sources in order to create a successful and well functioning global health information system. A prerequisite is firm commitments by national authorities in developing countries and generous support and cooperation from institutions and agencies in the industrialized countries. In this process WHO must play an active catalyzing role.

3. Selective Dissemination of Scientific Information

This question has been the main concern of the Subcommittee. As mentioned earlier, the increasing research activities of WHO with direct involvement of numerous scientists in developing countries who are often lacking good library and information resources, require special efforts to help them in this respect.

3.1 Quarterly Bibliography of Major Tropical Diseases

At its first meeting the Subcommittee recommended that TDR make special use of MEDLARS to produce a periodic bibliography of all entries and author abstracts related to the six tropical diseases (see Annex 5). It was originally planned as a joint effort by the National Library of Medicine, USA (NLM), the Library of Medicine in Teheran and the WHO Special Programme for Research and Training in Tropical Diseases who would respectively produce, print and distribute the bibliography. In fact, the NLM has generously produced and also printed the Quarterly Bibliography on Major Tropical Disease that is now being distributed to more than 5000 scientists and libraries in developing countries. As of 1982 the NLM is producing the camera ready copy that is then printed and distributed by TDR.

An evaluation of the bibliography through reader response has been made by TDR and the Subcommittee suggests that this service should be continued as it obviously is useful and appreciated.

3.2 Bibliography of Acute Diarrhoeal Diseases

A bibliography similar to the one mentioned in (3.1) above is now being prepared on a semiannual basis by the WHO Programme for Control of Diarrhoeal Diseases. It contains all relevant entries and abstracts on this subject that are in MEDLARS.

The Subcommittee considers the direct mailing of these types of bibliographies that also contains abstracts, as the most cost effective method of keeping scientists in developing countries informed of the new scientific literature in their field. Through the inclusion of abstracts the requests for copies of original articles can also be made on a more rational basis.

3.3 The utilization of MEDLARS/MEDLINE

As mentioned earlier WHO has made efforts within its budget limitations to help make MEDLARS/MEDLINE searches available to the scientists in the regions.

The use of MEDLARS/MEDLINE for bibliographic searches has continued to increase for the purpose of medical research, education and health care, the number of searches processed at NLM during the last year having reached 2 million approximately. Under bilateral agreement the National Library of Medicine, USA, is providing tapes to MEDLARS centres in Australia, Japan, West Germany, Sweden, Switzerland and the Pan American Health Organization, whereas those in Canada, Colombia, France, Great Britain, Italy, Mexico and South Africa are using telecommunication facilities from NLM. A centre in Kuwait is being established. Some of these centres have received extrabudgetary grants making it possible for them to supply services and training opportunities for countries in developing regions. As the MEDLARS vocabulary will be used in the regional "Index Medicus" series and in the projects for collecting and registering "fugitive" national reports, it should be relatively easy to make this material available globally through this network.

All the policy officials of the MEDLARS Centres meet every two years and the European ones hold technical meetings annually. The ACMR Subcommittee on Information was invited and participated in very fruitful discussions at the international MEDLARS meeting on 8 September 1982 in Stockholm. Several centres declared themselves prepared to offer free training for persons with WHO training fellowships. It was agreed that WHO (Headquarters and Regions) would be invited to participate in all future meetings to discuss services and training for developing countries. The entire information field is developing very rapidly. Regular participation by WHO representatives in these meetings would be a convenient way to keep abreast of the development both of the communication technology as well as the many health related data bases that are utilized by these information centres.

3.4 "Knowledge" bases and other reviewing mechanisms

The overwhelming number of articles and other information published makes it very difficult - especially for the health professionals in the developing world - to follow the literature even in a limited field. A systematic critical review process is not well organized. The publication of monographs is largely adapted to the needs of the industrialized countries.

The Director-General has characterized WHO's role and aim in health information as "absorbing, distilling, synthesizing and distributing" knowledge. The occasional reviews of many fields by WHO expert groups is part of WHO's efforts to fulfil this aim. The number of technical documents issued by WHO is now approximately 800 per year. A good example is the WHO's Drug Information that covers important decisions taken by the drug regulatory authorities of the world. An illustration of its usefulness is that it is translated and distributed by national health authorities in a number of countries.

A further example is the Newsletter published by the Special Programme for Research and Training in Tropical Diseases (TDR) and now distributed free in more than 10 000 copies. In addition to administrative information about the TDR programme it contains short summaries of the progress in the various research fields of the programme. According to the TDR rules, the Steering Committee of each Scientific Working Group shall prepare a short review of progress in its field on an annual and biannual basis. The TDR computerized system for distribution of information has recently been expanded to include the specific subjects of interest indicated by Newsletter recipients. This has made it possible to distribute the reports of TDR scientific meetings automatically, and directly from the press, to all scientists who have expressed an interest in the particular subject of the report being published. This direct mailing of summaries of scientific progress produced by experts is a very cost-effective method of keeping active workers informed, especially those in developing countries. A similar newsletter is published by the Diarrhoeal Diseases Control Programme.

A more ambitious project is being started at the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B) which is one of WHO's collaborating centres. An international Diarrhoeal Disease Information Service and Documentation Centre (DISC) was established in May 1982 with financial assistance from the International Development Research Centre (IDRC), Canada. The DISC aims to collect, organize and disseminate information on diarrhoeal diseases, to encourage the free flow of information, to help avoid duplication of research efforts and to speed up the application of improved practices. This project, initially funded for three years, will attempt to bridge the information gap that exists in the field of diarrhoeal diseases. With better organization of the existing and new knowledge of diarrhoeal diseases, the DISC will assist researchers and practitioners in the ultimate goal of preventing and controlling the diseases.

Another interesting research effort at NLM, which is to produce a continually expert updated "Hepatitis Knowledge Base", has been followed by the Subcommittee. Basic information for the Hepatitis Knowledge Base was originally assembled by a small body of experts who reviewed and combined the critical information from an identified set of 40 important review articles on the subject. Any inconsistency in the information was addressed by these experts; they either reached a consensus or noted that there was an unresolvable conflict. The resulting base of "knowledge" was computerized and made immediately accessible to each expert within the group. Subsequent information which appears in the literature is reviewed individually by the panel, consensus is sought, and the knowledge base is updated. The panel can communicate through a technique known as "computer conferencing" without being together in time or geographically. As time permits, each member can access the terminal to enter his or her comments and to review the comments of others. The content of the data base can then be accessed from terminals. At any time suitable parts can be printed and used for selective dissemination to researchers, health professionals, medical schools etc.

The project has now been expanded by NLM to a "Knowledge Base Research Programme" in which peptic ulcer and human genetic diseases are also studied in a similar way. The Subcommittee feels that WHO should try to initiate similar research efforts in some fields of central importance for developing countries.

These examples show that many promising efforts are under way that will promote the aims of WHO of "absorbing, distilling, synthesizing and distributing" relevant health information. WHO is uniquely qualified to promote, coordinate and complement these efforts.

4. Summary and Recommendations

The Subcommittee is impressed by the continued interest and concern shown by the various Regional ACMR's for the improvement of library and information services in the field of health research. We urge that the Regional Directors and Regional Committees stress the importance of all ACMR recommendations to the appropriate authorities in the Member States to stimulate similar interests at the national level where the ultimate need for information utilization exists.

Regional and national medical libraries and information networks to share scarce resources are now being planned or are under implementation or development in all Regions in close contact with Headquarters. Those efforts are to be expanded and sustained as they are a prerequisite for the successful implementation of WHO health plans. The model of resource sharing and network implementation that is being developed by BIREME should be examined for its potential application in other areas of the world.

The Subcommittee is pleased that several regions have or are preparing regional INDEX MEDICUS, that PAHO and Headquarters have developed document information services using the "Medical Subject Headings" (MeSH) vocabulary, and that SEARO and Headquarters are planning a pilot project for the bibliographic control of fugitive health literature on health services research.

The Subcommittee recognizes that there exist national literature, documents, audiovisual materials, etc., which are not now accessible in an organized manner. There is a need for studies to assess the size, scope and quality of such fugitive material. Efforts to collect, organize and index such material into bibliographic systems should use the same internationally-accepted cataloguing rules and standards and MeSH. In this manner, the resulting bibliographic systems and products in the whole health field will be compatible with each other and with the regional and global Index Medicus/MEDLARS.

The Subcommittee considers the selective dissemination of bibliographic information with abstracts as exemplified by the Quarterly Bibliography of Major Tropical Diseases as an important and cost-effective method to keep health researchers in developing countries informed about progress in their field of interest. Access to full articles should be improved by resource sharing networks, regional inter-library loans (photocopies) services and library manpower training.

The Subcommittee suggests that WHO should consider using the methodology developed for the Hepatitis Knowledge Base for the selective dissemination of information in important health areas. WHO scientific working groups could provide the international validation of selected literature which could then be maintained and continually updated using a mini-computer. Inexpensive regular recurring printouts of consensus validated new knowledge would then be available rapidly and cost-effectively for research, education or patient care in developing countries.

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SUBCOMMITTEE ON INFORMATION

Third Session

Stockholm, Sweden, 9-10 September 1982

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WORLD HEALTH ORGANIZATION
ADVISORY COMMITTEE ON MEDICAL RESEARCH
SUBCOMMITTEE ON INFORMATION

Stockholm, Sweden, 9 - 10 September 1982

A G E N D A

Thursday 9 September 1982

1. New developments in MEDLARS/MEDLINE and photocopy services for health personnel in developing countries
 - the Australian experience
 - the Kuwait MEDLARS Centre
 - future developments
2. Information services of the WHO Special Programme for Research and Training on Tropical Diseases
 - Quarterly Bibliography of Major Tropical Diseases
 - the WHO/TDR Newsletter
 - the Steering Committee Annual Reports
3. Quarterly Bibliography of Diarrhoeal Diseases
4. Developments in knowledge banks
5. Loose-leaf textbooks or manuals for health personnel in developing countries
6. Progress report on the WHO Health Literature Services Programme
 - from the global point of view
 - in the regions
7. Health literature published in Latin America, South-East Asia, the Pacific area and Africa; projects for its bibliographic control and utilization
8. Other business

Advisory Committee on Medical Research

Subcommittee on Information

Third meeting

Stockholm, 9-10 September 1982

WHO Health Literature Services Programme
(from the global point of view)

1. Objectives and approaches of the global Health Literature Services Programme ANNEX 3

The main objective of WHO's Programme of Health Information Support is: to ensure the availability to Member States of valid scientific, technical, managerial and other information relating to health, in printed and other forms, whether originating within the Organization or outside it, particularly in relation to attaining the target of health for all by the year 2000 (HFA)¹. This objective is not exclusive to the WHO Health Literature Services Programme, but the Programme is solely concerned with that goal. The Programme is comprehensive but flexible and each country and region determines its own priorities. Its overall objectives are:

1.1 to cooperate with Member States in developing and strengthening health literature services (i.e. medical libraries, documentation centres, national networks) at country level; although no library can or hopes to be self-sufficient, a certain amount of national self-reliance is essential;

1.2 to establish regional networks in order to promote resource sharing and other cooperative activities;

1.3 to foster the transfer between Member States, notably the developing countries, as well as between WHO and its Members of recorded information on priority health matters, i.e. especially that contained in fugitive literature;

1.4 to assist in improving manpower resources for national health literature services through the training of health library personnel and users;

1.5 to provide international backup services and referral services, especially for the dissemination of bibliographic information and the provision of inter-library loans (photocopies).

The accent of the mandate received from WHO's Member States is on the timely dissemination of valid and relevant health and health-related information enabling the countries to attain their target of HFA/2000. Stress is laid on the importance of fugitive literature as well as of a number of health-related sectors which, hitherto, have rarely been considered by many national health information services (such as health economics, health systems management, sociology, etc.) Although one of the key targets of the programme is to increase the self-reliance of the developing member countries, insistence is made of the role played by technical cooperation among developing countries as well as between developing and developed countries. Much of the relevant health-related information urgently needed will come from countries facing socioeconomical and epidemiological conditions similar to their own.

The activities referred to above are being undertaken in the context of health and medical libraries, documentation centres and literature services, for the benefit of practitioners, researchers and administrators in the health field.

WHO is a highly decentralized organization. The Programme is a joint venture of headquarters and the regional offices in cooperation with the Member States. Planning takes place at national, regional and international levels.

2. Strategies

2.1 to promote an awareness of the importance of and the possible strategies for the transfer of relevant information, both with government officials and other senior administrators, and with other users or potential users of health information;

¹ (See paragraph 415 in the Seventh General Programme of Work, A35/4, given in Annex A). Health for All Series, No. 8.

2.2 to cooperate with national staff in defining the priority needs, in identifying local resources, and in the development of appropriate strategies for the sharing of resources and the strengthening of local services;

2.3 to encourage the collection, processing and dissemination of health and health-related information contained in literature wherever this is not being done at present, notably in many developing countries;

2.4 to promote the use of internationally-acceptable standards for the bibliographic description of fugitive literature and for the indexing of periodical articles that will ensure the global compatibility and transferability of national and regional systems.

2.5 to organise and seek funding for short courses on health library management and technical questions such as indexing, inter-library loans services, etc. for librarians and persons responsible for documentation centres in ministries of health;

3. The rôle of the WHO headquarters Office of Library and Health Literature Services, Geneva (within the context of the Health Literature Services Programme))

The Geneva Office assumes a leadership and coordinating rôle; its Chief is the overall Programme Manager and, in that capacity, is responsible for coordinating the regional surveys and plans into a coherent and compatible global plan, for promoting that plan and for seeking the support of experts and donors. The headquarters responsibilities extend to both the conceptual and the operational levels.

3.1 At the Conceptual level, the Geneva Office assumes the responsibility for four global aspects:

3.1.1 The formulation of the global Programme is based on the recognized information needs of health authorities and health personnel in WHO Member States (recognized further to surveys, studies, on-site visits). It involves the setting of the main objectives and their translation into operational Programme components (Cooperative library networks; Education and training; Information transfer, etc.)

3.1.2 In the Programme planning process, specific activities are identified and projected into a time schedule by the regional offices and by headquarters. The result of the exercise is synthesized by the Geneva Office into the Medium Term Programme which, for the 1984-89 period, comprises 25 different activities under four main objectives. In the Programme Budget Statements, a more detailed plan of action is developed for a two-year period. It is within the overall framework of the global MTP and Programme Budget that the regional Health Literature Services Programmes are implemented.

3.1.3 Programme coordination. Health information contained in literature is a global commodity. If for practical purposes the Programme is organized and conducted in the context of regional programmes, it is obvious that these will have a greater impact if they are linked to a worldwide effort. Coordination at the global level is required to guarantee a coherent and consistent development of the Programme with each regional office benefitting from the experiences of the other. This need for coordination becomes particularly obvious in the adoption of international standards which, in the interest of compatibility, provide for uniformity in the bibliographic field to ensure the easy exchange and use of bibliographic tools. Programme coordination is still insufficiently developed and plans have been made for a closer future cooperation between headquarters and the regions.

3.1.4 Programme evaluation. So far, this aspect has not been dealt with. But it is evident that, as time goes by, it will be necessary to assess the impact the Programme has on the health literature situation in the WHO Member States and to evaluate the approaches chosen in terms of effectiveness and efficiency. This will require that a methodology be developed and indicators found that will enable us to measure the benefits of specific Programme activities such as library resource sharing or the improved transfer of fugitive literature information. It is recognized that this is a

complex matter. However, It must be tackled in order to ensure that the Programme develops in accordance with the mission of WHO, that the Programme resources are employed in an optimal way, and that the results are meaningful.

3.2 The Operational level

The headquarters rôle is not limited to designing and planning the Programme. The Geneva Office also has a direct participation in a number of activities, some of which are long-term involvements whilst others represent one-time ad hoc projects.

3.2.1 Long-term involvements.

3.2.1.1 Service provision. For many years the WHO headquarters Library has provided services to persons other than WHO staff based in Geneva. Inter-library loans in the form of photocopies are supplied from its own collections. During the years of the WHO MEDLINE Centre (1974 to 1977), computer searches were provided to requesters in the developing countries and this service was continued, albeit on a reduced scale, after 1979 since when WHO has purchased searches from other MEDLARS Centres. This provision of bibliographic information retrieval and document delivery services, although being gradually decentralized, is likely to continue for some time to come. (Ultimately it is hoped that the resources at national and regional levels will be shared and that they will meet at least 90% of the demand for periodical articles.) The headquarters function is to liaise with the international resource libraries and, whenever necessary to act as a clearinghouse for the forwarding of requests.

3.2.1.2 Searching for extra-budgetary funds for various ongoing or ad hoc projects is a permanent concern shared by headquarters and regional offices. An example of an activity for which support was found is a Workshop on Health Sciences Library Cooperation which was held recently in Arusha, Tanzania. Funds were obtained from the German Foundation for International Development and from Unesco. Efforts are being made to recruit donors for the supply of MEDLARS searches and backup photocopy services to health personnel in the developing countries. To date our only success was the agreement with the Government of Australia.

3.2.1.3 WHODOC. A very substantial contribution to the dissemination of information contained in fugitive health literature is the compilation and publication by headquarters of WHODOC: Index to WHO Technical Documents. This index will list approximately 1000 items per year and is distributed free to selected groups of interested institutions and individuals in WHO Member States. A feasibility study for the computerization of this activity to permit retrospective search and reference capabilities, is being undertaken with the Regional Offices for the Americas and for Europe.

3.2.1.4 Standards. The formulation of internationally-acceptable standards or the promotion of existing standards has already been mentioned above as an aspect of Programme Coordination. At present, HLT is engaged in work on two specific compilations:

(a) A set of guidelines for the standardization of bibliographic citations. These are in an advanced state of preparation and will soon be ready for distribution internally. Indeed, the immediate need for these guidelines is in-house but, at a later stage, their use for other activities within the Health Literature Services Programme will be examined.

(b) A cataloguing/indexing manual for fugitive health literature. The first draft should be ready in headquarters by the end of this year; then it will be circulated to the regional offices and used in a SEARO/Headquarters pilot project for the bibliographic control of fugitive health literature. Related standards that have already been prepared by other international library bodies are, of course, being taken into account.

It is likely that the maintenance of these and the promotion of other standards will constitute a standing global requirement.

3.2.1.5 Consultancies. The staff members of the Geneva Office are made available to regional offices and occasionally to developing countries for short-term consultancies. The Geneva Office also maintains a small file of information on experts in the various subject areas of the Programme who, upon request, could be invited to serve as consultants for specific regional or national projects.

3.2.1.6 Education and training. As an ongoing contribution to the education and training sector of the Programme, headquarters is preparing or commissioning a series of practical manuals in health sciences librarianship. These will address staff with little or no formal library training and will focus on the needs of the developing countries. The first volume will be devoted to serials management. WHO Librarians also occasionally serve as faculty in training courses for medical librarians.

3.2.1.8 Communication and promotion. As a vehicle for maintaining liaison and passing news between the various component parts of the Programme, the Geneva Office issues a Health Literature Services Programme Newsletter three times a year.

A promotional campaign with the aim of bringing information on the Programme to a wider public is planned for 1983. This will take the form of a series of articles which may be published in the WHO Chronicle.

3.2.2 Ad Hoc activities

The Geneva Office undertakes some one-time projects, either upon request from a regional office or because a need was recognized which could best be met from headquarters resources.

3.2.2.1 Union List of Biomedical Periodicals in Seven African Medical Libraries. Following a recommendation made at a meeting of African medical librarians in Belgrade in September 1980, the Geneva Office assumed responsibility for the preparation, compilation and production of the first union list of biomedical periodicals located in seven libraries in East and West Africa. It is now being reproduced and will be distributed before the end of 1982 as a first step towards an African inter-library loan service.

3.2.2.2 Core list of health and biomedical periodicals. This project aims at compiling a list of essential periodicals in the health and biomedical sciences which could serve as a selection aid for the libraries or documentation centres in the ministries of health of developing countries. A first draft list, based on proposals made by headquarters technical staff will be completed later this year and will be circulated to the regional offices for comments and additions.

3.2.2.3 Microcomputer applications. Jointly with the WHO Division on Information Systems Support, a project has started to test the feasibility of microcomputer applications in health sciences libraries in the developing countries. The WHO Office of Library and Health Literature Services is assisting in the design of the customized software for specific housekeeping operations and will be involved in setting up and evaluating the pilot project. In a first stage six selected libraries will be provided with microcomputers and programmes for the generation of lists of periodicals, both for single libraries and for groups of several libraries (union lists).

3.2.2.4 Microforms. The Geneva Office has started a study on the use of microforms as a document delivery medium for the supply of selected WHO documents, notably where orders for all WHODOC items were placed, and for meeting requests for fugitive health literature. This project may be implemented in collaboration with the Regional Office for the Americas where a microform service is already operational, or with the Regional Office for Europe where one is in preparation.

D. PROGRAMME SUPPORT

14. HEALTH INFORMATION SUPPORT

414. Health and health-related publications, documents and other literature, whether produced by WHO or by others around the world, have a vital support role to play in building national health system infrastructures and in providing information about the latest and most appropriate developments in science and technology. But many of the countries with the greatest need for selective access to this vast storehouse of accumulated knowledge and experience have only limited means at their disposal for this purpose. It is thus necessary for WHO to work actively to overcome existing deficiencies in this regard and help maintain the flow of valid information, relevant to national needs, by both direct and promotive efforts.

- Objective 14

415. To ensure the availability to Member States of valid scientific, technical, managerial and other information relating to health, in printed and other forms, whether originating within the Organization or outside it, particularly in relation to attaining the target of health for all by the year 2000.

- Approaches

416. Mainly through consultation with institutions and individuals, WHO will act as an international clearing-house for valid information, disseminating it to ministries of health, other relevant ministries and bodies, and interested institutions and individuals, both within the health sector and outside it. This will include information on the development of health infrastructures and the related managerial process, as well as health systems research, the delivery of primary health care with the support of the rest of the system, and the selection and generation of appropriate health technologies.

417. During the period of the Seventh General Programme of Work particular attention will be given to information on health systems based on primary health care, on their development and social control through community involvement, intersectoral action and the development of appropriate health technologies through the application of scientific research and analysis of research findings. Special reference will be made to interesting examples of the above. Both textual and statistical information will be included.

418. Technical information will continue to be disseminated through WHO's publications - the WHO Technical Report Series, offset and other special publications; and through its periodicals - the World Health Forum, the WHO Chronicle, and the Bulletin of the World Health Organization. Related popular information will be published in World Health magazine.

419. To ensure the availability of valid information related to health whether generated inside WHO or outside it, WHO will assist countries in formulating policies and drawing up plans, including the estimation of the type and number of personnel, for the development of national health literature services as an integral part of the health system infrastructure, in encouraging resource sharing through the setting up of national health sciences library networks, and in fostering cooperation between national networks at the intercountry, regional and global levels. All efforts will bear in mind the need to speed up communications and literature exchange.



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LATIN AMERICAN HEALTH INFORMATION NETWORK:

BACKGROUND AND PERSPECTIVES

São Paulo, July 1981

FUNCIIONANDO EM COLABORAÇÃO COM A ESCOLA PAULISTA DE MEDICINA

This report was prepared by Prof. Antonio A. BRIQUET DE LEMOS, Secretary of the Documentation Center of the Ministry of Health of Brazil (pages 1-15) and by Dr. Abraam Sonis, Director of the Regional Library of Medicine and the Health Sciences - BIREME (pages 15-20).

The Regional Library of Medicine and the Health Sciences - BIREME is particularly grateful to Prof. Antonio A. BRIQUET DE LEMOS for his collaboration and extraordinary effort held in analyzing, summarizing and presenting clearly the innumerable documents, meeting reports and papers which comprehend BIREME/PAHO's background, since the idea of its creation up to its present development.



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INTRODUCTION

The purpose of this work is to present a panoramic view of the activities developed by BIREME, as well as an analysis of the process which made it one of the most representative institutions in the scientific information field, not only in Latin America, but also in the Third World. It is a matter of analyzing BIREME's development, not as a library, but basically as the expression of a project to create the Latin American Health Information Network. At the same time, taking advantage of successes and of experiences of more than 10 years in the Region, one should establish directives, working lines and strategies which will lead to a dynamic and effective information network, capable of facing our countries' needs, in order to attain the goal of "health for all by the year 2000".

The information collected is found in different publications and reports, sometimes of difficult access. These documents, in addition to the published papers, listed in the bibliography at the end of this work, were used in the preparation of this report.

BIREME's experience constitutes a historical mark, not only in the field of specialized information, but also in the area of international co-operation, due to several aspects. Among them we can highlight: the pioneer implantation of a health information network, based on resource sharing, in a country of continental dimensions, such as Brazil, and the delivery of services of this network to other countries; the capacity of taking advantage of human and technological resources existing in the country to operate the MEDLARS system, overcoming all difficulties encountered in the use of a sophisticated technological process; the use and improvement of human resources and the diffusion of their experience to other countries, through the widest systematic program of training health librarians in Latin America; the constant effort to overcome difficulties, associated to the interest of expanding its field of action, and of improving the quality of the services which it provides.

Nevertheless, it was not easy to achieve these results, specially considering the changes occurred in the last part of the 60s and during all of the 70s, in the context of health institutions to which BIREME gives priority attention.

During a 14-year period (1965-1979) the population of the Region increased from 170,000,000 to 250,000,000 inhabitants. In the health professions - main users of BIREME's programs - the number of physicians increased from about 95,000 to 240,000; the dentists increased from 25,000 to 140,000. The total increase of the professional group which can be potentially served by BIREME reached 125%.

The number of medical schools increased from 80 to 150 and the total number of enrolled students from 60,000 to 260,000. Only in Brazil the medical courses increased from 38 in 1965 to 75 in 1979.

The creation of these new courses led to an increase in the number of potential users of biomedical information and conditioned, at the same time, a significative increase of non-satisfied demand, because the libraries of most of the new institutions were still poorer than the existing ones.

On the other side, we must recognize that the increase in the demand of information in the health field is specially related with the research effort evidenced in most of the countries of the Region.

The development of basic research in the biomedical area is essential to place scientists in a front position in the development of modern science and to permit, in developing countries, the adaptation of science as well as biomedical technology to their real needs. During the last 10 years, in Latin America, a closest interrelation between basic and applied research was established. Research on health services played an outstanding role during this period, and, basic or applied, should be related to real problems.

This concept favors a larger concentration in the areas of epidemiology, immunology, communicable diseases, public health administration and practice and clinical research, among others. Eventually it might lead to a major support to new groups of researchers, such as the case of those dedicated to tropical diseases; to national health laboratories; or to operational research, developed by the health and social security ministries.

These new trends do not imply in the substitution of the activities in progress, but in widening their ambit. They indicate that the provision of biomedical information to universities should expand even more, to supply other potential users, who will request information about health literature in a wider sense.

This evolution also affects the information standard and leads to the option of increasing, gradually and without limits, the bibliographic collections or of concentrating the already scarce resources to maintain a more selective collection, oriented to fulfill the real health priorities.

And, if we talk about real health priorities, it is necessary to remember the most important goal quoted by Halfdan Mahler, WHO Director, "to extend primary health care, based on practical and scientifically sound and

socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development, in the spirit of self-reliance and self-determination".

To achieve this goal a comprehensive health development effort will be necessary, which will depend not only of political decisions but also, and primarily, of the coordinated action of a multidisciplinary team, made up by health personnel, economists, sociologists, educators, system engineers and several others, to explore new knowledge and develop more appropriate technologies, in the search for new ways and mechanisms to extend delivery of services to all the population.

Also in this case, a wider range of information is necessary - information which will assume a preponderant role as basic supporting element in the development of health services research in the front line in the research process, as well as in decision-making, creating or improving the communication channels between researchers and administrators and health authorities.

Thus, the use of biomedical and health information in a more flexible way will be necessary, considering the several levels of complexity which might go from the extensive and computerized bibliographic search in large information banks of the most developed research centers, to the accessibility of a literature adapted to each type of user, which might be useful in peripheral health centers and which can be disseminated through selective dissemination of information programs.

BACKGROUND

The idea of creating a Latin American regional center of health information was formally proposed at the IV Conference of Latin American Schools of Medicine and II Meeting of the Brazilian Association of Schools of Medicine, held simultaneously at Poços de Caldas, in Minas Gerais, on 16-22 August 1964.

It was an appropriate scenery for the discussion of this idea, since the most important Latin American authorities in medical education were gathered, to discuss the developing mechanisms for the formation of health human resources. While discussing the deficiencies which hindered the improvement of medical teaching, the precarious condition of most medical libraries of the region was pointed out.

The needs of these libraries were highlighted in Samuel Lazerow's* report, when he specified that in a study held the previous year, that is in 1963, it had been evidenced that the National Library of Medicine had ful-

* Staff Member, National Library of Medicine of the United States.

filled 130,000 article requests, and that Latin American countries had been provided with as many as all other countries of the world, except for the United States. In fact, 53% of the total services to libraries, excluding those of the United States, were provided to Latin American and the three main requesting countries in a decreasing order were Peru, Venezuela and Brazil.

When pointing out the deficiencies of the medical libraries of this hemisphere, comparing them with those of the United States, Lazerow concluded that Latin American needed, urgently, an intermediate level service "with a working plan to connect the National Library of Medicine and the other medical libraries of both continents." The lecturer optimistically added:

"The situation is favorable. Our experience demonstrates that, even though the National Library of Medicine receives more than 5,000 medical journals from the whole world, 80% of the article requests refer to only 1,500 titles. The first Latin American Regional Center would therefore need a collection of only 1,500 journals to fulfill most of the requests received from Latin American physicians and scientists."

Consequently, the lecturer pointed out that this library should not try to duplicate NLM's collection, but own a core collection which could offer immediate service with a high level of satisfaction of demand, without trying to be self-sufficient, a goal, if not utopic, at least difficult to be achieved.

Lazerow also declared that this center should, at once, take advantage of the most modern available technology, which would possibilitate the future acquisition of copies of the MEDLARS magnetic tapes. He ended his lecture saying:

"I do not plan to describe here, in detail, the operation of such a Regional Center, but I would like to assure that we will be ready to help in the planning and organization of this Center and offer technical assistance for its operation. Logically, we need to consider which organization could initiate this plan. Probably the most indicated would be the Pan American Health Organization (PAHO), which has demonstrated great interest in communication problems; their Advisory Committee on Medical Research is already studying the possibilities of creating a biomedical communication subcommittee. Other possible candidates could be an organization within their own group or the Pan American Federation of Associations of Schools of Medicine. Any of these organizations, without doubt, could take over, successfully, the planning of a Regional Center according to the one I have suggested."

These ideas constitute a permanent worry of the Latin American scientific community, since for the past years they insisted on this need and thus, in the 1964 annual report, PAHO's Director expressed that the Organization had adopted "important measures to establish a regional library of medicine which will keep Latin American scientific community informed", according to the scientific communication project of PAHO's medical research program (PAHO Official Document nº 63, p. 112, 1965).

In April of the following year, the North American librarians Mortimer Taube and David Kronick were employed as PAHO consultants, to identify the country and the institution which would welcome this regional center.

Although these consultants' report was ready at the time of the 16th meeting of PAHO's Directive Council, 27 September-8 October 1965, the site of this library had not yet been decided, according to PAHO's Director, when he thanked the Government of Uruguay for the formal proposal to serve as basis for this project.

The XXI Resolution of this meeting of PAHO's Directive Council approved implicitly the idea of creating a regional library of medicine (Official Document n° 66, 1966).

During the 1965 meeting the concept that this library would be a pilot-project, of demonstrative character, to be implanted on the structure of an already existing local library, and that its permanent maintenance would not be exclusive responsibility of PAHO, but also of other financing institutions was discussed.

On 3 March 1967, an agreement was signed between PAHO and the Brazilian Government, represented by the Ministry of Education and Culture, Ministry of Health and Escola Paulista de Medicina, creating BIREME at the Escola Paulista de Medicina. Even though the National Library of Medicine is not one of the signatories of the agreement, it has always supported BIREME's development, by means of gift of book and journal duplicates, or by providing photocopies and literature searches from MEDLARS.

BIREME'S OBJECTIVES

The agreement between PAHO and the Brazilian Government, renewed in 1978, defines BIREME as an international center, administered by that organization, closely articulated with Escola Paulista de Medicina, isolated unit of medical teaching, depending on the Ministry of Education and Culture. The agreement also establishes that the Regional Library of Medicine and the Health Sciences' purpose is to contribute for a better health care in Latin America, by means of the following objectives:

1. To integrate the health science libraries of the region in a continental system, whose coordinated operation provides the requested information to the various and scattered user communities, as quickly as possible.
2. To stimulate the development of the libraries integrated in the system, so that their bibliographic, human and material resources be appropriate to the degree of responsibility established by the system.
3. To facilitate access to medical literature, specially to the one produced in Latin America, maintaining its bibliographic control, in close contact with information processing centers, editors and authors.

4. To contribute to the development and use of modern scientific communication methods in the biomedical field, in order to facilitate the access of users and to obtain the largest possible coverage.
5. To establish working relationship and exchange of service with health sciences information centers in other regions of the world.
6. To support, with pertinent information, the development of priority health programs in the countries of the region, in research, teaching and health care areas, and also trying to provide information for other health science areas.

The accomplishment of these objectives is obtained by means of several programs, at national level in the headquarter country, and at international level, both associated for the development of an information network in the health area.

ADMINISTRATIVE STRUCTURE

According to the agreement, BIREME's activities are under the responsibility of a Director, named by PAHO and chosen among high level professionals, with considerable experience in research, teaching and health care areas.

A Program Coordinator, who is also an international PAHO staff member, collaborates with the Director.

BIREME is composed by the following departments: Library Department, with Technical Processes, Reference and Documentation Divisions; Secretary, Administration and Operation. The latter is responsible for the Data Processing Unit and for the MEDLINE system.

The Library Department constitutes the basic support for services to local users, in the city of São Paulo, specially those from the Escola Paulista de Medicina; and eventually to other teaching research and health care institutions of the State of São Paulo; and also for the Brazilian and Latin American Health Information Network. It is responsible for the recording, organization and dissemination of the bibliographic collection and of other information resources owned by BIREME.

A Scientific Advisory Committee and a National Advisory Committee provide advisorship at a higher level.

The Scientific Advisory Committee, selected and named by PAHO, is made up of high level representatives of the international health community and biomedical librarians, besides the representatives of the Brazilian institutions signatories of the agreement. It meets annually to advise PAHO's Director regarding technical aspects of the policies, programming and evaluation of the Library's activities.

The National Advisory Committee is made up of a representative - and his substitute - of each of the governmental institutions signatories of the agreement. Its purpose is to advise BIREME's Director in the programming and development of its activities in Brazil. It meets periodically in BIREME.

The Library maintains a close relationship with the National Library of Medicine of the United States and with innumerable institutions responsible for teaching, research and health care.

DEVELOPMENT OF AN INFORMATION NETWORK

Contrarily to the idea of creating a unique library, which would function as an institution searching for its self-sufficiency, BIREME, since the beginning of its activities, tried to stimulate the development of local resources which would integrate in a cooperative network, with decentralized coordination.

This solution seemed to be the most appropriate in terms of Latin America. The experience of a great national library of medicine, such as that of the National Library of Medicine, could hardly be repeated. On the other hand, if this orientation was to be followed, there would be the risk of increasing the obstacles for the development of resources at national level, in the headquarter country, as well as in other Latin American countries.

The positive results of this network structure, which have already been sufficiently confirmed by the Brazilian experience, permits a more flexible way of working, with adaptations to the particular context of each institution, whose autonomy in administrative and in technical terms is respected. The stimulating force of this network is the objective need for cooperation and resource sharing, viewing immediate attention to the user needs.

On the other hand this network conception naturally implies differentiated and selective degrees of availability of information in the nuclei which form it, and some aspects should be evidenced as a result of BIREME's experience, due to its practical importance.

Initially it is considered, at least in Latin America, that if a core-library, with a well-sized collection is not available the development of an information network is not possible.

The support of an important library as center of a health information network is essential due to several different factors. According to BIREME's experience, the upgrading of ever-increasing levels of complexity, is an indispensable mechanism for the development of a network, at Brazilian and regional level.

At the same time it is very important to count with one or several other external centers as support to the activities of the network's central

unit. As far as BIREME is concerned, this function was played by N.L.M. Training of personnel, consultantship, technical cooperation, transference of technology and services are some of the areas in which this support was made effective. The possibility of having access to the services of other institutions, specially when interdisciplinary information is necessary, is another requirement which contributes to the success of a network.

INFORMATION NETWORK AT NATIONAL LEVEL

BIREME performs three important functions at national level. The first one derives from its own origin: library of the Escola Paulista de Medicina, providing service to its academic and student community and consequently to the health community of the city of São Paulo. Secondly, BIREME acts as subcenter of its own network for the State of São Paulo. Its third function, at national level, is that of center of the Brazilian Health Information Network.

The Brazilian Health Information Network presently is formed by 19 subcenters which have the responsibility of coordinating the information activities in the health information field with the collaborating libraries of their respective region and of acting as a link between those libraries and BIREME. Presently there are 238 collaborating libraries. Eighteen Subcenters operate in university central libraries or in libraries of medical schools of federal teaching institutions. One of the subcenters is located at the "Fundação Oswaldo Cruz", an institution basically dedicated to research, although it also develops teaching activities, specially through the "Escola Nacional de Saúde Pública", to which it is linked.

The network includes three more special libraries in the health-related areas which belong to the University of São Paulo (USP): the Library of the "Faculdade de Odontologia", the Library of the "Faculdade de Medicina Veterinária e Zootecnia" and the Library of the "Faculdade do Conjunto das Químicas". The latter is integrated by the libraries of the "Faculdade de Ciências Farmacêuticas" and of the "Instituto de Química". These libraries complement BIREME's holdings and provide service in health-related areas.

The Subcenters centralize and fulfill the local or regional demand of articles with its own holdings and with those of the collaborating libraries. The requests which cannot be satisfied are sent to BIREME. The latter, after exhausting its own resources and those of the complementary libraries of the city of São Paulo has the possibility of referring the requests to foreign centers, specially to the National Library of Medicine, and also to the "Centre de Documentation, Centre National de la Recherche Scientifique".

Thanks to the support offered by a financial institution of the Brazilian Government, during 1977-80 BIREME was able to provide more effective support for the development of the Subcenters, through the acquisition of bibliographic material, equipment and training of personnel.

INFORMATION NETWORK AT INTERNATIONAL LEVEL

If the Brazilian network is functioning satisfactorily, the same cannot be said about all other countries of the region. With some exceptions, in spite of all efforts made, most of them with BIREME's support, in many countries the idea of national centers could not be put into practice and the users, mainly teachers of the medical schools, request directly from BIREME information which is not available at their library. Many institutions of a same country request service, with no previous rationalization, overloading BIREME's activities, increasing significantly the costs and response time.

This situation is partly due to the lack of medical libraries in the region. In a recent survey it was observed that in 160 Latin American schools of medicine, only 78 libraries were identified; of these only 42 had more than 100 subscribed journal titles and only 14 libraries had collections of over 400 titles. It is interesting to recall that in 1967, when BIREME was created, the library of the Escola Paulista de Medicina was already subscribing more than 400 journal titles.

The attempt to create national centers, through agreements with the health ministries was not successful, partly due to the fact that most of the libraries which would join the network are located in the universities. Even when there are no political problems between these two institutions, the type of information needed differs in relation to contents, publication media and other aspects which hinder their cooperation.

The signature of an inter-institutional agreement is not enough for a given library to become a national center or focal point to which the demand should be addressed. Only practice and experience should indicate and legitimate the institution which can play the role of national center. Until this happens the libraries of other Latin American countries, with few exceptions, will continue to send their requests to BIREME without trying to exhaust all resources at national level.

Thus it is necessary to strengthen the structure of the medical libraries of the several countries which requires, as it has been repeatedly mentioned, financial resources. But this lack of resources - aggravated by the lack of strong currencies which troubles our countries - does not exhaust the problems. The cooperation among the different institutions, the sharing of resources, the creation of selectivity criteria and the development of know-how are also necessary to make possible a strategy which will lead to the establishment of really operative national information networks. This point will be emphasized further on.

FUNDAMENTAL PROGRAMS

In 1980 BIREME developed 21 different programs at local, national and regional level, within four great operation areas: delivery of services, teaching, research and administration.

Delivery of services

Due to the characteristics previously mentioned, BIREME's work is directed to four great categories of individual users which request services: those from the Escola Paulista de Medicina, those from the city of Sao Paulo, those from Brazil and those from Latin America and the Caribbean. These communities of users, although imposing different parameters when we try to evaluate the quality of services provided, present to the Library the same type of demand which requires efficient and quick attention.

Delivery of photocopy of articles

This activity which is also called Interlibrary Loan or bibliographic commutation represents the service which has mostly contributed to BIREME's present reputation. Most of the users see it, therefore, as a great supply center for copies of scientific articles.

For the past 10 years BIREME has received an annual average of 40 thousand requests. In 1980, 43,119 photocopies of articles were requested. A little over 70 per cent were from Brazil and more than 29 per cent from other Latin American countries.

Other than Brazil, countries which most requested from BIREME in 1980 were: Uruguay (2,500), Bolivia (2,409), Chile (2,333), Venezuela (2,005), Peru (1,542), Colombia (661) and Cuba (606).

The satisfaction rate of these requests was over 80 per cent. Nevertheless, if we subtract from the total number of requests (43,119) those which, for one or another reason were returned to the user (8,126), the satisfaction rate practically reaches 99 per cent. The requests were returned due to incorrect information which did not permit the identification of the original document; referred to articles published in journals of areas other than health; or because they depended on specific authorization from the user to be sent to foreign centers.

One of the important points which should be highlighted was that BIREME was able to fulfill more than 75 per cent of the requests with its own holdings. This rate is only obtained or overcome by large libraries of developed countries. Putting together BIREME's resources and those of the collaborating libraries, BIREME is able to satisfy 92 per cent of the demand with bibliographic resources of the Brazilian network. The participation of NLM and CNRS was less than 8 per cent of the total satisfaction rate.

These numbers indicate that BIREME adopted an acquisition policy adjusted to the profile of the demand and that national cooperative network, such as the one existing in Brazil, seems to show the way to be followed at regional level.

An important contribution for the optimization of these services is the preparation of the 1980 list of Current Journal Titles Existing in BIREME, containing all titles of journals received currently. This list

also includes titles which do not belong to BIREME's collection but which are acquired by some of the most important libraries which are part of the Brazilian network. A new enlarged edition was published in 1981 with 3,000 titles.

Literature searching

The library provides its users with literature searches. Up to the installation and operation of the MEDLINE System these searches were made manually, using different indexing and abstracting journals which exist in the Reference Section of the Library.

Nowadays literature searching is made through the MEDLINE System. The implantation of the ELHILL II program for Latin American countries represented a valuable experience in the utilization of a complex technology with the development of local manpower. Through different attempts an adaptation of the system to the characteristics of the Region and to the new technological alternatives was obtained - specially in the teleprocessing field - which will permit the expansion of the system based on the Latin American reality.

Access to the system can be obtained through four printing terminals located in the Subcenters of Salvador, Rio de Janeiro and Belo Horizonte and in BIREME itself. The Subcenters fulfill the local demand and BIREME answers the requests from the rest of Brazil and other Latin American countries. In 1980, 4,048 searches were made. The three mentioned subcenters provided 1,294 searches and BIREME 2,754 (1,441 from the rest of Brazil and 1,313 from other countries of the Region).

The MEDLINE data base is operated in the computer of the "Instituto de Pesquisas Energéticas e Nucleares" (IPEN) of the government of the State of São Paulo.

The installation of terminals in other Latin American countries has been difficult due to the high costs of telecommunication fees for teleprocessing. Nevertheless, it is expected that this connection can be made shortly through the use of an intermediate technology, i.e., the use of telex for access to the system. The telex network, even though it does not offer communication speed and other teleprocessing advantages by means of computer terminals, offers cost advantages and easy operation which make it convenient in the present development stage.

Analysis and indexing of Latin American literature

When BIREME became a direct user of MEDLINE system an agreement was made with NLM to analyze and index, as of 1978, the Latin American Journals which are included in the INDEX MEDICUS, after training BIREME's personnel at NLM. This indexing includes the 38 Latin American titles (except those of Mexico) selected by INDEX MEDICUS and is performed in a highly laudable and competent way, according to NLM's own evaluation. In 1980, 1,192 articles were indexed for this purpose.

The development of the indexing work, together with the control of the technology of processing bibliographic information by computer, required for the operation of MEDLINE, permitted BIREME to plan and introduce one of the most important projects developed up to now: the publication of the INDEX MEDICUS LATINO-AMERICANO (IMLA), prepared with BIREME's own manpower and funds. The acquisition of a minicomputer, financed by the Brazilian government and the installation of printing offset equipment gave BIREME full autonomy in the development of this project.

IMLA indexes approximately 200 titles of Latin American journals in the health area. It is an analytical bibliography, i.e., includes summaries of the mentioned articles, whenever they appear in the original text. It is published bi-annually since 1979.

The repercussion of IMLA among professionals and institutions of the health fields, as well as among editors of scientific journals, demonstrated that this work corresponded to the needs of the entire region. A similar impact occurred in other regions of the Third World. African and Asiatic countries, for instance, stimulated by the World Health Organization, inspired in the IMLA experience, are getting ready to begin publishing similar medical indexes for their respective regions.

Presently the IMLA data base which can be easily operated by mini-computers available in several Latin American teaching and research institutions, include 8,500 bibliographic references and their respective abstracts. BIREME is ready to offer to these institutions copies of the magnetic tapes of this data base, for local processing.

At this moment it is already possible to declare that IMLA is contributing directly to the improvement of communication between producers and users of biomedical information of the region, and indirectly to assure a better use of the literature produced in Latin American countries and improve the quality of the publication of specialized journals.

After the first four issues of IMLA were published, its self-financing was assured, which is fundamental to continue a project of such a magnitude.

Selective Dissemination of Information (SDI)

As soon as MEDLINE system started operating, BIREME established, experimentally a selective dissemination of information program to a restricted number of professors and researchers. In spite of having been very useful to disseminate a new service which the Library was apt to provide, this program, based on an individual relationship between BIREME and the user, was interrupted due to its cost and operational difficulties.

Nowadays, BIREME's SDI activities are developed through inter-institutional agreements and are limited to three programs: with the "Instituto Nacional de Alimentação e Nutrição" (INAN) of the Ministry of Health, the "Secretaria da Saúde do Estado de São Paulo", and the "Projeto Latino-Americano de Informação sobre Investigação em Câncer" (LACRIP), which is a joint effort of

PAHO and the National Cancer Institute of the United States, created to disseminate the activities on oncology developed in Latin American countries.

Due to the agreement with INAN, the Documentation Division is responsible for the SDI program on nutrition and disseminates literature on the subject through a quarterly publication.

The agreement with the Health Secretary of the State of São Paulo establishes a program for the retrieval of bibliographies, through MEDLINE system, on topics indicated by the Secretary and updated four times a year.

BIREME is also responsible to provide photocopies of articles for all these programs.

Just to give an idea of the importance of these programs we must only point out that in 1980 LACRIP program served 3,279 professionals from 18 countries. Of these, 1,343 were from Latin American countries other than Brazil. A total of 37,541 article photocopies were provided to Latin American participants.

The INAN program provides services to 536 users in Brazil, providing 5,775 article photocopies. The Secretary of Health of the State of São Paulo received bibliographies about 69 topics which were distributed to 1,190 participants which requested 4,132 photocopies of articles listed in these bibliographies.

Other services

BIREME contributes for the development of a network of specialized libraries, through several activities of technical consultancy, counting with a qualified professional staff for its organization and operation. In order to collaborate for the better operation of the national subcenters, BIREME's international staff visit the Subcenters and travel to countries of the region which are trying to develop national networks.

This advisorship is also given through manuals and standards for the operation of medical libraries.

In the editorial field, besides the standards and manuals already mentioned, BIREME is publishing a bibliographic series, made up of issues which contain retrospective searches of interest to public health. In this specific field we must highlight that the project which is developed through an agreement with the "Faculdade de Saúde Pública" of the University of São Paulo and which favors the editing of a current awareness publication, named "Alerta Bibliográfico - Série I - Saúde Pública". It is a quarterly publication, containing tables of contents of journals, books and theses received at the library of the "Faculdade de Saúde Pública", which provides copies of the mentioned documents.

Finally, BIREME is the center for distribution in Brazil of WHO and PAHO publications through its Sales Unit. This unit keeps an always updated stock of publications of these institutions and promotes its sale in Brazil.

DEVELOPMENT OF HUMAN RESOURCES

Shortly after its creation BIREME began its training activities for Latin American librarians, through intensive courses given at its headquarters.

Up to now 24 courses for biomedical librarians have been held. Each one of these courses had approximately a 220 hour-duration and classes were given by specialists of BIREME and professors invited from Brazilian institutions. More than 350 professionals from almost all Latin American countries participated in these courses.

The importance of these training courses is recognized by the Latin American librarian community which admits that only through post-graduate courses in highly qualified institutions a better training in specialized sectors such as in biomedical information can be obtained. In BIREME's courses, apart from the updating of theoretical knowledge the participants have the opportunity of observing the library's operation and experience which eventually might be used in the improvement of these services in their institutions.

Teaching perspective, nevertheless, is not exhausted in this stage and BIREME has tried to promote the training of personnel in each subcenter so as to obtain a large number of auxiliary personnel who work in small libraries associated geographically to each subcenter. The Library also provides in-service training and oriented visits to many professionals.

Activities for human resources development are held for the training of BIREME's own personnel. Among the most important are the techniques of indexing and information retrieval in the MEDLINE system at N.L.M.

RESEARCH IN THE INFORMATION FIELD

The research activities developed in BIREME, up to now, have been oriented by the basic need of getting acquainted with the structure of library services in the health area existing in the region and the characteristics of the demand and utilization of the journal collection. The results of this type of research are fundamental to plan the Latin American network and the services provided by BIREME.

Studies on medical libraries of the region favored the in-depth knowledge of their difficulties and solutions which can be adopted to correct them. In the analysis of the journal titles subscribed by the libraries of the Latin American medical schools, the deficiencies demonstrated the existence of a reduced investment in the acquisition of bibliographic material. Except for Brazil, there are only two medical libraries in all of Latin American which have more than 600 subscriptions; three with 400-500 subscriptions; and eight with 300-400. In Brazil there is one library - BIREME - which subscribes more than 1,000 titles; four libraries more than 700, eight libraries more than 500 and ten more than 300. Thus, in Latin America there are only 23 schools of medicine, little over 10 per cent of the total, which subscribe more than 300 journals.

In order to enlarge the number of subscriptions in each library, the need to rationalize journal acquisition is stated and the first step is found in another type of research: that which studies the characteristics of the demand.

In 1979 BIREME began collecting and analysing data about journal circulation, locally and at network level - through interlibrary loan - with the idea of knowing the characteristics and tendencies of the demand. Thus, data on the most requested titles, which BIREME owns, and titles less requested which exist in the collection were used to program the 1981 journal subscription.

In general it was observed that 75 per cent of the users' demand were satisfied and the most important reasons for non-satisfaction were the gaps in the holdings or lack of titles.

A survey was also conducted among the teaching staff of the EPM which served to establish a core collection of 400 titles necessary to satisfy the demand of a medical school considered of high level in teaching and research.

The results of these investigations indicate that, with an intelligent and rationalized program of subscriptions, it would be possible to have approximately 2,000 subscriptions in Brazil in the health area, i.e., subscription to 2,000 different journal titles, with the same resources presently being used and which present a high level of duplication in subscriptions of low demand. With this amount of journals, Latin America's and Brazil's dependency on information resources located outside the region would decrease considerably and user services would improve.

It is expected that medical libraries of the region can use the research approach which is being adopted by BIREME, in order to conduct their own studies. These will indicate their core collection, according to selectivity and demand criteria.

FUTURE PERSPECTIVES

An approach to future perspectives of the Latin American Health Information Network, and consequently of BIREME, should be framed within the general boundaries aimed by health information, based in the trends now prevalent.

With this in mind and if we want to simplify the panorama for an easier analysis, we might point out two very critical factors: the exponential growth of the amount of publications and the impact caused by technology. We believe it is unnecessary to insist on the increase of publications in the medical field in the last decades, due to the frequency in which it has been mentioned. Different sectors have studied the causes of this inconvenience (increasing medical specialization, advertisement on the part of drug laboratories and equipment manufacturers, academic structure of medicine, among others), stating that continuous increase of these rates make the system practically inoperable, consequently requiring a structural approach to the problem.

As to technology, there is no doubt that it has created possibilities to information, favoring the storage, transmission and retrieval processes, in a scale without precedent. We should only mention the development of the MEDLINE System, which, if analyzed as a system, permitted biomedical information to reach a really significant level in the scientific information field.

Once its unquestionable value is established and not forgetting the fundamental role of computation in health information, we must point out that its rational application, according to needs and reality of each situation and each ambit, is important. In Latin America, technology is necessary but not sufficient to guarantee modernity and efficiency to achieve the goal of providing information to programs in order to obtain "health for all by the year 2000".

Thus, information cannot be for the exclusive use of elites congregated in great academic centers. It should provide to all institutional and professional levels in the health field necessary and adequate information to the development of their activities in the system: research, teaching and health care. And this is true in all sectors in which these activities are developed: in well-known medical schools, as well as in primary health care programs in rural areas, so common nowadays in Latin America. This is the application of the concept that technology should be appropriated to meet our needs, our reality and our objectives.

Of course it is comprehensible that it is not an easy process, but whatever the level of the difficulties to be met - and they are not few - we have no choice but to face them. The use of magical recipes of developed countries in the developing ones, as a linear and continuous process, became a naive aspiration of the past decades.

Hence the importance attributed to technological alternatives to solve information problems. But when we speak of technological alternatives, we are not exclusively thinking of sophisticated equipments, but of technical and human resources as a whole, which, together, will permit the solution of a given problem in a country or region, since the technology concept is valid when applied to equipments, as well as to know-how, to all types of technology, embodied or not.

The proposed philosophy advises the study of the information needs of each country, according to its degree of development, its economical, political and socio-cultural characteristics and to its resources, so that the most adequate technologies are applied.

It is not intended to deny progress; on the contrary, the most recent technological advances should be well known and the prevalent trends for the future should be analyzed, in order to allocate resources in the most rational way, avoiding expenditures in attractive equipment but of limited use and life - as it is frequently observed in the health care field - or in equipment so complex that there is no local infrastructure capable of maintaining an efficient operation.

If our analysis of the health information needs for the coming decades is continued, facing a panorama similar to the one just described, we can point out that concepts of high prevalence for the future have been developed. Since the maintenance of large collections by all institutions is impossible, due to its quantity and cost, and to the diversification of the fields of interest, it is essential to share the resources owned by the different information centers or libraries. This resource sharing comprehends several procedures and activities, which require physical, material and human resources. Nevertheless, among them all, as an example, we will emphasize the cooperative acquisition of publications, in order to widen the spectrum of its availability, both at local and national or regional level. And this aspect is highlighted due to increasing anxiety caused by the scarcity of funds in strong currency for journal subscription, restriction practically chronic and of difficult solution in our countries.

A concept associated to the one described and which is also highly important, is that of selectivity, to provide adequate information to the adequate user. Both concepts - resource sharing, through adequate acquisition and that of selectivity - involve studies about the amount of publications which is adequate for each library or information center. And these studies constitute one of the most fascinating areas of the health information fields, since they require in-depth analysis regarding objectives, activities, procedures, effectiveness, etc., of the information supplied and its use, as well as the role of the health institutions to which this information is provided. All these aspects make up the structural approach, mentioned above, when the failure of traditional concepts in considering only the quantitative aspects of demand and its satisfaction was pointed out.

In this line of thought, we reach precisely the information networks which, in the last years, conceptually and practically have become the central aspect of activities in this field.

The different nature of information needs and the level of complexity in which each institution develops its activities, require naturally the development of these networks of increasing complexity, which assure an adequate information flow to each of these institutions, whether on regional or disciplinary bases.

The concepts and the different characteristics which these networks can assume, in general and in the particular case of medical information, which certainly constitutes one of the advanced fields, which is acting in many cases as model to other areas of knowledge, are illustrated by an extensive literature.

Our position is clear and coherent with PAHO's philosophy: the knowledge of our real needs is the dynamic element which orients the activities and the search for solutions. The key for the development of our programs and strategies will be furnished by the observation of the world around us, of the social context to which we belong.

Based on these ideas, on this philosophy, BIREME's Scientific Advisory Committee, during its XI Meeting, in May 1979, approved the creation of a Long Range Working Group Committee to promote an in-depth analysis of the different

aspects which health information will present in future years, in order to obtain elements for the development of a strategy to cope with them in our Region.

As a result of this Working Group activity, four meetings were held in a six-month period (November 1979-April 1980). More than 50 specialists of several fields participated in these meetings and discussed the different aspects of Latin American health information problems in future years, as can be observed in the resulting bibliography.

The following meetings were held:

- "Informação para atenção de saúde na América Latina. Experiência do Brasil". 1st. meeting. Brasília, D.F., 28-30 November 1979.
- "Information for health development". 2nd. meeting. Washington D.C., 22-25 January 1980.
- "Technological alternatives for information development". 3rd meeting. Washington D.C., 22-25 January 1980.
- "Biomedical and health information in Latin America". 4th meeting. Mexico D.F., 9-11 April 1980.

It was an important effort, supported by the Rockefeller Foundation, which financed it. We believe there are few examples in other fields - in or outside the health area - of an effort being developed to obtain a total evaluation of the whole system, a study of the probable perspectives for the future and an approach to the analysis of the whole spectrum of disciplines concerned - and this was the goal of the "Long Range Working Group", as it was devised and presented by the President of BIREME's Scientific Advisory Committee, Dr. Kerr L. White: to establish the decade's requirements regarding health information, to explore technological possibilities in the future years, to get acquainted with the possible impact of telecommunications in the information field and to determine Latin America's conditions to absorb, use and apply these developments according to its needs and policies.

Thus this effort was put into practice, with the collaboration of PAHO's Human Resources and Research Division, which organized the four meetings above mentioned, and collected important elements to structure a strategy for the development of national health information networks.

BASES FOR A STRATEGY

As formerly stated, the results of the strategy for the establishment of National Centers, by means of formal agreements between PAHO and the national counterparts, the Ministries of Health, were not satisfactory, since in most countries a National Network was not developed.

Thus, not disregarding these projects, the present strategy promotes efforts for the development of cooperative networks in each country (which connect the libraries and the information and documentation centers) and shares their resources.

In this case efforts should be made by those in charge of these institutions and this represents the possibility of operating from the technical field of information, with the participation of specialized professionals up to now subordinated to political decisions of health and university authorities.

The development of these networks does not require the initial participation of all institutions in the country. It can start with the institutions really interested in the development of the network and later gradually expand.

This approach permits adaptation to each country's reality, making possible and facilitating a joint and cooperative work of institutions with tradition and experience in the field - such as libraries of the schools of medicine - with others which do not have this experience, but which are willing to obtain the information necessary to the development of their activities, such as it happens with the Ministries of Health or Social Welfare, regarding health care information, with characteristics different from periodical biomedical information.

A National Center, coordinating this network, would be the arriving point of a dynamic effort and not just a formal starting-point, without practical existence.

The starting point of this strategy only requires the decision and willingness of the intervening institutions to collaborate and develop activities related to each library's routine operations. It can start simply with the list of journals existing in each one of them, to afterwards, according to the available resources, gradually advance in the development of the network.

In the development of this network, BIREME and PAHO can play an active collaborative role, according to the needs and demand of each country. But, no doubt, and this is fundamental, the national effort itself will be the motor of the network. The energy for the operation of this motor is based on the activities of those who are responsible for the health libraries.

This effort itself will permit the determination of critical activities and points, that need specific resources which probably will not be the same in each country.

With these fundamental concepts as bases for a strategy, a project is presently being prepared to be presented by PAHO to UNDP:

UNDP PROJECT

The project presented by PAHO and initially approved by UNDP can be clearly characterized through its objectives, which are the following:

"General Objective

This Regional Project, during the period 1981-1984, will make a crucial contribution to the rationalization of documentation and information systems in the health sector, will strengthen, at all levels, institutions dealing with conventional and non-conventional bibliographic materials, and will promote in the context of TCDC the establishment of a regional information system appropriate to this decade's major priority of "giving health to all by the year 2000".

Immediate Objectives

1. To improve, at country and institutional level, existing collections through application of clearly defined criteria of selectivity;
2. To promote and develop, at country and intercountry level, the mechanisms for effective resource sharing;
3. To exploit all links established by network countries with referral systems, such as MEDLINE;
4. To strengthen, at country level, the potential of selected institutions by introducing and/or adapting appropriate technology;
5. To promote and support, at the level of services' institutions, development of the infrastructure necessary for the establishment of documentation centers;
6. To assist, at the level of the Ministries of Health and selected collaborating Centers, in identifying sources of unpublished information, and in developing systems for collection, storage and retrieval of this information;
7. To strengthen, at the regional or subregional level, back-up services of libraries, including referral capacity, information delivery, and ability to provide coordination for the whole network;
8. To promote and support an extensive training program for personnel in this field;
9. To develop research in bibliometrics data analysis and information science, seeking new and innovative ways to deliver bibliographic materials to the greatest possible proportion of the health sciences and services institutions;
10. To consolidate permanent mechanisms for the perpetuation of this documentation and information system."

The final draft of the project is almost ready to be presented UNDP, by means of a joint effort of PAHO's Human Resource and Research Divi. BIREME and the Rockefeller Foundation's specialists, assigned to this project. It should be emphasized that great part of the funding effort, represented by the preparation of this project, is precisely supported by this Foundation. The "modus operandi" of the project tends to promote the activities to strengthen the development of national health information networks, as part of the Latin American Network: coordination of institutions, union catalogs, bibliometric studies, selectivity, generation and dissemination of information to satisfy national priorities, development and application of appropriate technology, development of human resources and incorporation of the know-how which favors a self-development, just to mention some of its most relevant aspects.

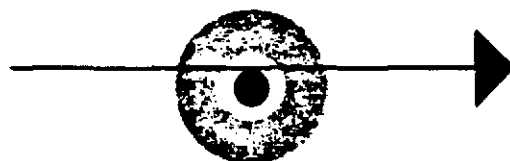
In the final preparation of the Project, besides the studies and experiences of BIREME, the opinion of outstanding Latin American specialists on the subject will be sought to turn the project into a real expression of the needs of the Region. Several activities, such as seminars, working group meetings, visits to countries, inquiries to professionals of different health areas, have been programmed, to enrich to the maximum the project which is being prepared.

Consequently, Latin America will have a sound, realistic and modern information program to face health needs of our populations, in order to achieve the so aspired objective of "Health for All by the Year 2000".

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July 81

Quarterly Bibliography of Major Tropical Diseases

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in Tropical Diseases**

TRYPANOSOMIASIS

FAMILIAL & GENETIC

Biological and cultural determinants of immunoglobulin levels in a Brazilian population with Chagas' disease. Barbosa CA, et al. *Hum Genet* 1981;59(2):161-3

IMMUNOLOGY

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 - † Enhanced resistance to acute infection with *Trypanosoma cruzi* in mice treated with an interferon inducer. James SL, et al. *Infect Immun* 1982 Feb;35(2):588-93
 - † Genetics of murine resistance to *Trypanosoma cruzi*. Trischmann TM, et al. *Infect Immun* 1982 Feb;35(2):546-51
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Infeccion con *Trypanosoma cruzi* en ratones congenitamente atimicos. Segura EL, et al.
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Trans R Soc Trop Med Hyg 1981;75(3):409-14

† indicates an abstract appears with the citation in the author section.

AUTHOR SECTION

cell was variable, showing that the increase of K-DNA and N-DNA was not synchronized at least in the two species of trypanosomes used here. 6. The fact that K-DNA and N-DNA values varied from cell to cell although they do not divide, suggested the possibility of DNA increase in the trypomastigote of *T. cruzi*.

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The tegumental changes of *Schistosoma japonicum* cercaria were initiated when introduced into NCTC 109 containing antibiotics for axenizing. In some regions the tegument was covered with a penta- or heptalaminate membrane, and the surface coat changed into an electron-dense, amorphous material. Large vacuoles limited by a multilaminar membrane were evident in the tegumental cytoplasm, and some appeared to join or open to the tegument. After 4 h incubation in NCTC 109 containing 30% fresh rabbit serum, the outer tegumental membrane of schistosomulum became heptalaminate. The amorphous material was still present on the surface of the tegument. Within 72 h the tegument was covered with a heptalaminate membrane over a greater part of the body, and the amorphous material was very reduced. Large vacuoles in the tegument disappeared and tegumental folds developed in some regions. No amorphous material existed on the surface of 10-day schistosomulum and the outer membrane of the tegument was heptalaminate in almost all regions of the body.

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Trans R Soc Trop Med Hyg 1981;75(4):542-8

The ELISA was used to measure circulating antigen and antibody in four baboons of which three were treated. The circulating antigen appeared earlier after infection than the antibody which eventually, however, reached a higher level. Both antigen and antibody levels increased slightly after treatment and thereafter declined to reach background levels eight weeks later. It is concluded that the ELISA has a potentially useful role in detecting both antigen and circulating antigen and that it may be successfully used in evaluating the efficacy of schistosomicides.

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Izrael Y see Orrego H

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The structure of micronemata arising from the surface of the bloodstream form of *Trypanosoma gambiense* was studied by electron microscopy. In order to produce micronemata, trypanosomes were incubated in either 1) phosphate buffered saline supplemented with glucose (PBSG), 2) immune mouse serum or 3) PBSG after passage through a DEAE-cellulose column. Electron microscopic examination of the parasite revealed the presence of thread-like micronemata arising from the anterior end and from the flagellar pocket regardless of the incubation conditions. Negative staining revealed a distinct peripheral fringe layer with nodular protrusions covering the entire surface of the micronema. The distribution and number of intramembrane particles (IMP) on the P and E faces of the micronema were similar to those of the flagellum of *T. gambiense*, indicating a close relationship between the membrane structure of the micronema and the flagellum. Micronemata became fragmented and adhered to each other after incubation of the parasite in the media for 12 h. Since micronemata tend to have the characteristics of adhesiveness and fragmentation, fragments of these structures might adhere to various host organs. Dispersal of potential antigenic material might be responsible, in part, for the induction of the host immune response.

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J

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For an exploration of the effects of interferon-inducible resistance mechanisms in acute American trypanosomiasis, the synthetic interferon inducer tilerone hydrochloride was administered to mice of the C57BL/6J strain, which is highly resistant to *Trypanosoma cruzi*, 18 to 24 h before infection with a potentially lethal dose of bloodstream trypomastigotes. Although all of the control mice died within 30 days of the acute infection, approximately 50% of the tilerone-treated animals were able to survive indefinitely (P less than 0.05). The tilerone-treated mice demonstrated significant levels of serum interferon and splenic natural killer cells at the time of infection. Macrophages isolated from the peritoneal cavities of tilerone-treated C57BL/6J mice appeared to kill significant numbers of trypanosomes during 2 to 3 days of in vitro culture, indicating that activated macrophages may contribute to the enhanced resistance to *T. cruzi* infection in these mice. Beige mice treated with tilerone did not survive *T. cruzi* infection as well as tilerone-treated heterozygotes did, suggesting a role for natural killer cells in interferon-induced resistance. These results suggest that interferon or effector mechanisms enhanced by interferon induction can play a significant role in influencing resistance to *T. cruzi* infection.

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The cell walls of 24 coryneform non-acid-fast, Gram-positive organisms isolated from human leprosy lesion, were hydrolyzed and analysed. Four known chemical markers of different high polymer components of the walls of microorganisms of the CMN (*Corynebacterium*, *Mycobacterium*, *Nocardia*) group were detected in whole cells and cell wall hydrolysates of the coryneform bacteria analyzed. These markers were: meso-diaminopimelic acid (peptidoglycan), arabinose and galactose (arabinogalactan), and mycolic acids. In addition, mycolic acids proved to be of the corynomycotic type, as shown by thin layer chromatography analysis. The conclusion was drawn that these coryneform strains independently isolated from patients of different countries, represent a homogeneous group within the genus *Corynebacterium*. This inference is supported by a parallel work showing that the guanine-plus-cytosine content of the DNA of these coryneform strains falls within the range of values characteristic of true corynebacteria pathogenic for animals.

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Johnson JL see Elstager EF

Johnson SJ, Parker RJ, Norton JH, Jaques PA, Grimshaw



newsletter

special programme for research and training in tropical diseases

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To: Office of the Director
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DEADLINES FOR RECEIPT OF RESEARCH PROPOSALS

Research proposals submitted to the Special Programme for Research and Training in Tropical Diseases are reviewed by the Steering Committees of the various Scientific Working Groups. To guarantee review at a given meeting, a proposal must arrive in Geneva two calendar months before the date of the Steering Committee meeting. Proposals received later than this may be reviewed at the subsequent meeting of the Committee.

In preparing a research proposal it is important to keep in mind that the Special Programme is one of goal-oriented research. The reports of the relevant SWG should therefore be studied before submission of a proposal, to be certain that the proposed research fits into the plans of the Group.

<u>Steering Committee Meeting</u>	<u>Dates</u>
Chemotherapy of Malaria (CHEMAL)	4-6 Jun 82 25-27 Oct 82
Immunology of Malaria (IMMAL)	27-29 Oct 82 Mar 83*
Applied Field Research in Malaria (FIELDMAL)	1-3 Nov 82*
Schistosomiasis	17-18 Jun 82 Feb 83*
Filariasis	27-29 Oct 82 Apr 83*
Chemotherapy of African Trypanosomiasis (CHEMAF)	4-8 Oct 82 Mar 83*
Immunology of African Trypanosomiasis (IMMAF)	4-8 Oct 82 Mar 83*
Epidemiology & Vector Biology and Control of African Trypanosomiasis (EPIAF)	29 Sep-1 Oct 82 Mar 83*
Epidemiology & Vector Biology and Control of Chagas' Disease (EPICHA)	7-9 Jul 82 4-16 Jul 83*
Chemotherapy & Parasitology of Chagas' Disease (CHEMCHA)	12-16 Jul 82 4-16 Jul 83*
Immunology of Chagas' Disease (IMMCHA)	12-16 Jul 82 4-16 Jul 83*
Epidemiology of Leishmaniasis (EPILEISH)	30 Aug-2 Sep 82 Aug 83*
Immunology & Biochemistry of Leishmaniasis (IMMLEISH)	14-17 Sep 82 Aug 83*

Steering CommitteeMeeting

Chemotherapy of Leishmaniasis (CHEMLEISH)	14-17 Sep 82 Aug 83*
Immunology of Leprosy (IMMLEP)	11-12 Jun 82 8-9 Oct 82
Chemotherapy of Leprosy (THELEP)	4-5 Oct 82 Mar 83*
Biomedical Sciences (BIOS)	18-19 Jun 82 12-14 Nov 82
Biological Control of Vectors (VEC)	20-24 Sept 82
Epidemiology (EPI)	5-12 Sep 82 16-18 Mar 83*
Social & Economic Research (SER)	26-29 Oct 82* 18-20 Apr 83*

Research Capability Strengthening:

Applications for institutional support are considered once a year and should be received by the Secretariat not later than 15 June of each year.

Research Strengthening Group (RSG) Sept 83*	30 Aug-3 Sep 82
Executive-Sub Group (ESG) Aug 83*	26-27 Aug 82

JCB MEETS, APPROVES BUDGET FOR 1982-1983

Representatives of 23 governments and the Rockefeller Foundation - the elected members of the Joint Coordinating Board (JCB) - and the three co-sponsoring agencies of the Special Programme which make up the JCB (UNDP/World Bank/WHO) held their fourth meeting in Geneva on 9 and 10 December 1981. As the Programme's top administrative body, the Board reviewed and assessed the Special Programme's scientific progress, plans, management and financing.

Addressing the opening session of the Board, Dr H. Mahler, Director-General of the World Health Organization, said that, although the final proof of the Special Programme's success would be in its scientific and technical products and their application through national health care systems, nevertheless, after only five years, there was considerable technical and managerial evidence that TDR was working well. Up to 30 November 1981, the Programme had supported 1 300 projects in 81 Member States and over 2 000 scientists and administrators from 118 Member States were participating in TDR's planning, execution and evaluation. The Special Programme had disbursed over US\$ 65 million for direct support of research and training to national

institutes and the percentage of this support going to tropical developing countries had risen from 29% in 1977 to 62% in 1981.

He noted that the Programme had already achieved tangible scientific results. The biological vector control agent Bacillus thuringiensis serotype H-14 and a possible leprosy vaccine were in advanced stages of development. New developments in biomedical science such as hybridoma technology and genetic engineering techniques were being effectively exploited especially in relation to the development of vaccines, including vaccines against malaria.

He pointed out the interest of a growing number of governments and other organizations in the Special Programme as further evidence of the Programme's progress. In 1975 six governments, including one developing country, one other organization and WHO had contributed US\$ 1.4 million to the Programme. In 1981, 20 governments, including six developing countries, four organizations, the United Nations Development Programme, the World Bank and the World Health Organization had contributed nearly US\$ 24.5 million to the Programme. Interest in the Joint Coordinating Board was intense. Thirteen governments and one organization had applied for the five places on the JCB which would become vacant on 1 January 1982, while 23 governments and 14 organizations had been granted observer status at meetings of the Board.

In its consideration of Programme policies, the Board deliberated extensively upon the later stages of development and field trials of new tools for disease control and the need for mechanisms for the effective incorporation of such tools into national health services.

The Board recommended increased emphasis on field research at the national level, but recognized that there were inherent difficulties in the development and support of an effective field research capability which were not unique to the Special Programme. The Board stressed that the Programme should encourage the efforts of national authorities and international organizations and agencies in this area.

The importance of the Programme's activities in strengthening the research capabilities of affected countries was underlined and the Board recommended that these activities be closely linked with the Programme's research and development activities. Such collaboration should involve particularly activities in epidemiology, field research and social and economic research. In addition, these SWGs were encouraged to collaborate closely amongst themselves.

The Board expressed great concern about the growing problem of drug-resistant malaria, and urged the Special Programme to continue to place high priority on the development of new tools for malaria control.

The JCB also requested the Special Programme, in conjunction with WHO, to develop policies and procedures for effective collaboration with the pharmaceutical industry.

The Board approved a maximum programme budget of US\$ 61.643 million for the 1982-1983 biennium. Having formally endorsed the membership and terms of office of the members of the Scientific and Technical Advisory Committee (STAC) as of 1 January 1982, the Board requested that the Special Programme and STAC focus Programme activities clearly and precisely and maintain an appropriate balance between short- medium- and long-term objectives.

Copies of the full report, including a list of participants, (Document

TDR/JCB(4)81.3) are available on request from the Office of the Director of the Special Programme.

MALARIA

WORKSHOP TACKLES PROBLEMS OF DRUG-RESISTANT MALARIA

We now face a new anxiety....the emergence of the drug-resistant malarial parasite.... The malarial parasite does not recognize political or geographical boundaries. With the rapid development of this whole region, and the increasing mobility of our total population, we have to widen our horizons We cannot afford the wastage of human energy [caused by] this debilitating disease - especially when it affects our rural people whose social and economic betterment is of priority concern to us all.

- Mr Y.B. Tan Sri Chong Hon Nyan,
Minister of Health for Malaysia,
in his opening address to the
Interregional Workshop on Drug-
resistant Malaria, 10 August 1981

The alarming growth of drug-resistant Plasmodium falciparum in South East Asia and the Western Pacific necessitates accelerated research both in the laboratory and in the field, to develop methods for re-establishing effective malaria control in affected areas. Therefore, a Workshop on Drug-resistant Malaria was organized jointly by the WHO Regional Offices for South East Asia and the Western Pacific, and the SWGs on the Chemotherapy of Malaria (CHEMAL) and Applied Field Research in Malaria (FIELDMAL), in Malaysia, August 1981.

The Workshop was attended by health administrators, malariologists and scientists from Australia, Bangladesh, Burma, India, Indonesia, Malaysia, Nepal, Papua New Guinea, Lao People's Democratic Republic, People's Republic of China, The Philippines, Singapore, Socialist Republic of Viet Nam, Solomon Islands, Sri Lanka and Thailand. The immediate problems of drug-resistant malaria in these countries were reviewed, as well as questions concerning the monitoring and containment of drug resistance and relevant laboratory-based and field-research activities.

Recently, chloroquine resistance to P. falciparum has been found as far eastward in the Pacific as Vanuatu (formerly the New Hebrides). From its strongholds in eastern Asia, this problem has spread inexorably westward to central India. In previously affected areas, both the frequency and degree of chloroquine resistance have increased. In hard-core areas of chloroquine resistance such as Thailand, up to 90% of all falciparum malaria cases fail to respond to chloroquine with a radical cure and an increasing number fail to benefit, even temporarily, from treatment with this drug.

Alternative medicaments such as combinations of long-acting sulfonamides and pyrimethamine have been widely used in areas with chloroquine-resistant malaria, but there is now rapidly increasing resistance also to these drug combinations. In some areas of Thailand, where the majority of falciparum malaria cases is resistant to both chloroquine and sulfonamide/pyrimethamine

combinations, as a last resort, quinine is administered, followed by or combined with tetracycline. Both these drugs need to be given over long periods of time and even their efficacy is not complete. The treatment of pregnant mothers and cases in rural areas poses special problems.

Since protection against drug-resistant malaria through the prophylactic use of drugs is no longer possible in many areas of eastern Asia, the Workshop emphasized that containment can only be effected through reinforced control measures especially those directed against the vector. These should be complemented by the rational therapeutic use of drugs. As the required scale of reinforced control measures is beyond the national resources of most of the affected countries, participants urged that additional resources, such as international and bilateral assistance, be sought.

The Workshop agreed that the situation also called for strengthening and intensifying research. The widest possible application of both in vivo and in vitro techniques are required to further develop the base-line assessment and monitoring of drug sensitivity. The applicability of in vivo tests to drugs other than 4-aminoquinolines must be broadened; and test procedures must be simplified. Although in vitro test systems for sulfonamides, sulfones and pyrimethamine exist on an experimental basis, they need to be adapted to field use, and their correlation with in vivo test results assessed. In addition, simple methods are required for the measurement of the serum or plasma levels of drugs, in order to be able to differentiate between true drug resistance of the parasite and effects of abnormal drug metabolism or elimination. Simple urine tests for all antimalarial drugs are also needed.

The development of new antimalarial drugs is vital. The clinical trials of mefloquine have made good progress, but these activities must be accelerated given the urgent need to make this drug available for operational use. In addition, fast-acting drugs for the treatment of hyper-acute and complicated cases of falciparum malaria are needed; it is in this respect that the development of Qinghaosu should be considered. Although both mefloquine and Qinghaosu may relieve short-term problems, the search for and the development of other new antimalarial compounds should be energetically pursued. Basic chemotherapeutic research should also address the genetics and the mechanisms of drug resistance to find practical ways to delay its occurrence.

As part of the development of operational procedures to contain drug-resistant falciparum malaria, applied field research is needed to assess the impact of primaquine, as a sporontocidal drug, on the intensity of malaria transmission, and to optimize primaquine dosage and regimen. The incidence of blackwater fever should be evaluated in areas where quinine is being increasingly used. Other special studies should include the dynamics of resistance in areas where the malarial parasite is no longer exposed to the drug to which it is resistant.

More trained personnel are required for research in eastern Asia where there is a particularly marked shortage of field research workers. It is hoped that this problem will be overcome through the efforts of the recently established Interregional Secretariat for Training (Malaria) in Kuala Lumpur. This Secretariat is expected to stimulate the development of national training centres. Workshops and seminars are planned to facilitate information exchange, research and operational planning, and technological training.

Finally, the meeting stressed that new drugs must be used in such a way as to avoid the development of resistance. This requires that national governments enact strict measures of drug control and give clear guidelines to their national health authorities and their health professionals.

The full report of the Workshop's Proceedings is now in the process of being published.

FILARIASIS

LYMPHATIC FILARIASIS CONTROL REVIEWED

The sixth meeting of the SWG on Filariasis, held in Colombo, October 1981, considered problems related to the diagnosis of infection and the evaluation of control of lymphatic filariasis and identified lines of research necessary for their solution. Attending the meeting were clinicians, biologists, biochemists, immunologists and field research workers.

The participants summarized the available information on clinical, parasitological, entomological, epidemiological and immunological methods of assessing filarial infection and how these methods were being used to evaluate the results of filariasis control programmes. Currently such programmes rely primarily on analysis of four parameters - microfilarial rate, microfilarial density, clinical assessment and entomological assessment. Each of these parameters was considered in detail. Guidelines were set for the best ways of collecting and interpreting data and for establishing how often control programmes should be evaluated.

The Group noted specific problems including the lack of mathematical models to aid in formulating and evaluating strategies for control programmes; the lack of standardized methods for collecting epidemiological information; the difficulties inherent in carrying out and evaluating control programmes in diverse social and political settings; inadequate knowledge of potential reservoir hosts of the parasites; the difficulty or inability to distinguish the human pathogens from other filariae in the intermediate vectors; and the inaccuracies inherent in current methods for detecting infection in individual patients, especially those in whom microfilariae cannot be found.

Resolution of many of these latter problems, it was agreed, would be considerably aided by the development of accurate and specific immunodiagnostic tools, especially those focussed on the detection of parasite antigen in the host. Recent advances in the ability to produce large amounts of highly specific reagents, using hybridoma technology, and in methods to detect extremely low levels of antigenic material made it appear likely that sensitive assays might soon be developed for the specific detection of filarial antigen. While the value of such antigen detection systems was recognized, it was equally clear that work on developing better clinical and parasitological diagnostic measures should also be pursued. Such work would comprise immunodiagnostic tests based on antibody detection methods (including skin tests) as well as other types of tests.

The group felt that, in endemic areas of filariasis, efforts should be made to identify and support clinicians to characterize filarial patients, clinically and parasitologically, and to collect and preserve sera for immunological studies.

Copies of the full report (Document TDR/FIL/SWG(6)81.3) are available on request from the Office of the Director of the Special Programme.

LEPROSY

THE TESTING OF PURIFIED ARMADILLO-DERIVED *M. leprae* IN MAN

The development of an effective vaccine against leprosy is the major goal of the Scientific Working Group on Immunology of Leprosy (IMMLEP). Progress has been made in the separation of the bacilli from armadillo-infected tissue and in the testing of the purified preparation for immunogenicity in animal experiments. This preparation can be standardized and is likely to be safe in man. IMMLEP's plans require that, in the near future, preliminary small-scale studies of purified killed *M. leprae* in man be undertaken. In order to facilitate these studies, the IMMLEP Steering Committee has prepared a detailed document (The Testing of Purified Armadillo-derived *M. leprae* in Man).

This document, in its outline of anticipated experiments for the testing of the purified bacilli in man, deals with the following subjects:

- the purity and safety of armadillo-derived purified *M. leprae*;
- methods for standardization of *M. leprae* suspensions;
- experience with killed purified *M. leprae* in man;
- ethical aspects of testing purified *M. leprae* in man; and
- where the testing of purified *M. leprae* in man fits into the strategic plan of the IMMLEP programme.

The document summarizes the present knowledge on the purified bacilli's biological activity, composition, and contamination. It also includes information on relevant studies, done outside the IMMLEP programme, which suggest that such a preparation is likely to be both safe and immunologically effective.

IMMLEP expects this document to serve as a guideline for research proposals on the use of purified *M. leprae* for trials in man.

Copies of the document (TDR/IMMLEP/SC-TEST/81.1) are available on request from the Office of the Director of the Special Programme.

THELEP REVIEWS PROGRESS OF FIELD TRIALS

The third meeting of the Scientific Working Group on the Chemotherapy of Leprosy (THELEP) October 1980 convened to consider progress in field studies (largely surveys of the prevalence of dapsone resistance), controlled clinical trials, laboratory studies on chemotherapy and studies in drug development.

Following the meeting's recommendation, THELEP is now conducting field trials of combined drug regimens designed to prevent drug resistance. The SWG decided to promote the establishment of mouse foot pad laboratories around the world and to encourage them to monitor primary resistance within leprosy control programmes. However, the Group agreed that THELEP's formal surveys of the prevalence of secondary dapsone resistance should be discontinued, having already demonstrated the widespread nature of this problem.

The SWG felt that it was important to prevent the emergence of strains of M. leprae resistant to rifampicin and the thioamides as well as to dapsone. Therefore, every newly-discovered patient with multibacillary leprosy should be treated with combined chemotherapy, and additional drugs should be employed in the case of those patients already receiving dapsone as monotherapy.

The SWG also recommended that efforts be continued to examine existing drugs, in terms of their potency, selectivity, supervisability and cost. Furthermore, THELEP should press forward in its attempts to develop screening systems other than that of the mouse foot pad. M. lufu has proved very useful as a model of M. leprae for studies of drugs acting on folate-synthesizing enzymes. This suggests that it would be beneficial to develop other model organisms to be employed similarly in studies of different classes of drugs.

The Group agreed that it was now urgent to develop a protocol for chemotherapy trials of non-lepromatous leprosy.

Copies of the full report (Document TDR/THELEP-SWG(3)80.3) are available on request from the Office of the Director of the Special Programme.

VECTOR BIOLOGY

PROPOSALS SOUGHT FOR EVALUATION OF INSECTICIDES

The Steering Committee of the Scientific Working Group on the Biological Control of Vectors of the UNDP/WORLD BANK/WHO Special Programme for Research and Training in Tropical Diseases informs readers that research on the biological control of vectors, supported by the Special Programme, has reached the stage at which certain agents, in particular some entomopathogenic spore-forming bacteria, could be put into operational use in the near future. Links have, therefore, been established with industry and several UN agencies to ensure a smooth transfer of research information that will strengthen the vector control component of primary health care in tropical countries.

In the Onchocerciasis Control Programme in Ivory Coast (West Africa), Bacillus thuringiensis serotype H-14 (B.t. H-14) is currently being used operationally in areas where one species of the Simulium damnosum complex, vectors of onchocerciasis, has developed resistance to temephos (Abate)^R and chlorphoxim. A formulation of B.t. H-14 is successfully applied weekly at a dosage rate of 1.5 mg/l for 10 minutes during the dry season (December-May). Aerial application of the same formulation during the rainy season when the river discharges are high (100 m³/Sec) will be extremely difficult.

Further research is needed on this larvicide, particularly on its formulation, which would enable the use of B.t. H-14 throughout the year.

The Special Programme will be interested in collaborating with laboratories and institutions which have the capability and are willing to evaluate various formulations of microbial insecticides against vectors of malaria and filariasis, particularly in tropical countries.

Proposals for projects are invited. There are two deadlines for receipt of proposals: 1 January and 1 July each year. Proposal forms are available on request from the Office of the Director, UNDP/WORLD BANK/WHO Special Programme for Research and Training in Tropical Diseases, World Health Organization, 1211 Geneva 27, Switzerland.

NEW PUBLICATIONS

Inventory of Applied Field Research in Malaria

1975-1980

This inventory provides a summary of the information available on the results of malaria field research activities carried out during the five-year period from 1976 to 1980.

The purpose of the book is to take stock of the knowledge and experience acquired in this area and to disseminate it. In this way its application in malaria control programmes can be promoted and duplication of efforts avoided. The book opens the way for research initiatives in unexplored or insufficiently-explored areas.

Although applied field research is the central element of this inventory, selected aspects of related basic and laboratory-based applied research, which could suggest prospects for field application, are also included.

Properties of the Monoclonal Antibodies Produced by Hybridoma Technology and their Application to the Study of Diseases

This new book on monoclonal antibodies contains the proceedings of a Symposium held at the National University of Singapore, 19-23 October 1981. Attended by 67 participants from 27 countries, the Symposium was jointly sponsored by the Special Programme Scientific Working Group on Biomedical Sciences and three Regional Offices of the World Health Organization (Eastern Mediterranean, South-East Asia and Western Pacific). Up-to-date information was exchanged on:

- the theoretical aspects of hybridoma technology;
- methods of production of monoclonal antibodies, their identification and characterization; and
- their practical application in immunodiagnosis for purification of antigens and other immunological studies.

Applications to protozoan and metazoan parasites, bacteria and tumours were reviewed.

Both of these publications are now available to interested scientists on request to the Office of the Director of the Special Programme.

THELEP SEEKS TRIAL SITES

At its meeting in Geneva, 30-31 March 1982, the Chemotherapy of Leprosy (THELEP) Steering Committee completed preparation of a standard protocol for the conduct of field trials of chemotherapy among patients with non-lepromatous leprosy. If you would like to have a copy of the protocol and to have your centre considered as a possible site for a THELEP-sponsored field trial, please provide the information requested below and mail to:

UNDP/WORLD BANK/WHO Special Programme for
Research and Training in Tropical Diseases
Attention: Secretary, THELEP Steering Committee
World Health Organization
CH 1211 Geneva 27, SWITZERLAND

1. Name of Centre: _____
2. Agency Responsible for the Centre: _____
(e.g. government, university, private foundation)
3. Name and Position of Respondent: _____

4. Estimated population of area in which
the Centre has its leprosy control programme: _____
 - 4.1 Estimated prevalence of leprosy per 1000 population: _____
 - 4.2 Estimated proportion of non-lepromatous cases
among all cases seen in the last 12 months: _____
 - 4.3 Estimated number of new non-lepromatous
cases seen in the last 12 months: _____
 - 4.4 Estimated proportion of 4.3 who were
found by active case-detection methods: _____
5. Number of full-time staff which the Centre has in each of the following
categories:
Physicians: _____ Field Workers: _____ Laboratory Personnel: _____
6. Average interval between scheduled visits of
individual patients to the clinics: _____
7. Proportion of patients who report regularly as requested: _____
8. In what year was sulfone therapy introduced in the Control area? _____
9. Have other antimicrobial drugs (e.g., clofazimine) been used? _____
10. Are non-lepromatous patients being released from control? _____
If so, what are the conditions for release? _____

(Signature of Respondent)

(Name of Institution)

(Address)

(City and Country)



WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTE

ACMR24/82.14 Report

ANNEX 2

ACMR24/82.8

ORIGINAL: ENGLISH

RESTRICTED

ADVISORY COMMITTEE ON MEDICAL RESEARCH

Twenty-fourth Session

Geneva, 4-7 October 1982

Agenda item 7.2

ACTIVITIES OF THE ACMR SUBCOMMITTEES

ACMR SUBCOMMITTEE ON RESEARCH ADMINISTRATION

Final Report

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REPORT OF THE GLOBAL ACMR SUBCOMMITTEE
ON
RESEARCH ADMINISTRATION

1. INTRODUCTION

The 21st meeting of the Global ACMR which considered the role of the management process in Research recommended the establishment of the Subcommittee. The ACMR noted that effective management was of particular importance in the setting of research priorities, the monitoring and evaluation of research activities and in the application of the results of research.

The members of the Subcommittee are listed in Annex 1.

1.1 Terms of reference of the Sub-Committee

(i) Objective

To recommend to the ACMR, administrative mechanisms and procedures to maximize the efficiency and effectiveness of WHO's Programme of Research.

(ii) Activities

(a) To examine the mechanisms and procedures for research administration, including the setting of priorities, planning and evaluation, which exist in national research councils and academies, international agencies, non-governmental organizations, foundations and industry and analyze these in respect to the research administration needs of WHO.

(b) To examine the evolution and current status of research and its administration in WHO, including research policy, strategy and funding, as well as its unique features such as the use of international experts, collaborating centres and "Special Programmes".

(c) To prepare a report for the ACMR with specific recommendations regarding mechanisms and procedures for the administration of WHO's Programme of Research.

2. METHOD OF WORK

The Subcommittee held three meetings: 20 - 29 September 1980 at the WHO Regional Office for Europe in Copenhagen, 4 - 6 March 1981 at the WHO Regional Office for South East Asia, and 20 - 21 April 1982 at WHO Headquarters, Geneva.

In addition to the members of the Subcommittee these meetings were attended by the Chairman, WHO/HQ Research Development Committee and Regional and HQ staff members from the offices of Research Promotion and Development. During its final meeting the Subcommittee met with Dr T.A. Lambo, Deputy Director-General, WHO, Dr N.G. Gratz, Chairman, Headquarters Research Development Committee and Director, Division of Vector Biology and Control, Dr A. Kessler, Director, Special Programme of Research, Development and Research Training in Human Reproduction (HRP) and Dr A.O. Lucas, Director, Special Programme for Research and Training in Tropical Diseases (TDR).

The Subcommittee reviewed a number of reports and documents relevant to its terms of reference. A list of these is contained in Annex 2.

In addition, the Committee studied the mechanisms for Research Administration, including the setting of priorities, planning and evaluation, of:

- (i) Several national medical research councils including those of Canada, India, Nigeria, Sweden and the Academy of Medical Sciences of the USSR;
- (ii) the WHO Regional Offices and Headquarters; and
- (iii) the WHO Special Programmes for Research and Training.

Following its review of systems of research management the committee decided to annex four to this report and to present an analysis of general principles and trends in research administration. The Subcommittee believed that detailed recommendations regarding mechanisms and procedures for the administration of WHO research, should be drawn up by WHO in light of the discussion of this report by the Global ACMR.

3. CASE STUDIES

The four case studies attached to the Subcommittee report are as follows.

3.1 Medical Research Councils

- (i) The Indian Council of Medical Research (Annex 3)
- (ii) The Swedish Medical Research Council (Annex 4)

3.2 WHO

- (i) Research Administration - South East Asia Regional Office (Annex 5)

The Subcommittee found that a pragmatic and technically sound system for research administration had evolved in SEARO over a short period of time. Regional research priorities had been defined at the outset through intensive discussions at several meetings of the Regional ACMR. Steps had been taken to develop research protocols related to the priority areas, with the fullest involvement of the national scientists in the region. A peer review system had been implemented to review applications for research and research training grants received in the Regional Office. To facilitate the execution of projects at the country level, close links had been established with ministries of health and with national medical research councils. These links are maintained through active involvement of the WHO Programme Coordinators.

The Regional Committee has been kept informed of the research activities through annual reports and the Member States have shown their commitment to research through allocation of 5% of the regional inter-country and country budgets for the support of research. Close coordination has been established with the Special Programmes for Research, other Headquarters technical units and with other regional offices. A detailed description of the SEARO system of research management is contained in Annex 5.

(ii) The UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR) (Annex 6)

The Subcommittee decided that the organization and management of TDR illustrated a large number of the characteristics of the new research programmes which had evolved at WHO since 1970. The Subcommittee expressed particular interest in the TDR Management Information System (MISTR) and the possible application of this or similar systems to other WHO research programmes or activities [see 4.1(i)].

4. PRINCIPLES AND TRENDS OF RESEARCH ADMINISTRATION

4.1 Introduction

From their analyses of the various research management systems and in considering the unique features and potential of WHO-sponsored research, the committee chose eight principles upon which a system of management of research at WHO could be built. These principles are:

- Management Information
- Priorities
- Review and Evaluation
- Accountability
- Strengthening of Research and Training Capabilities
- Linkages and "Bridges"
- Consistency and Coherence
- Stimulation and Coordination.

Application of these principles would meet the needs for coherence, priorities, quality and accountability within WHO Research Programmes. The principles are outlined below.

(i) Management Information

Adequate and accurate information is the basis of all effective systems of research management. An information system must include data on individual research activities, the institutions and principal investigators carrying out the activities, the research programmes within which activities are located, the linkages to other research activities and other research programmes and the financial support provided. In addition, such a system must provide a flexible analytic capability to provide WHO programme managers and Member States with the information they require for decision making. The Management Information System (MISTR) in the Special Programme for Research and Training in Tropical Diseases meets many of the requirements of a research management information system. However, a WHO system should contain all of WHO's research activities including those located in technical programmes. The system should provide even greater flexibility than the MISTR system in its analytic possibilities. It would also be an advantage if such a system were developed for a "micro" or "mini" computer configuration. This would make the system more easily transferrable to the regional and national levels.

(ii) Priorities

In view of the limited resources available to WHO for financing research, it is imperative that they be applied to fund research on health problems of highest priority.

Priorities for research within WHO should represent an amalgam of those identified at national and regional levels and should be closely linked to the needs of the various technical programmes and the Organization's medium and

longer-term plans for health development, especially the attainment of the goal of Health for All by the Year 2000.

The setting of research priorities within WHO has evolved and gained strength through the advisory mechanisms of the global and regional ACMR(s). However, effective mechanisms for setting national priorities for research do not exist in the majority of Member States. The Organization should take steps to promote the establishment of national mechanism for setting research priorities and the development and implementing of projects related to these priorities.

(iii) Review and Evaluation

Objective and critical review and evaluation is of paramount importance in the management of any programme of research. This process involves all levels of research from individual projects to entire programmes and can best be carried out by "Peers" acting individually or in groups. Review and evaluation should result in formal recommendations to the appropriate level of programme management. The Special Programme of Research, Development and Research Training in Human Reproduction and TDR are two research programmes in WHO with systems of review and evaluation extending from the project to the Programme level. Such systems of review and evaluation should be an integral part of all WHO research activities.

(iv) Accountability

The vast majority of the world's health research programmes use public funds. This is of particular relevance to WHO where funds for research are derived from either the regular budget or voluntary contributions. Therefore the Organization and its Research Programme have a prime responsibility to report upon and justify the investment of funds and other resources. Research Programmes and individual projects must have clearly defined goals which are relevant to the objectives of the Organization. In addition, the relevance and priority of research activities must be kept under constant review and resource allocation adjusted accordingly.

It is conceivable that research activities and/or Programmes would have to be phased out because of decrease in priority and/or too high costs, in spite of adequate scientific progress. The Programmes must present to their governing bodies clear and precise reports on progress towards the goals and the costs involved over specific periods of time.

(v) Strengthening of Research and Training Capabilities

Research supported by WHO should, whenever possible, contain an institution strengthening element. This includes the training of young scientists in research methods within their own environments. Efforts also should be made to provide for research activities to continue with the support of national funds, after WHO support has been phased out. Only in this way will a long-term impact of the WHO coordinated research strengthening be possible.

The Subcommittee took note of the mechanisms/approaches being employed by various WHO programmes for institution strengthening and training and believes that clear policies for these should be adopted to ensure that the institution strengthening and research training needs of the developing countries are met in a consistent manner. Such policies should predicate support of sufficient magnitude and duration to create a viable research team.

(vi) Linkages, "Bridges" and Networks

For research to be productive and to assure the application of research results, it is important that research be undertaken in response to specific programme needs - e.g. to solve problems encountered at the national level during implementation of health programmes. Research programmes should not operate in isolation, but in close collaboration and linked with the health programmes to which they relate.

Health research is becoming increasingly multidisciplinary and inter-sectoral. Hence there is a need for collaboration with other disciplines such as economics and behavioural sciences and other sectors such as agriculture and education.

Another kind of linkage which is necessary to optimize the investment in research is between institutions and/or individuals working on common problems, through formal or informal systems leading to sharing of both resources and information. Linkages between institutions in the same or adjoining countries also is an important mechanism for institution strengthening, and for providing increased opportunities for research training. Such linkages will help foster the concept of technical cooperation between developing countries.

(vii) Consistency and Coherence

The principles for research management should apply at all organizational levels of WHO, and be consistent with the Organization's policies for health development.

To achieve coherence of WHO sponsored research activities, a close and continuing interaction between the policy organs of the WHO and the scientific community is of paramount importance. At the same time close coordination is required between the Regional and the Global ACMR(s) and national research councils, national academies or analogous bodies. Some mechanisms for this are already established and should be developed further, others remain to be put into effect.

Consistency and coherence in the administration of WHO research activities apart from ensuring rational allocation of scarce resources, will also lead to increased credibility of WHO as a research sponsoring body with the scientific community and with Member States and lead directly and indirectly to increased commitment of resources to research to solve priority health problems.

(viii) Stimulation Catalysis and Coordination

WHO does not have a research establishment of its own. Nor should it have. The national research institutions and the scientists of all its Member States are available to carry out the priority research activities of WHO. The role of WHO is to stimulate national governments and agencies to recognize health problems amenable to research, to work with national governments to establish the mechanisms and infrastructures required to set national research priorities and to implement the research activities. WHO should catalyze, with judicious input of funds and other resources, the planning and execution by national scientists from throughout the world of the Organization's Programme of Research. This Programme should evolve from the research priorities of its member countries.

5. RECOMMENDATIONS

1. A central information system for research management including all WHO research activities should be implemented. This system should provide information to all WHO secretariat (Headquarters, Regional Offices and at the country level) and to Member States.

2. A mechanism for setting priorities for research should be established and applied within WHO and available resources should be allocated according to the priorities established.

3. Mechanism for the review and evaluation of research proposals and progress of ongoing research projects based upon "Peer" review, should be established for all WHO research activities. Research programme reports to governing bodies should indicate precisely their relevance, progress and cost over specific periods of time as well as their expected results.

4. Clear policies and practices to strengthen the research capability in developing countries should be adopted and applied throughout WHO.

Members of the Global ACMR Subcommittee
on Research Administration

Members of the Sub-Committee

Professor V. Ramalingaswami (Chairman), Director General, Indian Council of Medical Research, New Delhi, India

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Dr J. Hashmi, Regional Advisor, Non-communicable Diseases, Eastern Mediterranean Regional Office

Dr R. Wilson, Special Programme for Research and Training in Tropical Diseases, WHO Headquarters, Geneva

THE INDIAN COUNCIL OF MEDICAL RESEARCH*

STRUCTURE OF THE ICMR

The Indian Council of Medical Research (ICMR) is one of the oldest medical and health research organisations, its predecessor - the Indian Research Fund Association - having been established in 1911. It is the Apex body in India for the formulation, coordination and promotion of biomedical research. The ICMR is constituted as an autonomous organisation and is registered as a Society under the Registration of Societies Act XXXI, 1860. The control of the Council is vested in the Governing Body with the Minister of Health of the Government of India as its President and the Health Secretary in Government as its Vice-President. The Governing Body consists of 21 members including three representatives of Indian Parliament (Two from Lok Sabha and one from Rajya Sabha). Directors of ICMR's Research Institutes by rotation, representatives of Medical Faculties of Universities, eminent scientists outside the ICMR and the Directors-General of Health Services, of the Council of Scientific & Industrial Research, of the Armed Forces Medical Services. The Director-General of the ICMR who is the chief executive officer of the Council acts as the Member Secretary of the Governing Body. The Governing Body is assisted in the formulation of the research programme and determination of priorities by a Scientific Advisory Board which is headed by the Director-General of the ICMR and consists of 20 other members all scientists, some from within but many outside the ICMR system. The Board in its turn is assisted by Advisory Committees, Task Forces, Expert Groups, Working Groups, Study Groups etc. on specific subjects. The organisational chart in the appendix gives the structure of the ICMR (Appendix).

FUNCTIONS OF THE ICMR

In discharging its principal function of promoting research in medicine, public health and allied fields, the ICMR establishes research institutes under its own control, provides financial assistance to scientists working in other research institutes and universities, coordinates medical research in the country and disseminates information by convening conferences of research workers and organising seminars, publishing journals, reviews, monographs, memoirs, brochures and manuals for the information and guidance of research workers. ICMR develops research manpower by organising training courses for research workers and providing fellowships and scholarships.

The ICMR discharges its primary function of promoting biomedical research through (a) its permanent research institutes/centres, (b) Centres of Advanced Research and Research Units, (c) national multi-centric coordinated research projects, and (d) ad hoc research schemes spontaneously generated by scientists. A major goal of the ICMR is to strengthen indigenous capabilities and develop a broad-based and balanced cadre of research personnel and facilities to cope with the present and on-coming health problems of India.

* Prepared by Prof V. Ramalingaswami, Director-General, Indian Council of Medical Research, New Delhi.

STRATEGIES ADOPTED BY THE ICMR

1. Attempts are made to bring about a confluence between the research programmes and national health priorities and programmes. Institutional mechanisms have been established to bring about a close interaction between the researchers and the users of the health technologies. In this manner, prompt feed back of operational problems in the health services to the research community is ensured. At the same time, the results of research are fed promptly into the service delivery systems.
2. The ICMR strategy is characterised by active involvement of the scientific community in planning and programming the research strategy. Nearly 1200 scientists have participated in various planning meetings of Task Forces, Advisory Committees, Working Groups, etc. in the last few years in developing the research plan for the Sixth Five Year Plan.
3. A Task Force approach is being adopted by developing time-bound and specific goal oriented research programmes, together with a regular monitoring and evaluation system thus ensuring accountability of research. Peer review is a fundamental feature of the working of the ICMR and this is now being intensified and reinforced by further reviews by Task Forces, Steering Committees, Scientific Working Groups and Research Advisory Committees.
4. Considering the fact that there is great unevenness in the geographic distribution of scientific and research capabilities and also the fact that there are large parts of the country with major health problems which are not serviced by significant regional research facilities, the ICMR has developed the strategy of setting up Regional Medical Research Centres to address to regional priority problems.
5. The concept of networks has been introduced with a view to building on existing talent and opportunities wherever they may be, to coordinate their activities for reaching clearly identified research goals, to improve the quality of laboratory investigations through a central quality control mechanism and in general to upgrade the level of research in as many teaching institutions as possible. A network of 22 Human Reproduction Research Centres has been established in different parts of the country in close association with the medical colleges to carry out clinical research studies on new and emerging contraceptive technologies. These Centres carry out research on identified problems using standardised methodologies and study designs. They act as entering wedges to disseminate the culture of clinical research and clinical trials in teaching institutions.
6. From its inception, the ICMR has paid special attention to the development of research capability by providing training opportunities to research scientists through the award of fellowships. A Talent Search Scheme is in operation to identify and eventually induct into the research cadre promising young medical graduates. They are selected through a competitive examination immediately after graduation and deliberately nurtured for a career in medical research. The Talent Search Scheme represents a major effort of the ICMR to strengthen the endogenous biomedical infrastructure. A revised Supernumerary Cadre structure is being introduced to facilitate the return of talented scientists from abroad and to retain them within India. The Research Sabbatical System of the ICMR facilitates the retention of talented scientists for research within the country.

The ICMR has supported during the past year (1981-82) 612 research projects.

7. The ICMR has taken steps to improve the Research Information System by collecting, analysing and disseminating information of importance. An Integrated Research Information System (IRIS) is being developed to deal with information activities in the ICMR with the help of the WHO.

ICMR'S PERMANENT INSTITUTES

ICMR's permanent institutes are mission oriented having been set up with specific goal-oriented objectives. A Scientific Advisory Committee consisting of leading scientists (mostly external) in the field, reviews the researches each year. Although for administrative reasons each institute is divided into different divisions/sections on the basis of disciplines, in the actual conduct of research, interdisciplinary groups cutting across these divisions are encouraged to facilitate coordinated pursuit of research programmes. Continuous proliferation of staff is being avoided through frequent careful review of existing programmes in order to taper off those which are either not productive or which have been successfully completed and by regrouping of staff thus released for new research. It is ensured that a major portion of the budget of the Institute is spent on actual research programme and overhead expenses and administrative personnel are kept to a minimum. Basic open-ended research is encouraged, both in ICMR's institutions and in others.

PLANNING PROCESS

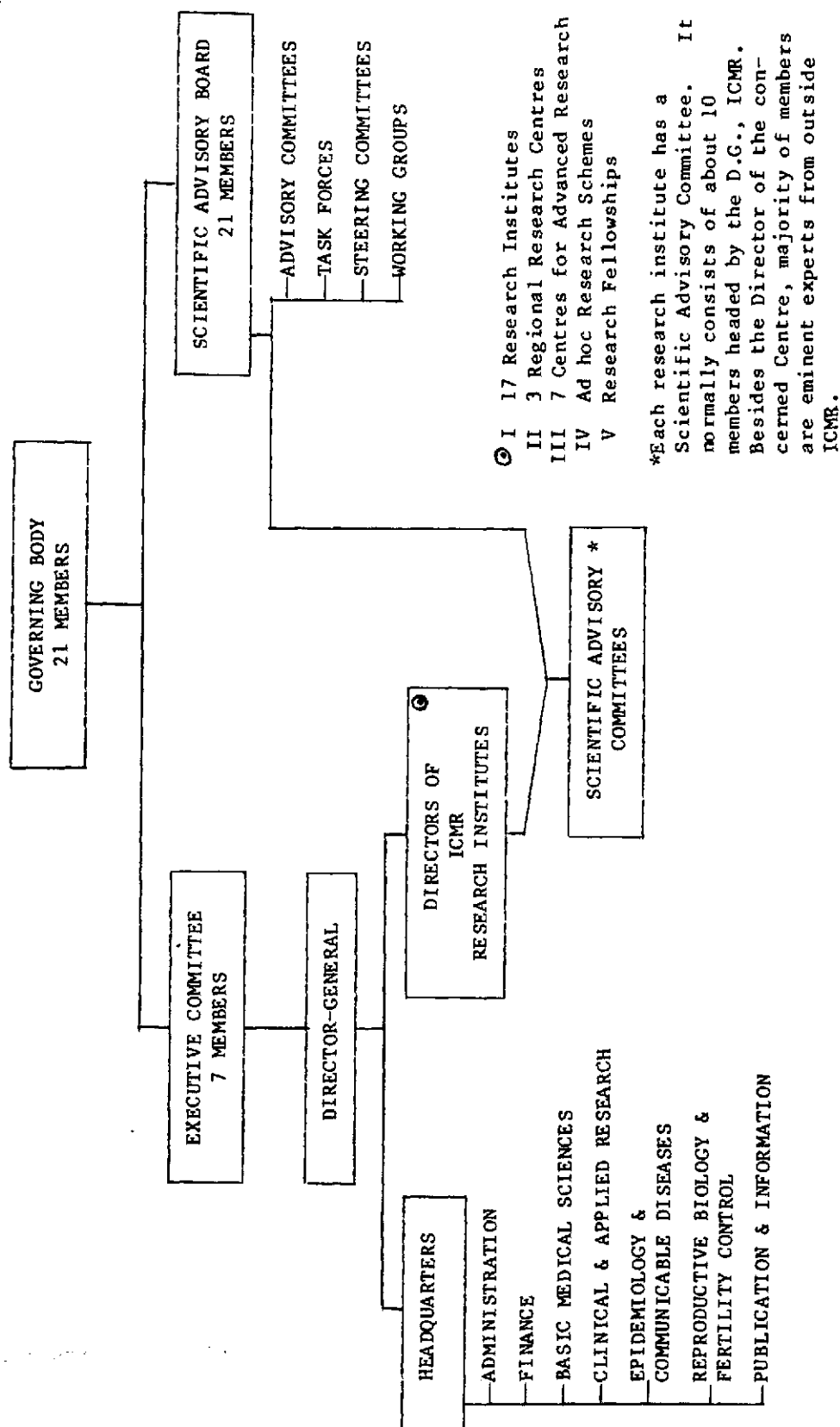
The Research Councils in India including the ICMR make plans on a five yearly basis coinciding with the National Development Plans. These form a part of the Science and Technology plan of the country.

The Council has Advisory Committees, Task Forces, Expert Groups, etc. in disciplinary and interdisciplinary areas which identify the thrust areas for research. All multi-centric projects have internal in-built monitoring system whereby the progress of the project is monitored by the technical and statistical staff of the ICMR Headquarters.

BASIC PHILOSOPHY OF ICMR

The ICMR identifies priorities in the field of medical research in the context of national needs and this is done by scientists working in collaboration with health planners and policy and decision makers in Government. The research programmes are structured to direct the research efforts into fields of practical relevance and importance. The ICMR believes that such orientation need not act to the detriment of fundamental or basic research. Indeed research into many of our pressing national problems will generate a great deal of basic work and is more likely to advance frontiers of knowledge than mere repetitive or imitative research imported with borrowed ideas from outside. A clear appreciation of priorities is necessary if the research strategy is not to end up in an odd mixture of disjointed research proposals. It should reflect a plan based on the needs of the country. The plan itself should be part of the overall national goals of development.

ORGANIZATIONAL STRUCTURE OF ICMR



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Background Documents and Papers

1. "A Plan for the Management of Research in WHO" - Document DGO/78.2, Geneva, August 1978.
2. Analysis of a Plan for the Management of Research in WHO - GPC3/WP/4/Add.2.
3. "Plan for the Management of Research in WHO - Draft Working Procedures" - Document DGO/78.2/Add.2, Geneva, 30 April 1979.
4. "Evolution of WHO's Special Programmes for Research and Training" - Dr T.A. Lambo, Deputy Director-General, World Health Organization.
5. April 1980 issue of WORLD HEALTH.
6. Management of Medical Research at Country Level - The role of National Medical Research Councils - SEA/ACMR/79.1/11/4.
7. Meetings of the Directors of Medical Research Councils or analogous bodies and concerned research foci in the relevant ministries - SEA/RES/25, 20 March 1980.
8. National Health Information Systems - NHIS/80.1/Rev.1.
9. A Goal-Oriented Pharmaceutical Research and Development Organization: an eleven year experience - The Upjohn Company, Kalamazoo, Michigan, 1980.
10. Terms of Reference of Research Development Committee (WHO/HQ) (ACMR/SC.RA/B.1).
11. A Review of WHO's Research Strategy including Management (HPC/212/WP/2) (ACMR/SC.RZ/B.2).
12. Global Medium Term Programme - Promotion and Development of Biomedical and Health Services Research (ACMR/SC.RA/B.3).
13. Terms of Reference of the Global and Regional ACMRs (ACMR/SC.RA/B.4).
14. Terms of Reference of Global Programme Committee (GPC) (ACMR/SC.RA/B.5).
15. Terms of Reference of Headquarters Programme Committee (HPC) (ACMR/SC.RA/B.6).
16. Organizational Study on the Role of WHO Expert Advisory Panels and Committees and Collaborating Centres (EB65/25) (ACMR/SC.RA/B.7).

17. Study of WHO's Structures in Light of its Functions (A33/2) (ACMR/SC.RA/B.8).
18. Study of the Organizations Structures in Light of its Functions: Implementation of Resolution WHA33.17 (EB67/15) (ACMR/SC.RA/B.9).
19. Study of the Organizations Structures in Lights of its Functions: Implementation of Resolution WHA33.17 (EB67/15 add.2)
20. Action Against Tropical Diseases, Vols. 1 and 2 (ACMR/SC.RA/B.11).
21. Structure of the Secretariat of the World Health Organization (WHO/80852) (ACMR/SC.RA/B.12).
22. Structure of the Secretariat at Headquarters as at 1.11.80 (WHO/80858) (ACMR/SC.RA/B.13).
23. Research Management Mechanisms at the Regional Level in WHO (ACMR/SC.RA/B.14).
24. Research Administration in WHO's South East Asia Regional Office as of February 1981.
25. Guidelines for management of research activities in Diarrhoeal Diseases Control Programme (CDD/RES/81.3).
26. Biomedical and Health Services Research, Progress report on coordination activities, Report by the Director-General (A 35/5, March 1982).
27. Biomedical and Health Services Research Relations with industry and policy on patents. Report by the Director-General (A 35/6 April 1982).
28. Advisory Committee on Medical Research - Report to the Director-General on its twenty-third session, 12 - 15 October 1981.
29. Draft text of New Regulations for WHO Experts and Collaborating Institutions - EB68/5, 4 May 1981.

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Annex 3

Indian Council of Medical Research

Report of the Global
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on
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Annex 4

Activities and Policies
of the
Swedish Medical Research Council

ACTIVITIES AND POLICIES OF THE SWEDISH MEDICAL RESEARCH COUNCIL

The following is a summary of the activities and policies of the Swedish Medical Research Council (SMRC). Before going into a description of SMRC and its activities a general outline of support of medical research in Sweden will be presented.

Sweden has a population of about 8.3 millions. It is a highly industrialized country with one of the highest per capita incomes in the world. In fiscal year 1981 (July 1, 1980 - June 30, 1981) the gross national product (GNP) was Sw.Cr. 485 000 millions (one US \$ is 6 Sw.Cr. at the present rate of exchange). The total health care costs can be estimated to have been Sw.Cr. 40-45,000 millions, i.e. close to 10% of GNP. In Sweden, costs for health care are borne by the state (state includes here both government and county and community authorities). Through a special tax the people are insured in a health care insurance system. This means that a person has to pay only a very small sum for health care out of his/her own pocket. For instance, hospital care is for all practical purposes free of charge.

Support for research and development comes from government and private sources. Counties and communities play only a small role in the support of research and development. Somewhere around 60% of the country's total expenses for research and development are borne by the private sector, i.e. in this context for all practical purposes private industry. It should be emphasized that more than 90% of Swedish industry is privately owned. In the research and development financed by industry, the overwhelming emphasis is on development. In the Swedish structure, it is expected that government will take the responsibility of financing research and particularly fundamental research. About 40% of the nation's research and development is financed by government. In fiscal year 1981 government support of all types of research and development amounted to Sw.Cr. 5 900 millions. The government support is channelled through several departments, the most important ones being the Departments of Defence, Education, Industry, and Health and Social Affairs. About 15% of government support of research and development goes to the medical sector.

In fiscal year 1981, around Sw.Cr. 400 millions were allocated to the medical faculties through the Department of Education. Another Sw.Cr. 350 millions went to the university hospitals (technically through the Department of Health and Social Affairs). The budget of the Swedish Medical Research Council was Sw.Cr. 110 millions. A somewhat larger amount, Sw.Cr. 120 millions, was appropriated to medical research by various state agencies under various government departments (referred to as sectoral organs and authorities in the table below). The private funds for medical research

Distribution of funds for medical research in fiscal year 1981

	Sw.Cr. millions
Medical faculties (+ faculties of dentistry and pharmacy)	400
University hospitals	350
Medical Research Council	110
Sectoral organs and authorities	120
Private sources	200

in fiscal year 1981 can be estimated to have amounted to Sw.Cr. 200 millions. About 3/4 of that amount was spent by the pharmaceutical industry for medical research within the industry itself. It is important to emphasize that these resources do not include research and development directly guided to the development of drugs.

The total amount provided for medical research corresponds to about 3% of total health care costs. It should be emphasized that Sw.Cr. 1 200 millions for medical research is, if anything, a minimum figure. The reason for this is that a substantial amount of medical research, and particularly development, is carried out within resources allocated to health care. A simple example is that you may take a number of additional tests (X-rays, clinical chemical tests etc) for a research/development project without really requiring a research grant.

The resources listed under medical faculties and university hospitals cover salaries for academic personnel and for some technical and administrative personnel. Further, they cover some expenses for consumable supplies. With this background it is apparent that these resources have a limited degree of flexibility. They constitute so to speak the backbone of a research organization. The SMRC controls only 12% of state resources for medical research. However, its role is much more dominant in view of the fact that its resources are flexible and constitute additions to the basic research structure provided to faculties and teaching hospitals. The resources provided by sectoral organs and authorities play of course a considerable role in view of the fact that these resources equal those of the SMRC. Of the resources available to the sectoral organs and authorities a large share is awarded as research grants to researchers in the medical faculties. Although there is no precise borderline between the activities of the SMRC and the sectoral organs and authorities, it can be stated that the SMRC supports predominantly basic research and sectoral organs and authorities support mission-oriented and applied research.

It was mentioned above that of the Sw.Cr. 200 millions for medical research contributed by private sources 3/4 was spent within the pharmaceutical industry. The remaining Sw.Cr. 50-60 millions stem from private foundations. The single biggest one in terms of medical research is the Swedish Cancer Society which appropriates Sw.Cr. 30 millions a year in the form of research grants.

ORGANIZATION OF SMRC

The Council consists of a chairman and ten members. The chairman and three members are appointed by the government. These three members represent sectors of society involved in medical research and/or health care. Seven members are elected by the medical research community. The secretariat consists of a secretary, an assistant secretary (both of whom are researchers), a chief administrative officer and an administrative staff of ten persons.

The Council meets normally five times a year. The mechanism of operation with respect to grant applications and grant awards is such that the Council very rarely discusses grants at its meetings. The main items on the agenda of the meetings concern general policies etc.

REVIEW OF GRANT APPLICATIONS

The process of reviewing grant applications involves the participation of priority committees plus some special committees. The priority committees represent the following areas of research: morphology, medical and physiological chemistry (two committees), physiology and pharmacology (two committees), microbiology, surgery, internal medicine, psychiatry, odontology, social medicine and research on alcohol and drug abuse. Each committee consists of five members who are experts in the field in question. The two last-mentioned committees have in addition some members representing sectors of society involved in the areas in question, e.g. the National Board of Health and Welfare. The chairmen of the priority committees are either member or deputy members of the Council. In this way, the ties between the priority committees and the Council are kept close.

The Council accepts applications for grants primarily once every year. The date of application is set late January and the final decisions are made early May. The government proposal for the forthcoming fiscal year is presented around the 10th of January. Thus, information on the budget of the Council for the forthcoming year is available during the whole period of processing applications.

The work in the priority committees can be briefly summarized as follows. Each member has to go through each application assigned to the committee. In this connection it should be mentioned that the way the committees are organized with a homogenous group of experts, many applications are reviewed by two or more committees. On an average, every fourth application is reviewed by two more committees. Going back to the tasks of priority committee members, each member in his reviewing an application has to assign a priority to the application according to scheme shown below.

PRIORITY SCORES				
Score	Problem	Procedure	Competence of investigator	Scientific report
4	Original	Original	Excellent	-
3	Very interesting	Very good	Very high	Excellent
2	Interesting	Good	High	Very good
1	Doubtful	Doubtful	Doubtful	Good
0	Not acceptable	Not acceptable	Not acceptable	Doubtful or not acceptable

Each member also has to propose a budget for the application. Further, one member of the committee prepares a written statement on the application. The priority scores and budget proposals are sent to the secretariat which compiles the material so that it is ready when the committee meets. Normally, the members have four to five weeks in which to complete the review process. At the meeting of the committee the member that was given the task to prepare a written statement reports on the application. The application is then discussed and the committee agrees on whether to approve or reject the

application. It then discusses budget and proposes a budget. The written statement sometimes has to be changed as a consequence of the discussion. The final wording of the statement represents the view of the committee as a whole. Once the final decision has been taken by the Council, the written statement becomes a public document.

After all the priority committees have met, the chairmen of the committees will prepare the final "package" for the Council. At the meeting of the chairmen the discussion focuses on applications on which two committees have had differing opinions. Other questions are of course also discussed, primarily of a more general and policy nature. The results in terms of applications are that the committees of chairmen can present a complete "package" to the Council.

The committee also discusses various aspects of research positions - the Council has some 40 research positions with tenure for three to six years. Again, the committee makes a complete proposal to the Council.

RESEARCH POSITIONS

The Council has 12 professorships in varying subjects. These positions are life-time positions and the professors are appointed by the government. In addition, there are 25 positions with a tenure of altogether six years. These positions are used for important and new fields of research and to conserve prominent young scientists in research. These positions are considered to be an intermediate step in a research career. The Council also has some 15-20 three-year positions. These are used to further the development of research areas of high societal relevance, e.g. drugs and alcohol, toxicology, nutrition. In the field of clinical research, the Council has a special programme with fellowships for three months to one year. With respect to clinical research it might be mentioned in this connection that this research is carried out almost exclusively by researchers with M.D. degree and clinical experience. The fellowships are intended to allow clinical researchers to devote themselves fulltime to research. It is the Council's experience that these fellowships have played a significant role over the years for clinical research in Sweden.

DISPOSITION OF THE TOTAL BUDGET OF SMRC

The table summarizes the disposition of the resources of the Council for fiscal year 1981.

<u>Research Project</u>	<u>Sw.Cr. Thousands</u>
Professorships and other research positions	9 988
Technical personnel	58 871
Equipment	1 321
Consumable supplies	22 542
<u>International activities</u>	
Visiting scientist fellowships	2 000

Symposia	350
Travel funds	750
International Agency for Research on Cancer	2 600
<u>Miscellaneous</u>	
Administration (including university fees for administration)	5 250
Retroactive compensation for salary increases etc.	6 000
Other items	3 436

POLICIES OF SMRC

The policies of SMRC should be primarily viewed in the context of the Swedish system for allocating resources to medical research and development. As is apparent from the foregoing, Swedish research policy operates with a pluralistic system. Resources are allocated to medical research in the form of basic resources for the medical faculties and the university hospital and in the form of research grants from the SMRC, from various sectoral organs and authorities and from private foundations. There are a number of sectoral organs and authorities involved in supporting medical research and development. A common denominator for these agencies is that they support research and development projects that have a direct interest for the fulfillment of the tasks of the sector in question. Good examples are the National Environment Protection Board and the Occupational Safety and Health Foundation. These agencies will support research including medical research that will provide information relevant to protection of environment and worker's health, respectively. From this follows that sectoral organs and authorities primarily support mission-oriented research.

The SMRC is an authority under the Department of Education, which is primarily responsible for education and university research. From this follows that the Department has its main responsibility in university research and then predominantly basic research. The SMRC should also be concerned primarily with the support of basic research. Since basic resources for the universities are granted directly by the Department of Education, the SMRC should supply extra resources for research that it considers particularly important. In view of the foregoing, it seems logical that the resources of the SMRC are used predominantly for basic research, be it conducted in preclinical or clinical departments. It also follows that these resources go to investigator-initiated research. In the opinion of the SMRC, the advancement of basic research is best served by giving the individual researcher a freedom of pursuing the research he is interested in and best at performing. At the same time, it is necessary for the SMRC, in view of the limited resources, to concentrate on areas of research where Swedish research has a high international standing and which at the same time are important, at least in a long-range perspective, for the improvement of health.

Even if the Swedish system for financing medical research might not require it, the SMRC has long felt that it has a responsibility to engage itself in research that has a high societal relevance and importance in the short-range perspective. This engagement usually takes the form of particular initiatives. Over the years, the SMRC has taken a number of such initiatives,

ranging from research on alcohol and drug abuse to evaluation of nuclear magnetic resonance imaging in clinical diagnosis. The usual procedure when the SMRC wants to initiate research is to set up an ad hoc group of experts with the task of analyzing what research is going on in the field in question inside and outside Sweden, what further research is needed, which investigators that could perform the research, and what role SMRC should play. Frequently, these initiatives lead to an invitation from the SMRC to a number of investigators to submit proposals for research in the area in question. In other instances, research positions are created to recruit people for a research training and/or research. Yet in other instances, the SMRC will play a catalytic role by pointing to needed research and by helping out with development of suitable methods for research. It is of course impossible for the SMRC if it is to retain its main role in Swedish medical research to use more than 10 to 20% of its resources for the type of research just discussed.

In the last ten years, initiatives have been taken in the following areas: research on nosocomial infections, health services research (perhaps the biggest initiative ever with among other things two professorships at the SMRC), research in primary health care, and evaluation of nuclear magnetic resonance (NMR) imaging in clinical diagnosis. The last-mentioned initiative, which was initiated as late as spring 1982, might be worth a few sentences since it shows one way for SMRC to handle an initiative. Discussions in the SMRC during spring 1982 ended in a consensus that it should be very important for future clinical diagnostic procedures to evaluate NMR in comparison with CT-scanning, ultrasound, positron emission tomography etc. It might be so that NMR could substitute for whole body CT-scanners. If this was the case, it would be very important for health care planning to wait with purchases of the third generation CT-scanners. The SMRC decided to allocate Sw.Cr. 1 million out of its own resources and another Sw.Cr. 5 millions out of the funds available to SMRC for heavy equipment. The SMRC invited the Cancer Society to contribute Sw.Cr. 1 million - NMR may have its main value in cancer diagnosis. The Cancer Society decided to appropriate Sw.Cr. 1 million. In sum, after a few months of deliberation it was possible to raise Sw.Cr. 7 millions to enable purchase of the first NMR in Scandinavia and to begin an evaluation of NMR in clinical diagnosis.

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Annex 5

Research Administration - SEARO

RESEARCH ADMINISTRATION - SEARO

1. INTRODUCTION

In August 1975, the Twenty Eight Session of the Regional Committee for South East Asia considered the subject of Biomedical Research¹, in pursuance of the relevant WHA Resolutions calling for greater involvement of the Regional Offices and Regional Committees in the promotion of research. The Regional Committee endorsed the need for the promotion and development of a regional research programme and welcomed the suggestions for the establishment of an Advisory Committee on Medical Research for the South East Asia Region (SEA/ACMR). The Regional Committee resolved that research in the region should be purposeful and based on carefully selected priority areas in the context of the needs of the member countries.

In the selection of Members to the SEA Advisory Committee on Medical Research (SEA/ACMR) the Regional Committee recommended that the Advisory Committee should have a balanced geographical representation and a judicious mix of the concerned scientific disciplines and should be open to research administrators as well as research scientists. The Regional Committee also wished that international and bilateral efforts should be promoted and research programmes developed as a joint effort in a spirit of coordination and cooperation.

2. SOUTH EAST ASIA ADVISORY COMMITTEE ON MEDICAL RESEARCH (SEA/ACMR)

In conformity with the advice of the Regional Committee, the South-East Asia Advisory Committee on Medical Research (SEA/ACMR) was established in January 1976, to advise the Regional Director on the development of the Organization's South East Asia research programme. The detailed terms of reference² of the SEA/ACMR, as agreed to by the Twenty Eight Session of the Regional Committee are given in the report of the First Session of the SEA/ACMR. The Chief, Medical Research, SEARO functions as the Secretary to SEA/ACMR.

The SEA/ACMR at its first meeting defined the criteria³ for identification of research priorities. Based on these they identified

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- 1 (a) WHO Regional Committee for South East Asia - Final Report and Minutes of the meetings of the Twenty Eight Session - New Delhi, India - 25-30 August 1975, Part IV, Section 3, Page 18.
 - (b) List of official documents of the Twenty Eight Session - Document No. SEA/RC 28/20 - "A note on a Regional Advisory Committee for Medical Research (Regional ACMR)".
 2. Report on the First Meeting of the Regional Advisory Committee on Medical Research - Document SEA/RACMR/76.1 - Annex 5 - Pages 28 & 29.
 3. Report of the First Meeting of the Regional Advisory Committee on Medical Research. Document SEA/ACMR/76.1 - Page 7.

specific regional research priorities⁴. They also proposed mechanisms⁵ that could be employed in the implementation of the research programme.

The SEA/ACMR's report are made to the Regional Director, as it functions in an advisory capacity to him. Once the Regional Director has agreed to the SEA/ACMR recommendations embodied in the report, the report is sent officially to the governments through the established channels of communication, for their information and necessary action. They are also distributed widely and the SEARO Secretariat takes action to implement the recommendations.

SEA/ACMR Subcommittees

The SEA/ACMR also recommends, from time to time, the setting up of SEA/ACMR sub-committees e.g. the SEA/ACMR Sub-Committee on "Research Needs for HFA/2000", "Health Services Research". These subcommittees are mainly concerned with in-depth study and reporting on a specific issue that the SEA/ACMR wishes its members to undertake. The membership of such Subcommittees has included scientists who have served in the SEA/ACMR earlier as well as sitting members and other scientists as required. Thus the SEA/ACMR members past and present are actively participating in SEARO research activities.

Links with Headquarters and Other Regions

In order to establish a close liaison between the SEA/ACMR and the Global ACMR of WHO Headquarters, the Global ACMR chairman attends all SEA/ACMR meetings and the chairman of the SEA/ACMR attends the Global ACMR meetings and present a report on the Region's research activities. A representative of RPD/HQ is also invited to the SEA/ACMR meetings. The regional activities of the WHO's two special programmes for research are considered in depth once every two years, and are presented by their respective directors or their representatives.

As some of the priority research areas of the South East Asia Region may be of interest to neighbouring WHO Regions, it is the practice to invite a representative from the neighboring Regional Offices.

3. THE ROLE OF THE REGIONAL COMMITTEE

The Regional Committee is informed annually of the Regional Research Programme and the Committee's views are obtained.

The Regional Committee at its 29th session in September 1976⁶ recognizing the importance of the research programme and the activities being generated, requested the Regional Director, to allocate funds from the WHO Regional Regular Budget for biomedical and health services research activities under inter-country programmes. From 1978 onwards 5% of the regular budget was allocated for research.

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4. Report of the First Meeting of the Regional Advisory Committee on Medical Research. Document SEA/ACMR/76.1 - Pages 8 to 10.
 5. Report of the First Meeting of the Regional Advisory Committee on Medical Research. Document SEA/ACMR/76.1 - Pages 30 to 35
 6. Resolutions of the Regional Committee - Twenty Ninth Session - September 1976 - Resolution SEA/RC 29/R1.

4. ROLE OF MEDICAL RESEARCH COUNCILS AND ANALOGOUS BODIES

The Thirteenth World Health Assembly identified the needs for collaboration with Medical Research Councils or analogous bodies to ensure effective coordination of national, regional and global research programmes. To follow-up on this resolution, and to ensure that the limited manpower, resources and facilities in Member Countries should be utilized in a well coordinated manner in the context of national needs, the South East Asia Regional Office convenes periodically meetings of the Directors of Medical Research Councils or analogous bodies and concerned research foci in the relevant Ministries.

These meetings of official representatives of Member States are concerned with issues related to overall research promotion and development. They also present a forum for promotion of regional and global ACMR and those of the Special Programmes as well as to foster TCDC in research.

5. IMPLEMENTATION OF RESEARCH ON THE PRIORITY SUBJECTS IDENTIFIED BY SEA/ACMR

a) Scientific Working Groups

During the last five years, the research areas identified by the SEA/ACMR have been considered by the Regional Office in a phased manner. The procedure adopted for consideration of these is through Scientific Working Groups⁷ (SWGs) convened to consider in depth the research needs in each of the specific areas in relation to the needs of the Region taking into consideration recent advances. These SWGs also formulate outlines of the plans for implementation of their specific recommendations. The Secretariat translates these work plans into detailed action plans with costing.

The members of the SWG are mainly drawn from scientists in the Region who are directly involved with the subject matter under discussion. Outstanding scientists from outside the Region are also invited. Should a member of the SEA/ACMR be concerned with the subject of an SWG meeting, such a member is nominated by the Regional Director to attend that particular SWG. Such members report to the SEA/ACMR on the activities of specific Scientific Working Group. At other times the SEARO secretariat reports to SEA/ACMR the outcome of such meetings.

The Secretariat of the SWG is so arranged that the concerned technical unit and the Programme Director/Chief play the leading role and are primarily responsible. The Regional Adviser concerned functions as the focal point and Secretary to SWG meetings. The Medical Research Unit plays a close coordinating and collaborating role. Invitations are extended to the corresponding Unit in HQ and neighbouring regions.

Concerned national policy makers, administrators and programme directors are also invited to these meetings together with scientists in order to ensure, relevance of priorities identified to national programme needs and provide the eventual utilization of research results in addition to encouraging those involved in field research.

7. Term used in SEARO was "Research Study Group" - at present the term Scientific Working Group is used.

The Regional Office in collaboration with the WPCs and Member Governments identifies suitable institutions and scientists who could participate in undertaking research and invites them to prepare research application to be submitted to SEARO through the official government channels. Where necessary, technical guidance is provided to the identified scientists through Regional Office staff and/or Consultants, so that the scientists may develop a technically sound research design. Such proposals are then reviewed as per procedures described later.

If there is a dearth of projects in a particular priority area due to lack of expertise within Member countries, research method workshops are organized.

At times when a multi-country study on a particular subject is promoted and outlines of protocols or guidelines are available, the Regional Office invites the identified scientists to a Working Group Meeting to develop the detailed research design for the collaborative research. When such studies based on a common protocol or guideline has been promoted and implemented in several countries, the Regional Office arranges periodic meetings of the Principal Investigators to exchange information, experience and compare results. These meetings of Principal Investigators have been very useful.

b) WHO Collaborating Centres in SEA Research Programmes

The Scientific Working Groups at times identify activities that are best dealt with by the WHO in collaboration with national centres of excellence. In order to implement such programmes, the Regional Office identifies institutions capable of doing such work on behalf of the WHO programme and steps are taken to designate institutions as Collaborating Centres. The 34th Regional Committee wished that the overall management of WHO Collaborating Centres be reviewed and procedures for greater effectiveness formulated within the framework of the draft regulations approved by EB69⁸.

6. COUNTRY RESEARCH PROJECTS UNDER WHO COUNTRY REGULAR BUDGET

As an outcome of the effort of the South East Asia Regional Office for development and implementation of the Regional Research Programme, eight out of eleven member countries have formulated RPD projects funded by WHO Regular Country Budget. The essence of this programme is that projects which were hitherto diffuse have been now consolidated and coordinated under one programme with greater visibility of research. This symbolises the efforts made towards national coordination of research projects. In some of these countries the Medical Research Council or analogous bodies together with the Ministry of Health take responsibility for the implementation of these projects.

In SEARO these country projects are coordinated by the Medical Research Unit although the individual components are technically monitored by the respective Technical Units. Such projects which began in 1979 are continuing through 1984-85. The total biennial budget provided for these country projects amount to approximately US\$ 2 million. These projects are concerned with manpower development and institutional strengthening, health services research and, other research programmes of high national priorities in relation

8. EB69/29 - Draft text of New regulations for WHO Expert Consultation and Institutional Collaboration - Report by the Director-General.

to Primary Health Care and HFA 2000. The Inter-Country Research Programme complements these WHO country research projects.

7. SEARO INTERNAL MANAGEMENT OF THE RESEARCH PROGRAMME

i) Channels of communication with member government - SEARO research activities

In early 1976, the South East Asia Regional Office, in collaboration with WHO Programme Coordinators consulted member governments and identified channels of communication. In general the Ministries of Health continue to function as the principal focal point and there is a trend towards greater involvement of medical research councils or analogous bodies in the official communication network. The procedures are kept under constant review as governments may change their procedures from time to time depending on their policies.

ii) The SEARO Research Unit

At present the research programme of the SEARO is under the immediate supervision of the Chief Medical Research (CMR). The medical officers responsible for the Special Programmes (HRP and TDR) are also attached to this unit.

iii) SEARO Research Development Committee

The ad hoc in house committee, set up in 1975 to initiate the development of SEARO research programme has been institutionalized as the SEARO Research Development Committee. The Committee functions as an in house advisory body to the Regional Director and monitors implementation and provides guidance for the development and harmonization of SEARO Research Activity. The membership includes all programme directors, chiefs and DPM is chairman.

In addition, research proposals under US\$ 10 000 are reviewed by a small group called the Research Review Committee (RRC) which consist of the concerned Programme Director/Chief and the adviser, the Chief, Medical Research, the Director, Support Programme or his nominee (for administrative and financial matters) and an adviser who is a "non interested party" as regard the research project at issue. The RRC also functions as an ethical review committee for projects considered by them.

iv) Role of the WHO Programme Coordinators

The WPCs receive all reports concerned with the research programme. All outgoing letters on technical and administrative matters to governments and scientists are copied to them. The Programme Coordinators play a leading role in identification of scientists selected to collaborate with SEARO in the development of research programmes. They also collaborate in identifying institutions and scientists who are capable of implementing recommendations made by the Scientific Working Group and the SEA/ACMR. They keep member governments informed of the activities of the research programme. Supplies and equipment for research projects are at times cleared by the WPCs as a cooperative gesture to the scientists. At times they provide comments and recommendations on research projects coming to the Regional Office through them.

They are actively involved in collaborating with the governments in the development of country research programmes to be funded from WHO Regular Country Budget. They promote and catalyse attraction of extra budgetary funds on a bilateral basis for research plans developed by the governments and those developed by the Regional Office, which are of relevance to the country. They expedite and facilitate government clearance for all activities concerned with the SEARO Research Programme.

v) Processing of Research Applications

a) Government clearance

Where governments insist that research applications should be forwarded through their respective channels, SEARO adheres to this requirement.

b) Steps for processing research application of category

(i) Research applications are received by the medical research unit and is given a Serial Number by the MR unit and a confidential Unit file is opened.

(ii) MR unit acknowledges receipt of the research application under intimation to WPC.

(iii) A review form is attached. The guidelines focussing research toward HFA/PHC 2000 are also attached for reference.

(iv) The MR unit file with the research application review form is then circulated to the concerned Regional Advisers and the Programme Director/Chief concerned for comments.

(v) A copy of the research application is sent to the Headquarters' technical unit for information and comments as necessary.

(vi) The consolidated overall preliminary technical appraisal and administrative aspects of the proposals are submitted to the Research Review Committee (RRC).

The minutes of RRC are submitted to RD with recommendation of RDC.

Projects costing over US\$ 10 000 -- if considered worthy of support, are subjected to independent peer review by experts from outside the Organization.

The recommendations of the peer review are presented to the RDC at a subsequent meeting. The RDC then makes recommendations to the Regional Director in accordance with the comments made by the peers.

vi) Research Training Grants and Visiting Scientists Grants

Applications for Research Training Grants and Visiting Scientists Grants are made available to scientists on request if their training is related to one of the priority research areas of the South East Asia Region.

The criteria for award of such grants⁹ as identified at the 6th Session of SEA/ACMR in 1980 and approved by the Regional Director are followed.

The procedure for government clearance is the same as for research grant applications.

vii) Report of the SEA/Research Programme

SEA/ACMR is kept informed of the progress through a detailed progress report submitted annually to the SEA/ACMR by the Research Unit in SEARO.

The report is updated periodically and provides a brief for the RD, to the WHA and EB, HQ Programme Committee and for the annual WPCs meeting. It also provides detailed information to the Chairman SEA/ACMR to prepare his presentation to the Global ACMR.

Report of the Global
ACMR Subcommittee
on
Research Administration

Annex 6

The UNDP/World Bank/WHO
Special Programme for Research and
Training in Tropical Diseases (TDR)

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The UNDP/World Bank/WHO
Special Programme for Research and
Training in Tropical Diseases (TDR)

1. INTRODUCTION

(1) The Special Programme for Research and Training in Tropical Diseases (TDR) is an international response to major health problems of developing countries in the tropics. The Programme was planned and initiated by the World Health Organization (WHO), with the assistance and co-sponsorship of the United Nations Development Programme (UNDP) and the World Bank (the Bank). TDR operates under the guidance of and with the resources provided by its Cooperating Parties, whose representatives meet as the Joint Coordinating Board (JCB).

(2) The Programme promotes and coordinates the participation of the world's scientific community, in goal-oriented research, training and institution strengthening activities directed towards the Programme's two interdependent objectives:

- to develop new and improved tools to control six tropical diseases: malaria, schistosomiasis, filariasis, trypanosomiasis (both African sleeping sickness and the American form, Chagas' disease), leishmaniasis and leprosy; and
- to strengthen the research capabilities of the tropical countries where the diseases are endemic.

(3) TDR was established in 1975 in response to World Health Assembly resolution WHA27.52 and from the beginning of technical activities in 1977 until 30 June of 1982, the Programme had supported 1,498 projects in 87 WHO member countries; and over 2,600 scientists from 121 WHO member countries had participated in its planning, implementation, operation and evaluation. In total, more than US\$ 77 million had been spent as direct support to national scientists and institutions.

(4) The Programme makes a deliberate effort to have research carried out by the institutions and scientists of those countries which face the problems of tropical diseases. This is done by working with the affected countries within the context of national programmes of research and development. Thus the percentage of TDR project support going to tropical developing countries rose from 29% in 1977 to 62% in 1981. This has come about primarily through institution strengthening and training support, awarded exclusively to institutions and scientists of developing endemic countries. Since 1977, over 325 individual training grants have been awarded and in 1982, 63 national institutions are being strengthened. From 1974 until 30 June 1982, twenty-five governments (including those of ten developing countries) and eight other organizations, together with UNDP, the World Bank and WHO, contributed over US\$ 110 million to the Programme.

(5) The Special Programme is considered a 15-20 year endeavour, since it takes many years to bring a new drug or vaccine from the laboratory to the point of application in the field and to strengthen a national research institution. The Programme moved from the stage of pilot activities to full operation during 1978 and a review of its first five years (1977-1981) of operations was carried during 1981 and 1982 by an independent External Review Committee (document TDR/JCB(5)/82.6).

2. MANAGEMENT FRAMEWORK

2.1 General

(6) The three bodies [the Joint Coordinating Board (JCB), Standing Committee and the Scientific and Technical Advisory Committee (STAC)], which constitute the Technical and Administrative Structures, and the other management mechanisms of the Programme were developed by the Programme's co-sponsors and by governments and other organizations cooperating in the Programme. The co-sponsors and 35 governments and other organizations endorsed these structures on 2 February 1978 in the Memorandum of Understanding (TDR/CP/78.5) which describes their functions, composition and operation. The World Health Organization is the Executing Agency of the Programme.

The functional structure of TDR is shown in figure 1.

(7) Governments and national research institutions participate with the Programme's co-sponsors at all levels of management, operations and evaluation, from policy-setting by the Joint Coordinating Board to the execution of individual projects. A multidisciplinary group of scientists serve in their personal capacities as members of the Scientific and Technical Advisory Committee to advise the JCB on the Programme's development and evaluate its progress.

(8) The JCB and the STAC meet annually with the meeting of the STAC preceding that of the JCB by about three months. The Standing Committee, composed of representatives of the three co-sponsoring agencies, meets at least twice each year.

(9) The Special Programme operates within the overall policy and programme framework of the World Health Organization and is regularly reviewed by the World Health Assembly, the Executive Board, and the Regional and Global Advisory Committees on Medical Research. The Programme's strategies and priorities are developed and coordinated within this framework.

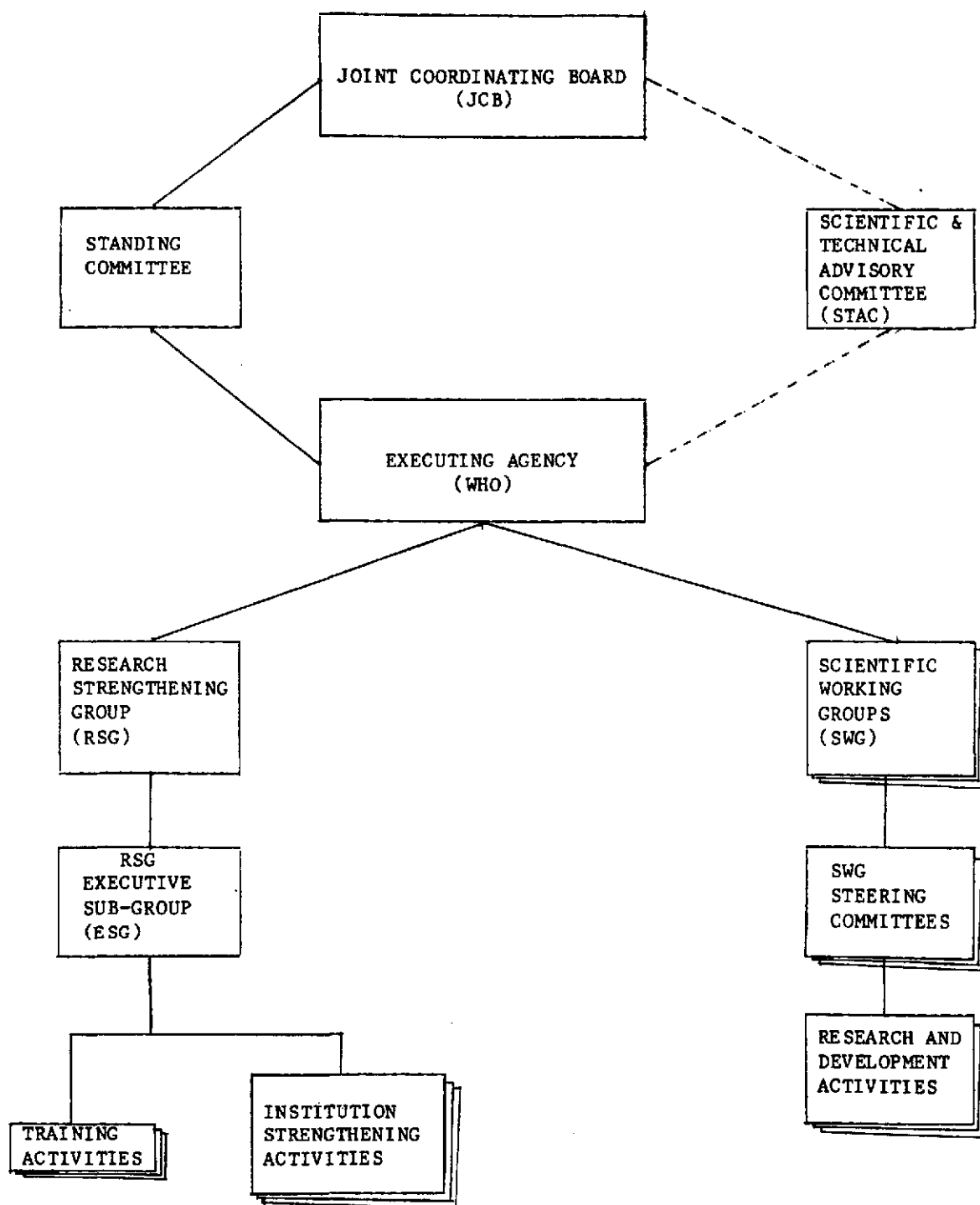
2.2 Co-sponsorship

(10) Co-sponsorship, a unique feature of the Special Programme, enables TDR to draw upon the experience and expertise of three agencies: UNDP, the World Bank and WHO. UNDP and the World Bank became co-sponsors of the Special Programme in 1976 and 1977 respectively, and the Tropical Diseases Research Fund began to operate at the World Bank in April 1978, following the signature of the "Tropical Diseases Research Fund Arrangements" between the World Bank and WHO.

Figure 1

PROGRAMME MANAGEMENT

FUNCTIONAL STRUCTURE OF THE SPECIAL PROGRAMME



Legend:

Solid lines (————) lines of responsibility and information flows.
Dotted lines (-----) information flows.

2.3 The Joint Coordinating Board

(i) Functions

(11) The JCB carries out the following functions.

- Reviews and decides upon the planning and execution of the Special Programme. For this purpose it keeps itself informed of all aspects of the development of the Special Programme, and considers reports and recommendations submitted to it by the Standing Committee, the Executing Agency, and the Scientific and Technical Advisory Committee (STAC).
- Approves the proposed plan of action and budget for the coming financial period, prepared by the Executing Agency and reviewed by the Standing Committee.
- Reviews the proposals of the Standing Committee and approves arrangements for the financing of the Special Programme in that period.
- Reviews proposed longer-term plans of action and their financial implications.
- Reviews the annual financial statements submitted by the Executing Agency, as well as the audit report thereon, submitted by the External Auditor of the Executing Agency.
- Reviews periodic reports which evaluate the progress of the Special Programme towards the achievement of its objectives.
- Endorses the proposals of the Executing Agency and the Standing Committee for STAC membership.
- Considers such other matters relating to the Special Programme as may be referred to it by any Cooperating Party.

(ii) Composition

(12) The JCB consists of 30 members from among the Cooperating Parties as follows:

- Twelve government representatives selected by the contributors to the Special Programme Resources.
- Twelve government representatives selected by the WHO Regional Committees from among those countries directly affected by the diseases dealt with by the Special Programme, or from among those providing technical or scientific support to the Special Programme.
- Three members, designated by the JCB itself, from among the remaining Cooperating Parties.
- The three Agencies which comprise the Standing Committee.

Members of the JCB serve for a period of three years and may be reappointed.

Other Cooperating Parties may, at their request, be represented as observers upon approval by the JCB.

2.4 The Standing Committee

(i) Composition and Functions

(13) The Standing Committee is comprised of the co-sponsors, namely the UNDP, the Bank and WHO. It has the following functions:

- Review the plan of action and budget for the coming financial period, as prepared by the Executing Agency, in time for presentation to the JCB not less than forty-five days before the JCB's annual session.
- Make proposals to the JCB for the financing of the Special Programme for the coming financial period.
- Approve re-allocation of resources between Programme areas and Scientific Working Groups of the Special Programme during a financial period, upon the recommendation of STAC and the Executing Agency, and report such re-allocations to the JCB.
- Examine the reports submitted to the Executing Agency by the Scientific and Technical Advisory Committee (STAC) and the Executing Agency's comments; make the necessary observations thereon, and transmit these, with comments as appropriate, to the JCB.
- Review particular aspects of the Special Programme, including those which may be referred to it by the JCB, and present findings and recommendations in the form of reports to the JCB.
- Inform the JCB, as required, regarding Special Programme matters of interest to the JCB.

(ii) Operation

(14) The members of the Standing Committee have informal contacts throughout the year. Formal operations are as follows.

- The Standing Committee usually meets at least twice a year; once at the time of the JCB meeting, and additionally between sessions of the JCB.
- The Executing Agency arranges for supporting services and facilities as may be required by the Standing Committee.
- Members of the Standing Committee make their own arrangements to cover the expenses incurred in attending sessions of the Standing Committee.

2.5 The Scientific and Technical Advisory Committee (STAC)

(i) Functions

(15) The STAC has the following functions:

- Review, from a scientific and technical standpoint, the content, scope and dimensions of the Special Programme, including the diseases covered and approaches to be adopted.
- Recommend priorities within the Special Programme, including the establishment and disestablishment of Scientific Working Groups, and all scientific and technical activities related to the Programme.
- Provide the JCB and the Executing Agency with a continuous independent evaluation of the scientific and technical aspects of all activities of the Special Programme.

For these purposes the STAC may propose and present for consideration such technical documents and recommendations as it may deem appropriate.

(ii) Composition

(16) The STAC is comprised of 15-18 scientists and other technical personnel who serve in their personal capacities to represent the broad range of biomedical and other disciplines required for Special Programme activities. Members of STAC, including the Chairman, are selected on the basis of scientific or technical competence by the Executing Agency, in consultation with the Standing Committee and with the endorsement of the JCB.

- Members of the STAC, including the Chairman, are appointed to serve for a period of three years, and are eligible for further reappointment. To maintain continuity of membership, the expiration of the initial terms of office of members of STAC was staggered.

(iii) Operation

(17) Chairman STAC and members of the Scientific and Technical Review Committees work with the Secretariat throughout each year. Formally STAC operates as follows.

- The STAC meets at least once each year.
- The Executing Agency provides the Secretariat to STAC including sustained scientific, technical and administrative support.
- Costs of the STAC is borne by the Special Programme Resources.
- The STAC prepares an annual report on the basis of a full review of all technical and scientific aspects of the Special Programme. This report, containing its findings and recommendations, is submitted to the Executing Agency and to the Standing Committee. The Executing Agency submits its comments on the report to the Standing Committee. The Standing Committee then transmits the report, including the comments of the Executing Agency, together with its own observations and recommendations, to the JCB, not less than forty-five days before the JCB's annual session. The Chairman of the STAC, or in his absence a member of the STAC deputized to act for him, attends all sessions of the JCB.

2.6 The Executing Agency

(18) The Director-General of WHO, after such consultations as he may deem appropriate, appoints the Special Programme Coordinator and the Special Programme Director and appoints or assigns all other personnel to the Special Programme as specified in the plans of work. Drawing as required upon the administrative resources of WHO and in cooperation with the co-sponsors of the Special Programme, the Coordinator is responsible for the overall management of the Special Programme. Under the authority of the Special Programme Coordinator and drawing to the full upon the scientific and technical resources of WHO, the Director of the Special Programme is responsible for the overall scientific and technical development and operation of the Special Programme including the plan of action and budget.

3. TECHNICAL OPERATION

3.1 Research and Development - the Scientific Working Groups (SWGs)

(19) The Programme's Research and Development activities fall within six disease and four trans-disease components. National scientists, working together as Scientific Working Groups (SWGs), establish goal-oriented research plans for each component. The research projects which bring these plans into operation are carried out by scientists at national institutions. A Steering Committee composed of 6-8 national scientists and members of the secretariat manages the operation of each SWG.

(i) Scientific Working Group Membership

(20) SWG membership is not fixed; it changes according to the tasks to be performed. The SWG includes all the scientists carrying out the SWG's research activities as well as scientists from the countries where the diseases are endemic knowledgeable in the problems of disease control and scientists from disciplines not yet involved in the SWG research, to bring new approaches to the SWG and to plan future SWG activities. SWG meetings are convened periodically to review and plan the activities of the group. Meeting participants are selected according to the appropriateness of their expertise to the objectives of the meeting.

(ii) The SWG Steering Committee

(21) The management of a Scientific Working Group's research plan and its activities is the responsibility of those SWG members who form its Steering Committee. A Steering Committee is established for each SWG; it usually has eight to ten members, including one or two secretariat staff. The Director of the Special Programme appoints the SWG Steering Committee, in which memberships are staggered for terms of up to three years. As terms expire, the Steering Committee membership is reviewed by the Programme Secretariat according to the needs of the SWG. Steering Committee members may be reappointed once.

(22) The Chairman of a Steering Committee is appointed by the Director of the Special Programme for a renewable three-year period. The Secretary and Associate Secretary(ies) of a Steering Committee are WHO staff members with responsibility for the administrative management of the Scientific Working Group and its Steering Committee.

(23) Each member of a Steering Committee, particularly the Chairman, accepts a commitment to devote an adequate amount of time to the planning and management of the SWG's research activities. The Steering Committee organizes the meetings of the SWG and holds planning and business sessions in conjunction with these meetings, and at other times as necessary. Members of an SWG Steering Committee are not eligible for membership of STAC, but they may carry out research supported by the SWG.

(iii) Operation of Scientific Working Groups

(24) Following establishment and funding of an SWG on the recommendation of the STAC, its operation forms a cycle of activities until the group has achieved its final goals or has been discontinued on the recommendation of STAC.

(a) The review and funding of SWG research project proposals

(25) The SWG Steering Committee is responsible for ensuring the appropriate scientific, ethical and budget review of the research proposals submitted to the SWG and the review of progress of the ongoing SWG projects. All proposals and progress reports submitted to the Special Programme are considered as confidential unless the Director of the Programme makes special arrangements with the investigator and/or other appropriate authorities for the release of information contained therein.

(26) Proposals are reviewed in detail by two steering committee members and their reports, along with the reports of external experts, are reviewed by the entire Steering Committee on the basis of the following criteria:

- relevance to objectives of the SWG;
- scientific feasibility and probability of success;
- scientific quality (hypothesis, experimental design, methodology, experience of the investigator, etc.); and
- budget and time-phasing of the research.

(27) The Steering Committee, using secret ballot and a quantitative scale, votes twice on each proposal. The initial vote is for relevance to the objectives of the SWG, and the second vote is for scientific quality. Secretariat members of Steering Committees do not vote.

(b) Review of progress of funded SWG projects

(28) The progress of funded projects is reviewed annually by the Steering Committee and external experts as required, on the basis of the project's plan of research. Annual progress reports are submitted for this purpose. These include:

- scientific results to date or a final report;
- problems encountered;
- a certified financial statement;
- a budget for proposed continuation of the project if appropriate;

- links and collaboration with other projects within or outside of the SWG; and
- training activities in the project.

Steering Committee recommendations for continued support are made on the same basis as those for new projects.

(iv) Review and Evaluation of Scientific Working Groups

(29) The STAC reviews annually the scientific and technical progress and proposed Programme Budget of each SWG from two perspectives:

- the priority of the SWG's objectives in relation to those of other SWGs and other Special Programme areas; and
- the quality and relevance of the research carried out by the SWG in relation to its objectives.

(30) An in-depth review and evaluation of an SWG and its approaches and lines of research are made by STAC whenever that body deems it necessary, or at least every four years. Such an evaluation is carried out by sub-committees of STAC called Scientific and Technical Review Committees (STRC). These "in-depth" evaluations include "on-site" visits by members of the STRC, and the review of the special reports prepared by SWG Steering Committee members and/or other experts.

3.2 Research Capability Strengthening - the Research Strengthening Group

(31) The Research Capability Strengthening activities are guided by the Research Strengthening Group (RSG), which reviews and makes recommendations on institution strengthening and training activities and also monitors and evaluates their implementation, operation and progress. The Executive Sub-Group (ESG) supports the RSG in its work.

(i) Research Strengthening Group Membership

(32) The 15-20 members of the RSG are appointed by Director, TDR from suggestions received from the WHO Regions, technical programmes and other sources. Appointment is on an annual basis but continuity of membership is maintained. The Chairman of the RSG is appointed annually by Director, TDR and also acts as Chairman of the Executive Sub-Group (ESG) of the RSG. The ESG assists the RSG and Director, TDR in the analysis of applications and reports of institution strengthening and training. The 5-6 ESG members are appointed by Director, TDR from the RSG on an annual basis.

(ii) Policy Guidelines of the RSG

(33) The RSG undertakes the following activities:

- Strengthen institutions engaged in research and training in tropical countries;
- Support training of research workers from tropical countries;
- Contribute to the rapid transfer of the relevant knowledge, technology and skills to the countries affected by the six target diseases; and

- o Assist in the diffusion, interpretation and integration of new knowledge.

(34) Institution strengthening and training activities related to the six target diseases may concern the following work:

- epidemiological and clinical research;
- operational research;
- improvement or adaptation of existing technology;
- search for new control tools; and
- research in the basic sciences aimed at filling gaps in knowledge needed for the control of the target diseases.

(35) A network of Special Programme centres should be developed to ensure that at least the following activities exist within every region:

- epidemiological and operational research;
- clinical, epidemiological and laboratory support of clinical trials;
- training of technical and auxiliary personnel; and
- training of undergraduate and post-graduate students to a high academic level.

(iii) Policies followed by the Research Strengthening Group

(36) Institutions should be chosen for strengthening on the basis of their potential effect on neighbouring institutions, as well as on their individual merits. Existing institutions should be strengthened rather than new institutions created. However, in a geographical area with no institution suitable for strengthening, a country which initiates a suitable institution could receive support.

(37) Research capability strengthening activities should be clearly of importance to and supported by the country concerned. Any decisions for long-term support should be taken on the basis of a firm commitment by the country concerned to progressive take-over of supported activities. Long-term Support Grants should normally be awarded for five years, and support of postgraduate courses, for three years.

(38) Research, development and training institutions in developing countries should be encouraged to find solutions to their national or regional problems. Supported institutions should establish communication with relevant disease-control organizations.

(39) Support for training and continuing education should be provided only in the context of an explicit and acceptable research manpower development plan of the institution being strengthened. Training opportunities should be provided on the condition that those who are trained will subsequently participate in training others.

(40) Training and career-development programmes must ensure that individual research workers undergo the best and most appropriate available training and experience, at each stage of their careers. To this effect, training programmes should first use national resources, and then those of other developing countries, before using those of the industrialized countries.

(41) Foreign staff should be provided only when a local counterpart has been identified and his or her training initiated.

(42) Plans should take into account all pertinent WHO activities and resources, including those at Regional Offices, as well as possibilities for collaboration with the SWGs.

(43) In all its efforts, RSG should do its best to co-operate with other relevant sources of funding, be they private, public, national or bilateral.

(iv) Research Capability Strengthening Activities

(44) Institutional Support

- Small Grants may be awarded once only, to initiate research (or after a Re-entry Grant when justified) to a maximum of US\$ 15 000, and should cover neither the salary of the grantee nor expenses for travel abroad.
- Short-term Support Grants are for pilot activities related to the development of formal institution-strengthening programmes.
- Capital Grants are for fairly well-established institutions which require just a single grant to improve their work in research and research training.
- Long-term Support Grants are intended to help support an institution over a period of approximately five years. The initial grant is for one year followed by annual renewals depending on the progress achieved. The grants are given on a sliding scale, so that the institution will have to progressively take over recurrent costs. Commitment for progressive take-over by the institution is an essential prerequisite for the award of such grants.

(45) Staff Development Support

- Research Training Grants (RTG) for staff who hold regular career positions in the institution to enable them to learn by participating in a planned training programme in institutions outside their own countries.
- Visiting Scientist Grants (VSG) for research managers and senior scientists already engaged in research and training activities in their institution to visit other institutions and scientists engaged in related work.
- Small Grants to the institution to be used in local staff development programmes to support research students working for postgraduate degrees that will enable them to fill research and training staff positions in the institution.

- Grants for short group-learning activities to be used for planning and conducting workshops, seminars and short courses in the institution.
- Grants for degree courses to be used for planning and conducting formal degree courses in the institution.
- Re-entry Grants for researchers returning to work in their institutions to enable them to initiate research and research training functions after their training period.

(v) Award Mechanisms

(46) The Director of the Special Programme approves all awards. He acts on the recommendations of RSG, which in certain cases delegates specific authority, systematically or ad hoc, to ESG or the Research Strengthening Team (RST).

(47) RST is a Secretariat group which includes SWG Steering Committee Secretaries, Research Capability Strengthening staff and WHO staff from relevant programmes outside of TDR such as Research Promotion and Development (RPD) and Health Manpower Development (HMD).

(48) The table below notes which body(ies) recommends funding of each type of award to the Director of the Special Programme.

<u>Type of activity</u>	<u>Authority to recommend funding</u>
1. <u>Training Grants:</u>	
- RTGs	RST
- VSGs	RST
- Re-entry Grants	RST up to US\$ 20 000 ESG or RSG above US\$ 20 000
- Group training (courses workshops, seminars, etc.)	RST up to US\$ 20 000 ESG or RSG above US\$ 20 000
2. <u>Institution Grants:</u>	
- Small Grants	RST
- Short-term Support Grants	ESG or RSG
- Capital Grants	ESG or RSG
- Long-term Support Grants	RSG
3. <u>Other activities</u>	ESG or RSG

(vi) Evaluation

(49) Evaluation of the entire Research Capability Strengthening Area of the Special Programme is carried out by the STAC and its STRC mechanism [see section 29]. Activities within the area are monitored and evaluated by RSG.

(50) Institution Development

The institution self-study approach was adopted as a mechanism for providing reliable data on progress in institution development to the staff within the institution and as a means of assisting the Head of the institution in making informed decisions. Moreover, the self-evaluation process itself would contribute to self-reliance in the institution.

Establishment of the process for self-study, in each of the institutions receiving long-term support, was achieved by implementing the following steps.

- Institution Heads were informed of this new approach to the evaluation of institution development, by consultants who visited the institutions and through documentation prepared for this purpose. The documents included a description of the desirable characteristics and qualifications of an internal evaluator, and institution Heads were requested to cooperate in the exercise by designating an appropriate member of the staff to undertake this role.
- Internal evaluators thus appointed were given training in the theory and practice of institution self-study. They were invited, in two separate groups, to workshops that were held in June 1979 and April 1980. Training content included the techniques used in evaluation and the design of individual evaluation plans. The workshops also sensitized the internal evaluators to their future roles in their institutions. It was agreed that the internal evaluator would be responsible mainly for designing the evaluation process and for collecting reliable and valid information, rather than for making formal judgements on the efficiency and effectiveness of staff activities.
- On return to their institutions, the internal evaluators submitted to the Programme their respective plans for implementing evaluation activities. Each of the plans submitted was studied by the Secretariat who gave appropriate advice.
- The next step was Secretariat and consultant visits to the internal evaluators in their home institutions to assist them with their work on site.
- In addition to this internal evaluation mechanism, evaluations of supported institutions are made periodically through site-visits by consultants and Secretariat. Their reports are made available to the respective institution Heads as feedback on their institution's activities and as a basis for appropriate changes in their institution development programme.

(51) Training

The evaluation of training was designed bearing in mind that training activities should contribute to the strengthening of institutions. The data required to make an evaluation was to be collected by the internal evaluator, with respect to training grants given to long-term supported institutions and by the Secretariat, with respect to other institutions.

The award of a training grant has four related stages: selection of a candidate; selection of the training institution and programme; evaluation of

the trainee's progress; and evaluation of the impact of the training received on the trainee's home institution and country.

Formal evaluation has been started only recently, although reports from individual trainees and their supervisors are constantly monitored for feeding back information to the individuals concerned. Results of the formal evaluation of training activities will be available by the end of 1982.

The information needed for the evaluation of courses and seminars is sought by attempting to answer the following questions:

- (a) What was the rationale for holding the course or seminar?
- (b) What was the organiser's intent regarding the type of students, the teaching methods and the immediate and long-term outcomes?
- (c) What type of students took the course?
- (d) What were the immediate and long-term outcomes?
- (e) What evaluations were made by those involved, concerning the students, the teaching methods, and the short and long-term outcomes?
- (f) What criteria were used for these evaluations?

3.3 Information Systems

(i) The Management Information System (MISTR)

(52) The MISTR system was designed as a simple and flexible mechanism to enable Programme Managers to monitor and analyze a number of parameters of programme operations. These include:

- administrative efficiency;
- financial controls;
- the number and distribution of scientists participating in TDR activities;
- the level of involvement of individual scientists, institutions, countries and regions;
- levels of activity in each Programme area, component, disease and trans-disease SWGs and their sections; and
- the type and number of publications which have resulted from TDR-supported work.

(53) MISTR provides regular reports on a quarterly basis and special reports to TDR management, the Executing Agency, the Co-sponsors, individual governments, agencies and institutions on an ad hoc basis. A special report entitled Country Profile which summarizes and lists all the projects, institutions and scientists in a specific country carrying out TDR activities, as well as all scientists from that country who have participated in TDR meetings and with whom the Programme communicates via the Newsletter, has proven to be particularly useful. The system continues to be refined and

expanded to provide immediately or within hours, up to date special management information as well as the regular reports.

(ii) Scientific and Public Information

(54) TDR carries out a wide variety of communication activities aimed at informing the scientific community and the public about the problems associated with tropical diseases and the goals and activities of the Special Programme. These activities include:

- The Scientific and Technical Reports. These are the comprehensive biennial report on the status, progress and future plans of the Programme as well as many other technical documents describing SWG, RSG or other activities supported by TDR.
- The Special Programme Newsletter distributed through a computerized mailing list to over 12 000 scientists throughout the world four to six times each year.
- The Quarterly Bibliography of tropical diseases produced in collaboration with the National Library of Medicine (USA) and distributed to over 5 000 scientists and institutions in tropical developing countries.
- Facts and Figures. An annual compilation of all TDR activities distributed to interested scientists, institutions and governments.
- Tropical Diseases Research Series. These books deal with current outstanding problems in research related to the control of major infectious tropical diseases and are distributed by TDR to scientists in tropical developing countries.
- Special documents for scientists and the public such as "Hybridoma Technology I & II" and popular versions of technical reports are produced as required.

4. SUMMARY

(55) The following table summarizes the management functions and the mechanisms through which they are carried out in TDR.

Summary of the Management of the Special Programme

Special Programme Management		
Functions		Mechanisms
General Areas	Specific Activities	
POLICIES AND PRIORITIES	Establish Special Programme policies	Joint Coordinating Board (JCB) aided by the Standing Committee ..
	Set Programme priorities	JCB on the recommendations of the Scientific and Technical Advisory Committee (STAC)
	Set Research Capability Strengthening priorities	STAC
	Set Research and Development priorities	STAC
	Set priorities within SWGS	Individual Scientific Working Groups (SWG) and their Steering Committees
PLANNING AND RE-PLANNING	Total Programme planning	Programme Director aided by Research Strengthening Group (RSG), SWGs, SWG Steering Committees and Secretariat (HQ and Regional Office staff)
	Research Capability Strengthening planning	RSG aided by Executive Sub-Group and Secretariat Research Strengthening Team (RST)
	SWG planning	SWG and SWG Steering Committee aided by Secretariat
	Project planning	National scientists, national institutions aided by RSG Executive Sub-Group, SWG Steering Committees and Secretariat
ASSESSMENT	Assess projects for relevance	SWG Steering Committees, RSG and RSG Executive Sub-Group
	Assess projects for scientific quality	SWG Steering Committees, RSG or RSG Executive Sub-Group aided by external "peers"

Summary of the Management of the Special Programme (continued)

Special Programme Management		
Functions		Mechanisms
General Areas	Specific Activities	
ETHICS	Establish guidelines	Director-General on the advice of the ACMR and Secretariat Committee on Research involving Human Projects (SCRIHS)
	Review projects	SCRIHS
APPROVAL	Approve Programme and Budget	JCB on the advice of STAC and the Standing Committee
	Recommend projects for funding	RSG, its Executive Sub-Group and the RST or SWG Steering Committees
CONTRACTS	Issue contracts	Programme Director (Executing Agency)
RESOURCES	Obtain financial resources for the Programme	Co-sponsors and Cooperating Parties
	Allocate resources to the Programme Areas and individual SWGs	JCB on the advice of STAC, the Standing Committee and the Executing Agency
	Allocate resources to individual projects	Programme Director on the recommendation of the RSG and its Executive Sub-Group or the SWG Steering Committees
IMPLEMENTATION OPERATION AND MONITORING	Implement, operate and monitor the Programme	Programme Coordinator and Director
	Implement, operate and monitor individual projects	RSG and its Executive Sub-Group or SWG Steering Committees and the secretariat
EVALUATION	Evaluate the Programme	JCB aided by STAC
	Evaluate the Science and Technology	STAC aided by the Scientific and Technical Review Committees (STRC)
	Evaluate individual institution strengthening and training activities	RSG aided by ESG
	Evaluate individual SWGS	STAC aided by the STRCs
	Evaluate individual research projects	SWG Steering Committees aided by external "peers"