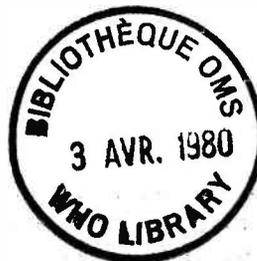




THIRTY-THIRD WORLD HEALTH ASSEMBLY

Provisional agenda item 26.1



INDEXED

DEVELOPMENT AND COORDINATION OF BIOMEDICAL AND HEALTH SERVICES RESEARCH

Progress report by the Director-General

This document reports on the Organization's research promotion and development approaches, with special emphasis on regional activities and the new mission-oriented research efforts. Progress in preparing a medium-term programme for research promotion and development has reached a sufficiently advanced stage to permit its presentation to the next session of the Programme Committee of the Executive Board.

The report also includes a statement on research capability strengthening and career structures in developing countries. The Health Assembly is invited to consider this important problem and to advise on proposals for further action.

Finally, for the Health Assembly's information, there is a brief section on WHO's participation in the United Nations Conference on Science and Technology for Development (Vienna, 1979) in accordance with resolution WHA32.15.

Two annexes are attached, the first summarizing progress in the Special Programme of Research, Development and Research Training in Human Reproduction and the second summarizing the proceedings of the global Advisory Committee on Medical Research at its twenty-first session (19-22 November 1979).

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## I. INTRODUCTION

1. The importance of research development and coordination in fulfilling the programme goals of the Organization was reaffirmed by the Thirty-second World Health Assembly in May 1979. Considering that biomedical and health services research and the application of its results will be among the decisive factors for the attainment of the goal of health for all by the year 2000, the Assembly requested the Director-General to accelerate the further development and application of activities that would promote the development and coordination of health research (resolution WHA32.15).<sup>1</sup> The Health Assembly further requested the Director-General, inter alia, to ensure the active participation of WHO in the United Nations Conference on Science and Technology for Development.

2. An increasing number of research promotion and development activities are being carried out at national, regional and global levels, as definitive elements of the Organization's Sixth General Programme of Work. This document summarizes progress in research activities carried out at the regional level, as well as some recently expanded research efforts.<sup>2</sup> In addition, a section is provided on research capability strengthening and career structures in developing countries. Finally, a brief post-conference report on the United Nations Conference on Science and Technology for Development (Vienna, August 1979) is presented for information. Two annexes are also included, the first summarizing progress in the Special Programme of Research, Development and Research Training in Human Reproduction and the second summarizing the proceedings of the global Advisory Committee on Medical Research at its twenty-first session (19-22 November 1979).

## II. REGIONAL RESEARCH ACTIVITIES

3. The following sections summarize the main developments in health research in each of the six WHO regions. The respective global and regional advisory committees on medical research (ACMRs) continue to play a central role in advising the Secretariat in planning, implementing and evaluating WHO's research activities.<sup>3</sup>

### (a) African Region

4. The Regional Committee has strongly encouraged the development of research activities, and six Member States have made a financial contribution to the special regional fund for medical research.

5. Subsequent to the second session of the African regional ACMR and its recommendations, a number of research activities have been initiated. Research priorities have been identified with regard to the major parasitic diseases (malaria, onchocerciasis, schistosomiasis), immunological research and health services research. The Tropical Diseases Research Centre at Ndola, Zambia, is becoming a major research and training centre, with emphasis on field studies of new drugs and the epidemiology of tropical diseases. Moreover, a regional project to provide grants for research and research training is now operational. Workshops have been organized for training in research methodology and to develop the human reproduction programme in the Region. Finally, a proposal to launch an African health sciences publication has been put forward.

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<sup>1</sup> Document WHA32/1979/REC/1, p. 14.

<sup>2</sup> The UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases is discussed in a separate document (A33/10).

<sup>3</sup> More detailed information is available on regional research activities in document ACMR 21/79.5.

6. Following a recommendation of the African ACMR, it was decided to establish a research promotion subcommittee further to stimulate country research activities; a health services research study group, which would give priority to primary health care; and a diarrhoeal diseases control study group to prepare the regional component of the global diarrhoeal diseases control programme. The research promotion subcommittee visited 10 countries in 1979, and the two study groups have been formed and are scheduled to meet in 1980.

7. In the field of nutrition, a group of 12 experts from 15 countries engaged in nutrition research was invited to the first Consultation Meeting on Nutrition Research and Training, held in Addis Ababa (Ethiopia) from 13 to 16 August 1979. The objectives of the meeting were to define research and training priorities, to identify programme needs and to suggest mechanisms for project formulation and coordination. Detailed recommendations were made on all these objectives, and it was suggested that the African ACMR should have a food and nutrition research and training subcommittee to participate in the formulation, implementation and evaluation of the programme.

(b) Region of the Americas

8. The regional ACMR has concentrated on health services research, with particular emphasis on the need to extend health services coverage. Working groups have been constituted to study these problems, and their conclusions were presented to the Subcommittee on Health Services Research of the global ACMR in June 1979.

9. Following the recommendations of a working group, and in view of its importance in the Americas, amoebiasis has been included as part of the programme on diarrhoeal diseases.

10. National and subregional meetings have been held to promote the definition of national policies in health research, including the study of present and future coordination strategies, training of manpower, and ethical aspects.

11. An inventory of human and material resources for health research has been completed for all countries of Central America, with the exception of Nicaragua. Surveys are being carried out in Bolivia, Colombia, Ecuador, Mexico and Peru, and will soon be initiated in Argentina, Brazil, Chile and Venezuela.

12. Research training grants and medical research grants are being used to strengthen national research capabilities and to assist young scientists in training as well as in reintegrating into their home institutions. Furthermore, support is given to scientists from developed countries who carry out training programmes in and for the benefit of developing countries.

13. Special emphasis has been given to the inclusion of research and training programmes in the curricula of postgraduate studies in public health in universities in Brazil, Colombia, Costa Rica, Cuba, Dominican Republic and Mexico.

14. The Organization's centres continue to carry out research in: nutrition - Institute of Nutrition of Central America and Panama (INCAP) and the Caribbean Food and Nutrition Institute (CFNI); zoonoses - Pan American Foot-and-Mouth Disease Center (PANAFTOSA) and Pan American Zoonoses Center (CEPANZO); sanitary engineering, environmental health and ecology - Pan American Center for Sanitary Engineering and Environmental Sciences (CEPIS) and the Center for Human Ecology and Health (ECO); and perinatology - Latin American Center for Perinatology and Human Development (CLAP). The Regional Library of Medicine and the Health Sciences (BIREME) is expanding its information network and offers a strong programme of selective dissemination of information.

(c) South-East Asia Region

15. The South-East Asia Advisory Committee on Medical Research (SEA/ACMR) has reviewed the progress of research in the Region, which is progressively developing to include almost all the priority areas identified by the Committee at its first session in 1976. Following a

resolution of the Regional Committee calling for the allocation of 5% of the regional budget for research, the activities of the programme were enhanced in mid-1978. This enabled WHO further to promote and support several research projects in recommended priority areas, as well as training in research through structured courses and opportunities under the visiting scientists/research training grants schemes.

16. The mechanisms developed to implement the research programme allow for the requirements of national governments as well as those of the Organization. Close liaison has been established with all echelons of WHO, at national as well as global level. Regional Office procedures are kept under constant review, in order to permit speedy action to satisfy the varied requirements of Member States.

17. Because the useful results of research are not at present fully utilized, WHO has involved programme administrators and policy makers together with research scientists in research activities in the Region. This approach has rapidly built up a greater sense of awareness, not only among research institutions and scientists, but also within ministries of health, which are the principal utilizers of research results.

18. In order to promote better coordination of research within countries as well as collaboration within WHO, and among the countries themselves in the spirit of TCDC, the Organization has taken steps to promote concerted efforts on the part of all the authorities concerned in Member States in order to develop research policies, priorities and plans, including the development of the manpower required and institutional strengthening. The development of such mechanisms within countries is seen as a useful trend for the development of WHO's own medium-term programme as well as its General Programmes of Work, in addition to the benefit that is expected to accrue to the countries.

19. The Region, through a process of upward synthesis of country requirements, has contributed to the development of the Organization's programmes in health services research, diarrhoeal diseases, and nutrition action-cum-research. The global programmes that are being developed through these mechanisms truly reflect national and regional needs.

20. A meeting of the directors of medical research councils or analogous bodies was held in Colombo (Sri Lanka) from 18 to 21 December 1979. This meeting, the first to be organized by a regional office, was a timely development following the informal meeting on collaboration between medical research councils (and analogous institutions) and WHO, held in Geneva, 2-4 December 1974. It may be recalled that resolution WHA27.61 endorsed, inter alia, proposals for increased coordination of research activities and for exchange of research information by WHO through medical research councils or analogous bodies. The proceedings of the Colombo meeting reflected major concerns about research information as well as other important issues such as TCDC, research for "health for all", priority determination and policy formulation in research and research training. The meeting laid the foundations for the development of coordinated national programmes, in close cooperation with WHO.

(d) European Region

21. Health services research has been the principal focus of planning activities for research in the European Region. At its second session, in October 1977, the European Advisory Committee for Medical Research (EACMR) identified five areas within the general context of health services research which merited high priority for future research promotion and development efforts. These were broadly regarded as distinct from, but nevertheless complementary to, the acknowledged research needs of the major programmes of the Regional Office, which deal with the care of the elderly, cardiovascular diseases, health manpower development, mental health, nursing, promotion of environmental health, and road traffic accidents. The five research priorities are:

- (1) standardization of methods, measurements and terminology in biomedical and health services research;

- (2) prevention, prophylaxis and early detection;
- (3) evaluation of drugs and other therapeutic and diagnostic substances;
- (4) problems in health care delivery;
- (5) economic aspects of health care.

22. In respect to each of the above priority areas, a planning group was initially convened; subsequently, a consolidated report has been prepared which identifies problem areas for research and also recommends action. From the outset it was recognized to be of particular importance to achieve effective coordination with ongoing activities in Member States, and mechanisms are evolving to ensure that the priority areas identified by the EACMR are not merely in harmony with, but indeed are responsive to, the scientific needs identified by countries in the Region. As a consequence, a fresh dialogue has been set in motion between the Member States and the Regional Office with the ultimate objective of formulating an intercountry team approach in research for the benefit of the entire Region. In particular, the importance of appropriate information in order to achieve effective coordination has been fully recognized. The Sixth Planning Group on Information Needs met with the objective of utilizing data in countries to build up useful information of regional scope. The importance of information based on national systems was particularly stressed.

23. Throughout this process of identifying and refining priorities, effective liaison has been maintained with other groups broadly active in medical research. Cooperation has been maintained with the European Medical Research Council, and a meeting of European bodies primarily concerned with the subregional coordination of health services research was held in September 1979. During this meeting possibilities for enhanced coordination of current as well as future service-related research activities were reviewed, and the need for active coordination and liaison was confirmed.

24. In order to ensure a definitive focus on a major health problem in Europe, it has been decided to develop further initiatives around the common theme of research on hypertension as it relates to health care. As part of this process a review was made of information available on 135 hypertension research studies now in progress in the Region. Hypertension serves as a useful model for a variety of reasons, including its interactions with other major chronic diseases in the Region, e.g., diabetes, renal disease, ischaemic heart disease, atherosclerosis and stroke. Moreover, the wide range of factors in hypertension provides an unusual opportunity to take into consideration multiple aspects of relevant health services such as the evaluation of contributing and risk factors, screening and detection, clinical management of hypertensive disease, and an assessment of risk/cost benefits.

25. The Regional Committee for Europe has been specifically consulted and has been particularly helpful throughout this early process wherein research priorities are identified and substantive programme initiatives have been evaluated. In addition there has been an active and reciprocal relationship between the EACMR and the global ACMR through a modest overlap of membership as well as active liaison at the Secretariat level.

(e) Eastern Mediterranean Region

26. Health services research has continued to receive high priority in the regional research programme and a number of research and training activities have been implemented, such as the pre-course workshop, the regional orientation course in health services research, and the national workshop held in Islamabad. National workshops will be held in several more countries of the Region, and adequate support will be provided for the development and implementation of research projects arising from them.

27. Controlled trials for assessing the effectiveness of oral rehydration in children under the age of three years have been carried out in two countries of the Region. They have provided evidence that oral rehydration in mild and moderate diarrhoeal diseases of children, using the formula recommended by WHO and UNICEF, is feasible at village level and is effective

in producing speedier rehydration and recovery. It also has a marked effect on the nutritional status for at least six months after the episode of diarrhoea so treated. This latter finding was somewhat unanticipated and requires further explanation; it could have significant, positive implications for child health.

28. A regional research programme for promoting and developing traditional medicine has been developed. Its objectives are to collect baseline information on traditional practitioners and their practices, and to promote their utilization in the delivery of health services.

29. The subject of liver diseases was studied by a regional scientific group, which assessed the magnitude of this problem in the Region and laid down a programme of work to further knowledge of these diseases.

30. It has been decided to establish a regional advisory panel on parasitic diseases. This panel will concern itself with schistosomiasis, filariasis (including onchocerciasis), trypanosomiasis, leishmaniasis and other parasitic diseases of importance to the Region, excluding malaria, for which a separate panel has already been established. Proposals for field research in malaria have been reviewed and endorsed by the Eastern Mediterranean Advisory Committee on Medical Research (EM/ACMR). They include activities related to biological control, environmental management, effects of antimalarial drugs, and integrated approaches to malaria control.

31. A regional medium-term programme for research promotion and development has been formulated. Its main emphasis is on the development of national research capabilities, national determination of research priorities in the light of social health policy, and implementation of relevant research activities. The strengthening of research capability in countries will be mostly carried out through collaboration with national biomedical scientists in planning and organizing relevant research studies and through provision of training in research practices and methods. Development of national capabilities in research management will be given high priority in activities dealing with strengthening of research capabilities. An important component of the regional programme is to facilitate the transfer of existing and new knowledge dealing with control and prevention of common diseases, and its subsequent utilization in the development of comprehensive health services.

32. The EM/ACMR, while noting the flexibility of the proposed programme, which could be modified in the light of experience gained during its progress, recommended that medical research councils or analogous bodies, where they exist in countries of the Region, should be closely associated in future planning and implementation of the regional medical research programme.

(f) Western Pacific Region

33. The strengthening of national research capabilities has been one of the major preoccupations of the Western Pacific Advisory Committee on Medical Research (WP/ACMR), which identified three institutes in three countries of the Region for initial support. Research grants were also awarded to support the development of an interdisciplinary research programme against Schistosoma japonicum. A wider distribution of WHO collaborating centres by discipline and country is being planned and collaboration of centres with each other encouraged.

34. A number of research themes have been promoted as part of WHO programmes of technical cooperation, following the recommendations of the WP/ACMR:

- (1) Research on clonorchiasis and paragonimiasis;
- (2) An interdisciplinary, multicountry programme on diarrhoeal disease control, with emphasis on operational aspects of control measures;
- (3) Intervention studies aimed at reducing mortality and morbidity from acute respiratory infections by at least 50% by the year 2000;

- (4) In addition to the above three major efforts, research is being promoted in:
- (a) the application of modern immunological techniques;
  - (b) diabetes in Polynesian and Micronesian islands;
  - (c) health hazards of working populations, especially in connexion with changing occupational environments;
  - (d) vector control measures;
  - (e) the methodology and planning of health services research.

35. Intercountry training activities in the community control of cardiovascular diseases have been implemented and will be followed up by a longer course on the epidemiology of both communicable and noncommunicable diseases. Similarly, the activities of the working group on health services research will be followed by national courses.

36. The concern of the Organization to develop self-reliance in research in developing countries has been expressed individually to national health authorities and, through the WHO programme coordinators and other official contacts, questionnaires have been completed for five countries in the Region. In two of the five countries surveyed, professional career development in full-time health research does not exist, either for physicians or other medical scientists or for technicians. In three of the five countries, special incentives are given to support full-time research workers in health or biomedical sciences and, in those same countries, there is a legislative basis for the provision of support for health and biomedical research. In some developing countries of the Region, the conditions of service for research workers have recently improved, e.g., special salary scales for full-time research workers have been established. Elsewhere, however, medical staff need to supplement their income with private practice, and research scientists and technicians often receive unrealistically low salaries.

37. A working group of directors of national medical research councils was held from 11 to 13 February 1980. It discussed various aspects of the organization of health research and the role that WHO can play in assisting Member States to establish or strengthen medical research councils. The working group recommended that each country in the Region should identify or establish an organized body with sufficient authority to give it responsibility and leadership in national health research and sufficient independence for its technical programmes. It was also suggested that a suitable name for such a body might be "health research council"; the proposed functions were discussed, particularly in respect of its responsibilities for building up and retaining a competent cadre of research workers. Finally, the group recommended that mechanisms for ethical review be established at institutional and national levels.

### III. NEW MISSION-ORIENTED RESEARCH EFFORTS

#### (a) Health services research

38. "Health services research (HSR) is the systematic study of the means by which biomedical and other relevant knowledge is brought to bear on the health of individuals and communities, under a given set of conditions."<sup>1</sup>

<sup>1</sup> WHO document ACMR/HSR.1/78.1.

39. It is "action research" which, by the use of scientific methods, aims to provide information and insights which will:

- facilitate the development of a better understanding of health problems and the role and influence of health services;
- assist in more rational health planning;
- result in more effective and efficient health care which at the same time is better attuned to the cultural and emotional needs of people;
- encourage greater personal, family and community self-reliance in health matters by actively involving people in the study of their own problems.

40. Health services research emerges, therefore, as an indispensable and powerful tool for the formulation and acceptance of health policies and for their translation into concrete actions.

41. The recognition of this concept in many countries has been promptly echoed in the resolutions of regional committees, Executive Board sessions and World Health Assemblies and in the deliberations of regional and global ACMRs.

42. The Alma-Ata Conference emphasized that to implement primary health care "many long-range and complex issues need to be resolved, that the contribution of traditional systems of medicine calls for further research, and that new problems are constantly emerging as implementation proceeds". It therefore recommended "that every national programme should set aside a percentage of its funds for continuing health services research; organize health services research and development units and field areas that operate in parallel with the general implementation process; encourage evaluation and feedback for early identification of problems; give responsibility to educational and research institutions and thus bring them into close collaboration with the health system; encourage the involvement of field workers and community members; and undertake a sustained effort to train research workers in order to promote national self-reliance".<sup>1</sup>

43. Accordingly, WHO's health services research effort at all levels is being oriented towards the ultimate goal of health for all by the year 2000 through primary health care and is becoming increasingly sensitive to country needs in the attainment of this goal. In the Organization, the activities are widespread and decentralized. They are widespread because such research is part and parcel of all technical programmes, including the special programmes of research; they are decentralized because most of these activities are based in the countries for which the results are intended while the development of the WHO health services research programme has evolved as an upward synthesis starting from the countries themselves.

44. Two main objectives are pursued: (1) the strengthening of national capabilities for health services research in its various aspects; and (2) cooperation in socially relevant action research aimed at the solution of national priority problems.

45. A major impetus to the work in WHO, and perhaps also in the countries, has been provided by the establishment of a global ACMR Subcommittee on Health Services Research in June 1978. Complementary to other activities in progress at regional and global levels, three meetings of the Subcommittee took place in 1978 and 1979, and two more are scheduled for 1980. Members of the Subcommittee, in between meetings, have maintained a close and

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<sup>1</sup> See Alma-Ata 1978, Primary health care. Report of the International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978. Geneva, World Health Organization, 1978, p. 29.

continuous involvement in the work of WHO at all levels. The first session<sup>1</sup> of the Subcommittee took place in Geneva in November 1978 and it discussed the nature of health services research, its definition and scope, and formulated a set of guiding principles and a plan of activities. The second session<sup>2</sup> took place in Alexandria, Egypt, in June 1979 in the form of an interregional consultation in which national experts, an Executive Board member and WHO staff participated. The main purposes were to sharpen the possible contributions of health services research to the proposed world strategy of health for all by the year 2000 through primary health care and to assess the current WHO commitment to health services research and related activities. Background information<sup>3</sup> collected for the meeting indicated that WHO was at that time involved in more than 200 substantive research or research support activities in 94 different countries in a variety of areas of concern. Substantive research appeared to include: the assessment of needs and demands as a basis for planning and management of the services; the study of new approaches in planning and management; the study of alternative approaches to the delivery of primary health care and the development of supportive infrastructures; economic aspects and financing of health services; monitoring and evaluation; analysis of trends and definition of indicators; behaviour of communities and their participation in health action; traditional practices; appropriate health technologies; development and management of health manpower and its integration with health services development; disease control; and emergency services. Research support activities included: orientation and training in health services research; strengthening of institutions; collection and dissemination of information; technical support and financing in countries; and the development of health services research methodology. Efforts to improve on this information continue. At this second session of the Subcommittee, a strategy was formulated for health services research where the strengthening of the capabilities of countries to engage in socially relevant health services research and attain self-reliance was identified to be by far the most important action to consider, especially in the developing world.

46. The third session<sup>4</sup> of the Subcommittee (Washington, D.C., September 1979) concentrated on approaches to mobilizing financial support for health services research in countries and prepared a proposal for initial funding of the programme in 1980-1981. The session scheduled for 1980 will concentrate on orientation and training and institution strengthening and on substantive research with emphasis on maternal and child health and will take place in the Western Pacific and African Regions respectively.

47. In the regions, all six ACMRs have considered the matter of health services research as a priority. In four, a specialist sub-group was formed and has met. At all levels, progress has included:

- progress towards the establishment of national focal groups and the identification of collaborating institutions;
- the identification of priority problems for research and the consideration and evaluation of research project proposals and technical collaboration in them;
- the holding of seminars, workshops, courses, etc. on health services research at regional, subregional and national levels;
- the preparation of directories or registers of relevant research or of research-related information;
- the preparation (in progress) of a WHO booklet on health services research and of other publications to clarify the contribution of health services research to health policies, health systems structure and management, and health development in general.

<sup>1</sup> WHO document ACMR/HSR.1/78.1.

<sup>2</sup> WHO document ACMR/HSR.2/79.

<sup>3</sup> WHO document HSR/79.1.

<sup>4</sup> WHO document ACMR/HSR.3/79.

(b) Mental health research

48. Mental health and psychosocial research in the context of WHO programmes is part of the effort for a total mobilization of the Member States and the Organization toward the attainment of the goal of health for all by the year 2000, an effort which lays a new emphasis on the role of biomedical and health services research at the levels of country health programmes, regional and global activities. A special impetus for a re-examination and further strengthening of the Organization's role in relation to mental health research is provided by the report of the Alma-Ata Conference, which included promotion of mental health among the constituent elements of primary health care.

49. WHO-supported mental health research was reviewed extensively by the ACMR at its sixteenth session (1974). The Twenty-eighth World Health Assembly (1975) urged Member States "to stimulate and support mental health research relevant to their needs" and requested the Director-General "to stimulate and coordinate research of public health relevance in the field of mental health and assist countries in developing their own research potential" (resolution WHA28.84). Important developments which have subsequently taken place include the formulation and implementation of a medium-term programme in mental health, as an integral part of the Sixth General Programme of Work (1978-1983), the establishment of programme coordinating mechanisms at the national, regional and global levels, and the expansion and strengthening of networks of collaborating institutions actively engaged in mental health research and training in over 40 countries.

50. The problem-solving potential of mental health research throughout the world is not yet fully harnessed to the pressing practical needs. The last decades have witnessed a qualitative spurt in the growth of several major areas of mental health research. Advanced methods and tools for epidemiological research, applicable in a reliable way in different cultures, help to draw a more complete picture of the nature of mental health problems and their ecology in various populations. Recent discoveries in the field of brain neurochemistry, morphology, physiology and immunology have mapped areas of cerebral function and structure about which little was known until several years ago. Psycho- and neuropharmacology now open prospects for radically innovative approaches to the control of mental and neurological dysfunction. Steps forward have been made in the fields of developmental psychology and medical anthropology which aim to bridge the gap between individual-centred and social-structure-oriented approaches in understanding the processes of health and disease. All this suggests strongly that if the next scientific revolution is in the biological sciences, the brain and behavioural sciences will be most probably in its avant-garde. However, although this perspective raises new hopes that serious mental disorders can be prevented and effectively treated, it is nevertheless pertinent to emphasize that such desirable developments may be hampered and delayed mainly by obstacles of a social nature.

51. The nature of research in the field of mental health and about mental health and neurological problems affecting populations is such that multicentre collaborative research appears to be one of the most efficient strategies for tackling them. Case-finding and the assessment of the individual case by psychological, neurological or biological means are complex, time-consuming and costly procedures, but they are essential from the point of view of contemporary quantitative research strategies which require large samples to be investigated. Further, the etiology, pathogenesis and course of psychiatric and neurological disorders are determined by multiple factors whose different mode of operation and effects in different cultural and social environments may provide important clues to the underlying causal mechanisms and, ultimately, their prevention and control. The study of cultural and ecological variation, however, is rarely possible within the confines of any single population or country. These considerations illustrate the scientific and logistic advantages of the coordinated, collaborative multicentre approach which makes possible simultaneous multiple replications of a research design in conditions of a "natural experiment" taking place in a variety of sociocultural environments. Last but not least, the accompanying benefits of this approach include the sharing and transfer of mental health technology, research training of high quality and practical relevance, shortening of the period of time necessary for the completion of a major task, and more effective use of research funds.

52. The achievements and products of research carried out in the framework of the WHO medium-term mental health programme so far can be classified under five headings:

(1) development of a common language and standardized, crossculturally applicable instruments for screening, assessment, diagnosis and classification of mental and neurological disorders, drug- and alcohol-related problems, and impairments and disabilities resulting from them; (2) new knowledge concerning the incidence, manifestations, course and outcome of mental and neurological disorders and of psychosocial problems of major public health importance, such as schizophrenia, depression and other functional psychoses, peripheral neuropathies, cerebrovascular disorders, alcohol-related problems, and drug dependence; (3) development and improvement of treatment methods, including assessment of the effects of psychotropic drugs in different populations exposed to variations of climate, nutrition and physical health; development and dissemination of a "minimal list" of psychotropic drugs; collection of information about side effects of psychopharmacological agents, and exploratory studies of new psychotropic substances; (4) development and assessment of new models for the organization of mental health services in developing countries which emphasize the provision of basic mental health skills to rural primary health care personnel and the utilization of a "package" of appropriate technology for assessing and managing the most common mental health problems; (5) assessment of the psychosocial aspects of general health care and research on high-risk groups and conditions, including investigations of the psychosocial sequelae of family planning technologies such as female sterilization, studies on the psychosocial adjustment of children of migrant workers, and research on stress and general morbidity. Most of these areas of research have produced knowledge and technologies directly relevant to the planning and provision of mental health care. Detailed information about the output of the programme is available and a bibliography containing references to relevant publications which have appeared up to 1979 is given in documents MNH/78.8 Rev.1 and MNH/79.2.

53. The research component of the mental health programme is subordinate to the overall objectives of this programme formulated in collaboration with countries and adopted by the Thirty-first World Health Assembly (document A31/17 and resolution WHA31.21), as follows:

(1) To prevent or reduce psychiatric, neurological and psychosocial problems including those related to alcohol and drug dependence;

(2) To increase effectiveness of general health services through appropriate utilization of mental health skills and knowledge;

(3) To develop strategies for intervention based on an increased awareness of mental health aspects of social action and change;

The nature of these objectives presupposes further improvement and strengthening of the collaborative, multidisciplinary approach to mental health research which should involve workers with background in psychiatry, epidemiology, neurology and neurobiology, pharmacology, anthropology, social psychology and sociology, biometrics and statistics, and public health.

54. The technical options for research activities were discussed in a preliminary way during the third meeting of the Global Coordinating Group for the Mental Health Programme, held in Alexandria in September 1979, and with centres, teams, and individuals collaborating in WHO coordinated programmes. They will serve as a basis for further discussion with countries and the scientific community about research activities to be undertaken in the framework of the Seventh and subsequent General Programmes of Work. They will also be submitted to the Subcommittee of the global ACMR dealing with mental health and psychosocial research, and to regional ACMRs. These options are presented in three groups, corresponding to the objectives of the programme listed above:

(1) Research contributing to the prevention and management of mental and neurological disorders and psychosocial problems such as those related to alcohol and drug abuse

(i) Epidemiology, ecology and clinical characteristics of mental and neurological disorders in different populations:

- search for clues to etiology and pathogenesis: biological markers, genetic isolates, extreme variations in incidence and their sociocultural and demographic correlates;
- assessment of environmental influences on brain development and behaviour (effects of nutrition, environmental pollution, radiation, infectious and parasitic diseases, stress and psychosocial factors).

(ii) Development of new treatment technologies:

- evaluation of new psychopharmacological agents and treatment methods (effects of endorphines and derivatives, other neurohormones, interactions between psychopharmacological agents and environmental factors);
- appropriate technologies for management of mental disorders and prevention of psychosocial disability (simplified diagnostic tools, behavioural and biofeedback techniques, training in social skills and their applicability in different cultures).

(iii) Neurobiological basis of central nervous system functions and disorders:

- studies on neurotransmitters, receptor function and modulation of synaptic events; neuronal aging; glial-neuronal interactions; axonal transport, nerve cell regeneration;
- studies on the hierarchical organization of the structures and functions of the human nervous system and its behavioural correlates.

(2) Research contributing to the development of mental health technologies to be used in general health care programmes

(i) Mental health effects of public health programmes:

- studies on the effects of expanded programmes of immunization on the prevalence of mental disorders; cerebral and mental health consequences of tropical diseases; effects of iodine deficiency;
- studies on psychological disorders associated with identifiable physical disease (e.g., cancer, endocrine disorders, hypertension) and evaluation of the contribution of psychological management to overall outcome.

(ii) Development and evaluation of behavioural technologies in public health programmes:

- lifestyle modification strategies in multiple risk factor interventions (prevention of cardiovascular disorders, traffic accidents, alcohol- and drug-related problems);
- psychosocial evaluation of programmes for the prevention of disability and rehabilitation of the disabled;
- studies on the psychology of decision-making, leadership, motivation and group interaction in relation to the selection and training of health workers and the formation of primary health care teams.

(3) Research concerning mental health aspects of social action and change

(i) Enhancement of the positive health impacts of development:

- studies on the preconditions for healthy personality development throughout the life cycle (childhood, adolescence, adulthood, old age);
- studies on the psychosocial aspects of selected types of human environment (urban settings and inner city life, effects of industrialization on lifestyles, mental health impact of organizations and institutions);

- studies on the prevention of iatrogenic disorders and negative psychosocial effects of medical technology and institutions;

- studies on factors influencing community cohesion, e.g., self-help movements and groups.

(ii) Development of appropriate technologies for assessment of psychosocial factors:

- identification and testing of psychosocial indicators of development and quality of life;

- appropriate psychosocial survey technologies.

(c) Diarrhoeal disease research

55. In response to the concern of Member States expressed at the Thirty-first World Health Assembly in May 1978 (resolution WHA31.44), WHO intensified its efforts to evoke a greater awareness of the deleterious effects of the diarrhoeal diseases and to stimulate concerted action for their control. In May 1978 WHO convened a Technical Advisory Group on Programme Development for Diarrhoeal Diseases Control,<sup>1</sup> which recommended objectives and strategies for an action-oriented control programme.

56. These include the reduction of diarrhoeal disease mortality and associated malnutrition by promotion of oral rehydration therapy and use of proper dietary practices, and the reduction of diarrhoeal disease morbidity by due attention to other critical aspects of child care and improvement and proper utilization of water supply and sanitation facilities.

57. In line with these objectives and strategies, a major thrust of the WHO programme for the control of diarrhoeal diseases is to strengthen the capabilities of national health services to incorporate existing knowledge on the treatment and prevention of diarrhoeal diseases into their national programmes of primary health care. To date, approximately 70 countries have begun to develop programmes for the control of diarrhoeal diseases.

58. Despite the many recent advances in knowledge about the treatment and prevention of diarrhoeal diseases, continued efforts and research are needed to further improve the strategies for national control programmes.

59. The programme thus comprises two major components: an implementation or health services component and a research component.

60. The following principles form the basis of the management plan being formulated for the research component:

(i) It is recognized that the research component is complementary to an action-oriented diarrhoeal diseases control programme being carried out at the country level as an integral part of primary health care. As such, the plan is designed to strengthen and support national activities. This linkage between research and implementation requires the research programme to be extremely responsive to the operational needs of national programmes and provides a mechanism for early application of research findings.

(ii) The plan takes into account the fact that there have recently been a number of highly promising research developments and advances in different areas that could substantially contribute in the near future to improvements in the prevention and treatment of diarrhoeal diseases.<sup>2</sup>

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<sup>1</sup> Development of a programme for diarrhoeal diseases control. Report of a WHO Advisory Group, 2-5 May 1978 (document WHO/DDC/78.1).

<sup>2</sup> New knowledge and research needs in the control of acute diarrhoeal diseases (document BAC/DDC/78.1).

(iii) The research undertaken will therefore be in support of priorities for both operational and basic research. These priorities have been outlined by expert groups that have met during the past three years. These include (a) regional multidisciplinary groups (e.g., scientific working groups, study groups, workshops, etc.), which have established regional research priorities, and (b) global scientific working groups (in the areas of immunity and vaccine development, clinical management of diarrhoea, environmental health and diarrhoeal diseases prevention, and child care practices related to diarrhoeal diseases) and scientific working subgroups in the field of epidemiology and etiology (rotavirus and other viral diarrhoeas, Escherichia coli diarrhoea, cholera and other vibrio-associated diarrhoeas, enteric infections due to Campylobacter, Yersinia, Salmonella and Shigella, and parasite-related diarrhoeas), which have reviewed available knowledge and outlined global research priorities. The management structure provides a means by which these priorities will be continuously reviewed and modified as appropriate.

(iv) In the plan, a peer review mechanism is used to ensure that decisions to support projects are made objectively at all levels by experts outside WHO. This principle, which is followed by many national research councils, will guarantee the integrity of the research programme.

(v) The services of the Organization at the national, regional and global levels will execute and coordinate the programme.

61. UNICEF, UNDP and the World Bank have been active collaborators in the development of the programme, and support for it has been received from the United Kingdom and the United States of America (Center for Disease Control). Support from SIDA and the Swedish Agency for Research Cooperation with Developing Countries, and from DANIDA, is imminent.

62. The following research activities have been given high priority by the programme's Technical Advisory Group (the order in which they are listed is not meant to reflect their relative importance):

(1) to determine the epidemiological patterns of the known etiological agents of acute diarrhoeal disease in different geographical, environmental, and cultural conditions, with the aim of developing improved measures for the interruption of transmission;

(2) to identify the etiological agents responsible for acute diarrhoeas whose etiology cannot yet be attributed to a recognized pathogen;

(3) to study and compare different methods of preparation and packaging of oral rehydration formula and systems for its delivery at the primary health care level;

(4) to compare, in terms of efficacy and safety, alternative compositions of glucose (sugar)-electrolyte (salt) mixtures for oral rehydration with the WHO formulation of already proved effectiveness;

(5) to develop and improve vaccines against the major causes of acute enteric infections (e.g., rotavirus, enterotoxigenic Escherichia coli, Vibrio cholerae, Salmonella typhi);

(6) to develop better drugs for the treatment and prevention of acute diarrhoea;

(7) to identify the infant feeding and child care practices than can best reduce diarrhoea-related malnutrition and mortality;

(8) to determine the most effective methods of environmental intervention to reduce the transmission of diarrhoeal disease agents, including methods of enlisting community participation.

IV. RESEARCH CAPABILITY STRENGTHENING AND CAREER STRUCTURES  
IN DEVELOPING COUNTRIES

63. The strengthening of national research capability, especially in developing countries, is an essential complementary activity to research itself and takes place concurrently with research promotion and development activities. The main approaches include research manpower training at all levels, direct institutional strengthening, and the development of collaborating and other centres for research and training. The activities in support of these approaches form an integral part of essentially all regional and global research development efforts; the special programmes for research and training in human reproduction and in tropical diseases, for example, have substantial built-in responsibilities to strengthen national research capability.

64. An equally important consideration related to the strengthening of national research capability is the urgent need to promote the establishment of national research career structures to ensure that, when strengthened, research capability can be maintained and can grow at an effective operational level. The appropriate employment of research personnel is therefore an essential counterpart of research capability strengthening and is intimately linked with the general subject of research and development.

65. Available global research and development figures based on 1974 estimates<sup>1</sup> indicate that there are some 3 million research and development scientists and engineers throughout the world: 93.9% are employed in developed countries and 6.1% in developing countries. The average expenditure on research and development per scientist or engineer is US\$ 35 400 in developed and US\$ 14 500 in developing countries. Developed nations devote on the average 2.29% of their gross national product (GNP) to research and development; the corresponding figure for developing countries is approximately 0.33%.

66. As far as health research specifically is concerned, the global expenditure is estimated at 7% of the world's expenditure on research and development as a whole and follows similar geographical distribution trends. Consequently, the need to strengthen the health research capability of developing countries, and the related concern for appropriate career opportunities in these countries, are part of the wider question of how much they are willing or able to spend on research and development.

67. There is evidence that a start has been made in the right direction. For example, between 1970 and 1974 the proportion of GNP spent by developing countries on research and development increased from 0.2% to 0.33%, in pursuit of the target of 0.5% of GNP proposed for the end of the Second United Nations Development Decade (1970-1980). Global figures of any kind are prone to certain shortcomings; nevertheless, they can at least indicate an order of magnitude of differences and trends.

68. It is not known to what extent the increasing expenditure of developing countries on research and development contributes also to the related problem of career structures for scientists in these countries. However, the problem itself is well known. There are two main aspects: (i) the absence or inadequacy of tenured posts and career structures in certain fields, e.g. epidemiology, entomology, malacology, and biostatistics; and (ii) the relatively noncompetitive conditions of service, which act as disincentives to the recruitment of researchers and compel those who do take up research to carry on other remunerative activities in order to supplement their incomes.

69. Efforts to study this difficult and urgent problem and bring it to the attention of Member States are being coordinated in three phases: data collection; consultation with Member States; and communication to WHO policy bodies. It is not intended that these phases be followed in a rigidly stepwise manner. Indeed, although data collection is still continuing actively at the country level, the regions most concerned with this problem have

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<sup>1</sup> UNESCO. Estimation of human and financial resources devoted to R and D at the world and regional level. Paris, May 1979.

already discussed it at the regional committee level. Furthermore, the attention of a number of national health authorities has been drawn to the need to "provide career structures which permit research workers to devote their time fully to research and which attract young workers".<sup>1</sup>

70. On the other hand, it must be noted that in some developing countries, the conditions of service of research workers have recently been reviewed and special salary scales for full-time research personnel have been established. In others, special incentives, backed by appropriate legislation, have been given to full-time health and biomedical research workers. However, in spite of such positive indications, the situation as a whole remains a serious obstacle to the achievement of national self-reliance in health research.

71. WHO is concerned about this general lack of adequate career structures and recognizes that attempts to strengthen research capability can ultimately succeed only to the extent that governments themselves deal effectively with the problem. Many ACMR members and other scientists concerned share this view, and preliminary contacts have confirmed the pressing need for further action.

72. Any realistic approach to the problem of lack of adequate career opportunities for health research workers in developing countries will first have to address certain pertinent questions:

(1) What is the minimum, recommended range of career posts required for the research team approach to a given priority health problem?

(2) Which research or research-supporting skills (or posts) are amenable to, or recommended for, sharing between countries in the spirit of technical cooperation or joint responsibility?

(3) What are the potential budgetary implications and benefits of establishing and maintaining career structures appropriate to the recommended range of research and its supporting needs?

(4) How may the career requirements for health research be integrated into an inter-sectoral approach to research and coordinated with the total needs for research and development generally?

(5) How may national educational and manpower development systems be adapted and coordinated to fulfil the long-term personnel requirements for research development?

73. There are no simple or uniformly valid answers to these and similar questions that could be asked; each question must be answered in the context of specific and usually national circumstances. However, examples of approaches or combinations of approaches exist in many countries and a few may be mentioned: creating tenured research posts in universities and health departments to carry out commissioned health research; establishment of health research institutes with full-time staff; provision of salary supplementation, merit awards or other incentives in kind to health research workers; granting long-term research fellowship support to young research workers identified through a national talent search scheme.

74. No single approach can by itself guarantee the desired effect on research capability strengthening or achieve the goal of health research that is both relevant to social needs and effective in its quality and scope. Other factors of a purely local or national character are important in determining the choice of approach and its likely outcome. It is therefore important to study carefully selected examples in the national setting and to derive from such case studies formulations for the guidance of national policy decision-makers.

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<sup>1</sup> Resolution WPR/RC29.R10.

75. Finally, it must be conceded that there is frequently too long a delay between health research achievement and the benefits of its impact on the health of society. This fact makes it difficult for health research to compete for national resources on equal terms with other enterprises that promise short-term and more visible gains. And yet, health research is among the decisive factors for the attainment of the goal of health for all by the year 2000 and, in a wider sense, long-term investment in research is a concrete expression of hope for the future. This is the basis for the commitment to promote research and development and to strengthen national research capabilities. However, efforts in this regard will not succeed unless, at the same time, they are linked with successful attempts to provide satisfying career opportunities for those who are trained to carry out the research.

#### V. MEDIUM-TERM PROGRAMME FOR RESEARCH PROMOTION AND DEVELOPMENT

76. In response to a series of Executive Board and World Health Assembly resolutions (notably resolutions WHA32.15<sup>1</sup> and EB65.R4<sup>2</sup>) the medium-term programme is being developed as a flexible framework of approaches and activities related to the research promotion and development objectives specified in the Organization's Sixth General Programme of Work (1978-1983). Within this general framework, Member States should be able to identify activities relevant to their own national priorities and to determine the extent to which they wish to participate in technical cooperation relationships for the promotion and development of health research. It is planned to submit the medium-term programme to the forthcoming session of the Programme Committee of the Executive Board, in November 1980.

#### VI. UNITED NATIONS CONFERENCE ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (SUMMARY NOTE)

77. The United Nations Conference on Science and Technology for Development (UNCSTD), held in Vienna from 20 to 31 August 1979, was the culmination of two-and-a-half years of work by a Preparatory Committee consisting essentially of the United Nations Committee on Science and Technology for Development (CSTD), which functioned under the aegis of the Economic and Social Council. The idea of convening UNCSTD had been discussed as early as 1971 in the United Nations General Assembly, and later by the Advisory Committee on the Application of Science and Technology to Development (ACAST), which had come into being in 1964 as a result of the 1963 United Nations Conference on Science and Technology.

78. The first of the five Preparatory Committee sessions for UNCSTD was held in January 1977, when J. F. da Costa (Brazil) was elected Secretary-General of UNCSTD. As former chairman of CSTD, and previously as Ambassador of Brazil to UNESCO, he had considerable interest in the impact of science and technology on social development in both developing and developed countries. His view from the outset, which was supported by the Preparatory Committee, was that UNCSTD should be focused on political decisions at the ministerial level, rather than on the substance of science and technology which had dominated the 1963 Conference. The five sessions of the Preparatory Committee before the Conference were in essence devoted to resolving fundamental differences involving a possible plan of action, and institutional and financial arrangements for its implementation. Ultimately the Conference itself was faced with trying to reach agreement on the following three principal points:

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<sup>1</sup> Document WHA32/1979/REC/1, p. 14.

<sup>2</sup> Document EB65/1980/REC/1, p. 3.

- (1) A global information system, and governing principles for the transfer of technology which would provide technical know-how to developing countries from the advanced industrialized countries on an unrestricted basis;
- (2) Institutional arrangements, particularly within the United Nations system, which would ensure a high status for an Intergovernmental Committee on Science and Technology for Development (ICSTD), open to all interested governments, which would report directly to the General Assembly, and not be responsible to the more restricted membership of the Economic and Social Council;
- (3) Automatically renewable financing to be supplied primarily by the industrialized countries to implement the Plan of Action; the sums of US\$ 2000 million by 1985 and US\$ 4000 million by 1990 were used by the developing countries in their proposals.

79. Debate centring on the above points occupied two committees for the 10 working days of the Conference. One committee considered how to strengthen research and development institutions and training in the less developed countries, and problems of technology transfer, patents, and an international code of conduct. The second concentrated on the optimum use and perhaps restructuring of the United Nations system, and the financing of the entire undertaking. Parallel plenary sessions were devoted to formal statements by leaders of delegations, officials of the United Nations system including the specialized agencies, and a few nongovernmental organizations. Dr T. Lambo, Deputy Director-General of WHO, presented the statement on behalf of WHO and introduced the WHO background document Science and technology for health promotion in developing countries (document A/Conf.81/BP/WHO).

80. Some diversion from the Conference itself was provided by exhibits by some national delegations and commercial interests, and a programme of panel discussions by nongovernmental organizations. These assemblies were held at different parts of Vienna, away from the Conference hall, and attendance at them was only modest.

81. WHO also participated actively in a week-long meeting sponsored by ACAST held immediately before UNCSTD and attended by some 200 participants, many of them from developing countries. Discussions at this meeting involved selected technical aspects of food, agriculture, health, transport and industry. In addition, a number of scientists involved in work with the WHO Advisory Committee on Medical Research participated actively in the ACAST-sponsored meeting.

82. The outcome of UNCSTD's negotiations on the points mentioned above may be summarized as follows:

- (1) There was minimal progress in facilitating access to industrial information, and to patent rights and transfer of technology in general. A global information system was agreed in principle, but its structure and character were left undefined.
- (2) The proposed Intergovernmental Committee on Science and Technology for Development (ICSTD) will be open to all interested nations, and will report to the General Assembly through the Economic and Social Council; the latter will only comment on, but not change, the recommendations of ICSTD.
- (3) Coordination of the post-UNCSTD programme of the Plan of Action, of which many key issues remained unresolved, will be centred in the office of the Director-General for Development and International Economic Cooperation, United Nations headquarters, New York. The required secretariat support was left for future negotiations.
- (4) A figure of US\$ 250 million was named as the target for the first two years of operation. An automatically renewable fund was rejected and formulation of a budget and programme was not precisely defined. UNDP is to manage the funds, at least for the first two years.

(5) Groups of experts will be convened on an ad hoc basis to advise on various matters, in place of the ACAST mechanism.

83. There is ample evidence of the goodwill and even eagerness on the part of scientists throughout the world to cooperate with developing countries in promoting science and technology. This invaluable resource is only beginning to be tapped. In addition to new breakthroughs of great significance to the developing countries (e.g., the transfer of nitrogen-fixing genes to common cereals), the application of known procedures to significant obstacles in developing countries, such as improved water pumps and energy producing and conservation devices, could be most beneficial. There is a conspicuous need to channel such innovations to institutions where implementation can be promoted on a collaborative basis between developing and developed countries. The post-UNCSTD mechanism faces a real challenge and opportunity in this connexion.

SPECIAL PROGRAMME OF RESEARCH, DEVELOPMENT AND RESEARCH  
TRAINING IN HUMAN REPRODUCTION

1. Scientists and research administrators from 70 countries - 45 of them developing countries - are now collaborating in the Programme's activities. These have two main objectives: the strengthening of national capabilities for research in human reproduction in order to enable developing countries to plan and to carry out research, adapt technology and contribute fully to the advancement and application of science; and the promotion of collaborative research on the safety and efficacy of current methods of fertility regulation; the development of new methods; psychosocial and service aspects of family planning; and the diagnosis and treatment of infertility.

(a) Institution-strengthening in developing countries

2. The different forms taken by the Programme's institution strengthening activities are as follows:

(i) Research manpower

- Involvement of scientists in planning, coordination and evaluation of research
- Involvement of scientists in collaborative research
- Research training and grants for visiting scientists
- Research training courses
- Support for salaries of investigators and other personnel
- Consultants and staff inputs
- Workshops, conferences and symposia

(ii) Research facilities

- Provision of equipment, supplies and spare parts for:
  - epidemiological research
  - clinical research
  - laboratory research
  - health service research
  - computing and data analysis
- Equipment maintenance
- Schemes for quality control and standardization of methods and reagents
- Books, journals, other systems for retrieval of scientific information

(iii) Other activities

- Guidelines for scientific and ethical review of research
- Transfer of technology for manufacture
- Assistance in obtaining patents

3. Demands on the Programme from developing countries for collaboration in institution-strengthening have always been great, and have increased markedly in the past two years. The major institution-strengthening activities focus on collaborating centres in Argentina, Brazil, Chile, China, Cuba, Egypt, Hong Kong, India, Kenya, Mexico, Nigeria, Pakistan, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, Tunisia, Turkey, Viet Nam and Zambia.

4. Each major component of the Programme in turn undergoes a major in-depth review every five years. The Programme's research training activities were assessed in 1979 by its Steering Committee on Institution-Strengthening and by the Advisory Group to the Programme. About 400 research training grants had, up to the time of the assessment, been awarded to scientists from 66 countries. An equal number of scientists had participated in short training courses organized by the Programme. A follow-up of trainees showed a very low rate of "brain-drain" and a high percentage with the ability to apply the results of training on return to the home institution. This is in part due to the Programme's close integration of research and institution-strengthening, which assures that returning trainees will find appropriate climate and conditions for research on their return.

5. Practically all the research in the Programme on current methods of fertility regulation, psychosocial and service aspects of family planning, and infertility has been carried out in developing countries. The Programme's activities during the past seven years to strengthen research manpower and facilities in such countries have been instrumental in bringing this about, but a great deal of institution-strengthening still remains to be done. This has led the Programme to lay even more emphasis on this aspect in the past year and in its plans for the next few years.

(b) Research

6. Priorities for research are formulated by the Programme's Advisory Group on the basis of the recommendations of the World Health Assembly and regional committees, requests from Member States, the guidance of the WHO global and regional ACMRs, the views of the governments that provide the financial support to the Programme and the guidance of the scientists who participate in the Programme's planning and review committees. These demands from governments and from the medical and scientific community are structured into a programme that takes into account such factors as scientific feasibility, availability of expertise and of facilities, time and cost to completion, and the funds available to the Programme. The other criteria that enter into the formulation of Programme strategy are whether the solution to the problem will be of widespread applicability, whether WHO, by its intergovernmental and international nature, can make a particularly significant contribution to its solution, and whether there might be duplication with other bodies already active in the area.

7. The detailed strategy within priority areas is worked out by the steering committees of the 12 task forces through which the research is coordinated and conducted. Considerable emphasis is laid on rigorous review of all projects by a number of mechanisms: task force steering committees; the Programme's Toxicology Panel and Review Group; the WHO Secretariat Committee on Research Involving Human Subjects; national drug regulatory and other health authorities.

8. Data of importance to family planning programmes have been obtained from WHO collaborative multicentre studies on such topics as the effects of oral contraceptives in malnourished women, anaemia caused by intrauterine devices, side effects from injectable contraceptives, the effectiveness of natural family planning methods and the relative merits of different techniques of abortion. Results of this research have been made available to public health authorities in the form of guidelines.

9. Drug regulatory agencies also are increasingly using the results of the Programme's research in their own decision-making. Another mechanism for information dissemination is collaboration with national authorities or academic institutions in developing countries in organizing national or regional seminars for scientists and administrators. These have dealt with recent advances in research on fertility regulation, but also specific topics such as infertility, birth control vaccines, and the safety of oral contraceptives. In addition, the clinical and scientific community is made aware of the results of the research through scientific publications. One thousand scientific articles resulted from work coordinated and supported by the Programme during the first five years of operation. A further thousand articles have been generated in the past two years. The Programme has also published a number of monographs.

Annex 1

10. In the search for improved and new methods of fertility regulation, the Programme brings together scientists from academic institutions in developed and developing countries and the pharmaceutical industry, in close consultation with national drug regulatory authorities. The following methods are at an advanced stage of development: intrauterine devices that reduce menstrual bleeding; long-acting vaginal rings; kits for the determination of the fertile period; chemical methods of female sterilization; and prostaglandin suppositories for termination of pregnancy. Long-acting implants and injectables, postcoital drugs, vaccines, plant products and male methods of fertility regulation are at an early stage of development.

11. The Programme's activities in health service and psychosocial research cover a wide range of topics such as the impact of illegal abortion on health and health services; factors underlying choice and continued use of methods of fertility regulation; the use of non-physicians for providing intrauterine devices and carrying out male and female sterilization; beliefs and attitudes of service providers regarding family planning in general and regarding specific birth control methods; integration of family planning with other health activities; community participation; and cost analysis studies.

12. Because governments, particularly in Africa, are increasingly stressing the public health, service and social implications of infertility, a Task Force on the Diagnosis and Treatment of Infertility was established in 1978.

(c) Coordination and funding

13. The Programme continues to interact closely with related WHO programmes, medical research councils and other agencies promoting and supporting research in its field. An annual meeting of such agencies, convened by the Programme, ensures coordination of activities.

14. In spite of the continued generosity of several Member States in contributing to the Programme, and the fact that three new governments provided contributions in 1979, the Programme's income falls short of the budget required to meet the growing demands from governments for collaboration in research and institution-strengthening.

GLOBAL ADVISORY COMMITTEE ON MEDICAL RESEARCH (ACMR)

Twenty-first session, Geneva, 19-22 November 1979

Summary of Proceedings

I. PROGRESS REPORTS RECEIVED

1. The ACMR reviewed progress reports on regional research activities as well as on the Special Programme of Research, Development and Research Training in Human Reproduction and the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases.
2. In considering the reports from the regional ACMRs, the global Committee noted that the presence of its Chairman at meetings of the regional ACMRs and at all ACMR subcommittee meetings provides an invaluable means of coordinating the functions of the network of advisory committees. The Committee therefore recommended that financial provision be made for this purpose and that headquarters staff from major units, as appropriate, should also continue to participate in the meetings of the regional ACMRs to complement and enhance even further the efforts of the Chairman of the global ACMR.
3. After reviewing the progress reports of the special programmes, ACMR felt that if WHO applied the special programme approach to programming in other areas, this would make a significant contribution towards solving many of the problems that stand in the way of health for all by the year 2000. In this regard, ACMR recommended that:
  - (i) every effort be made to increase the donor base of the Special Programme of Research, Development and Research Training in Human Reproduction, in order to ensure the Programme's durability and further development;
  - (ii) there should be a significant increase in the budget of the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases, to permit the exploitation of opportunities which now present themselves and the exploration of new potentially productive lines of research.

II. REPORTS OF ACMR SUBCOMMITTEES

4. The ACMR subcommittee on information held two meetings and dealt with the following three major areas:
  - (i) methods to improve the selective dissemination of biomedical and health research information, using as a specific example research information on tropical diseases;
  - (ii) interim arrangements to strengthen health science libraries, which act as the national focal points in developing countries, and to develop regional networks;
  - (iii) the feasibility of indexing health research literature, including "fugitive" literature such as the governmental studies reported in the developing countries.
5. The global ACMR accepted the proposals of the subcommittee, and endorsed a recommendation that extrabudgetary funds should be sought for selective dissemination of information to research workers in developing countries.
6. The diarrhoeal diseases subcommittee met in Atlanta, Georgia (United States of America), from 17 to 19 September 1979 and reviewed the objectives and strategies of the action-oriented diarrhoeal diseases control (CDD) programme. A series of meetings of scientific working groups had previously recommended research priorities in the following areas:

Annex 2

- immunology and vaccine development;
- clinical management of acute diarrhoea;
- child care practices related to diarrhoea;
- environmental health and diarrhoeal disease prevention;
- epidemiology and etiology.

In the area of epidemiology and etiology, because of the large number of diarrhoeal pathogens, five smaller subgroups, rather than one large group, are being convened on specific topics, e.g., Escherichia coli, rotavirus, cholera, salmonellosis, and parasite-related diarrhoeas.

7. The subcommittee also reviewed the scheme of research management being developed for the CDD programme. It recommended that the management of the research component be designed, as far as possible, according to the principles of the special programmes (e.g. scientific working groups, steering committees, scientific and technical advisory committee, etc.), but modified to meet the special needs of the CDD programme.

8. ACMR noted that a number of activities related to the CDD programme were already in progress in all the regions and that one of the distinctive features of the research management structure proposed for the programme is that regional participation in research management has been built in and ensured from the beginning. It was also suggested that the desirability of having a body or mechanism similar or analogous to the Joint Coordinating Board of the Special Programme on Tropical Diseases may have to be considered later on, in order to enable donors and countries, especially countries where diarrhoea is endemic, to become more actively involved and to participate fully in the programme.

9. ACMR adopted the report and recommendations of the subcommittee and emphasized the special opportunity that the CDD programme offers to potential donors in efforts to reduce mortality and morbidity from diarrhoeal diseases.

10. The subcommittee on health services research (HSR) reported on the outcome of three meetings. It considered the nature and scope of HSR and defined it as "the systematic study of the means by which biomedical and other relevant knowledge is brought to bear on the health of individuals and communities, under a given set of existing conditions". The subcommittee emphasized that HSR and biomedical research are complementary and not competitive activities. Biomedical research provides the knowledge necessary to improve health while HSR, on the basis of that knowledge, helps to devise effective practices that recognize the social, cultural and political factors which influence health. Although the findings of HSR are nearly always specific to a given culture, the principles and methods are usually transferable.

11. At present, the principal obstacle to progress in HSR is the lack of trained personnel in almost every country. Therefore, emphasis should be placed on rapidly increasing training at every level of professional responsibility; orthodox postgraduate university courses are not of themselves sufficient to meet the urgency of the need. The understanding, sympathy and active participation of politicians and government administrators, of behavioural and health scientists and of the medical profession itself, at country level, are essential. The subcommittee made a number of other recommendations concerning, inter alia, the preparation of a WHO booklet on the concepts and methods of HSR (giving concrete examples), and the need for extrabudgetary financial assistance to cover the estimated cost of operations for a period of two years from the time of funding.

12. ACMR endorsed all the subcommittee's recommendations and affirmed the desirability of early action on extrabudgetary funding and the WHO booklet on HSR. This action is designed

to assist in meeting the urgent need of countries to establish rapidly broadening HSR activities as an integral part of improving primary health care and making progress towards the goals of health for all by the year 2000.

13. The nutrition subcommittee proposed that, as a basic strategy for the nutrition research programme, emphasis must be mainly directed to infants and young children and that the major objective should be to identify actions which can be implemented at the community level in order to combat malnutrition in the prevailing context of socioeconomic constraints.

14. In support of this strategy the subcommittee recommended studies in five broad areas, including: the identification of locally available and culturally acceptable weaning foods; the interaction between infection and malnutrition; the influence of maternal malnutrition on the offspring; the prevention of nutritional blindness, anaemia and rickets; and strategies for the delivery of a "nutritional component" as part of primary health care.

15. ACMR noted the subcommittee's view that immediate and simultaneous action with regard to all the five areas may not be possible, that the priorities in these areas as perceived by the different regions may vary, and that the programme may require to be phased in the context of available resources.

16. With regard to management, ACMR recommended that a coordinated programme be worked out using the procedures employed in the planning of the diarrhoeal diseases programme and expressed the hope that the planning phase will lead to the development of a sharply focused research programme during 1980.

#### Ethics

17. ACMR received a progress report relating to the work of the joint WHO/CIOMS group which is considering ethical review procedures for research involving human subjects. A number of countries have well-developed review procedures; however, in many countries there are no arrangements for ethical review, and not even systematic recording of what research is being done. A study is therefore under way for the development of guidelines for ethical review, with the object of stimulating the adoption of appropriate procedures in those countries where they do not at present exist. The ethical requirements that apply to research carried out in developed countries also apply to research carried out in developing countries, and there may even be a need for additional safeguards. Ethical requirements should not, however, be so framed as to inhibit vital research, e.g., on new drugs or in nutrition.

18. The final report of the study will be provided in time for the ACMR's twenty-second session.

### III. ESTABLISHMENT OF OTHER SUBCOMMITTEES

#### Research career structures

19. ACMR discussed the question of research capability strengthening and the related problem of research career structures in developing countries. It was clear that efforts to strengthen national research capability must be matched by efforts to provide sustained career opportunities for research workers in developing countries, and a number of examples were cited of how the question of enhancing research career opportunities is being tackled in some countries. ACMR therefore recommended that WHO undertake a systematic survey of these models and the conditions and circumstances under which they were judged to be either of particular value, of no impact, or perhaps even counterproductive.

20. In view of the unquestioned importance of this topic, ACMR proposed that a subcommittee be established to deal with career structures; this subcommittee should report to ACMR at its twenty-second session.

Annex 2

Research administration

21. ACMR noted that research administration in WHO is in transition, with shared and overlapping responsibilities at headquarters, regional and country levels, and that the administration of WHO-supported research involves planning and evaluation, peer group review, complex reporting mechanisms and a network of relationships with co-sponsors and donor agencies. The Committee therefore recommended that the team of three appointed to monitor the implementation of the Organization's research management plan be enlarged to form the ACMR subcommittee on research administration.

Mental health and neuropsychiatry

22. While fully recognizing the need for restraint in creating new subcommittees, ACMR nevertheless considered it necessary to recommend the setting up of a mental health and neuropsychiatric research subcommittee. The subcommittee's mission would be exploratory and fact-finding and not concerned with programme development, and its main focus would be in the field of mental health and primary health care in developing countries.

IV. ACTIVITIES OF THE HEADQUARTERS RESEARCH DEVELOPMENT COMMITTEE (RDC)

23. ACMR was informed of the revised terms of reference of the Headquarters Research Development Committee (RDC), and it was suggested that RDC can bring to ACMR's attention any potentially important neglected areas of research in WHO's programmes. It can also help to clarify the management implications of proposed and ongoing research activities throughout the entire Organization.

24. ACMR agreed on the value of the functions of RDC and noted that the principal objective is to foster interprogramme communication and cooperation. The Committee took the view that RDC's role will be further clarified in practice over the coming years.

V. THE ROLE OF WHO EXPERT ADVISORY PANELS, COMMITTEES AND COLLABORATING CENTRES

25. The Chairman of the Executive Board working group on this organizational study highlighted the activities and findings of the group for the ACMR. The Committee reviewed the subject as it relates to research and concluded that because of the importance of the study to the work of the Organization, it would welcome an opportunity for further examination. It therefore recommended that its subcommittee on research administration (see paragraph 21) should review the implications of the Executive Board's study when it becomes available. As part of this process, it was felt that it would also be worthwhile for the study to be considered in a similar manner by the regional ACMRs.

VI. RESEARCH ASPECTS OF "HEALTH FOR ALL BY THE YEAR 2000"

26. Three major themes of research activity emerged from discussions on this topic:

- (i) intensive disease- or mission-oriented research in health priority areas, using approaches similar to that of the special programmes;
- (ii) health services research that is responsive to the need to make health services accessible, acceptable, utilizable, appropriate and cost-effective; and
- (iii) health promotion research that is geared to the development of methods of health education of individuals, communities and governments, in order to make them more self-reliant in measures for the maintenance and promotion of health.

27. To advance health research on all three fronts requires the strengthening of health research capability in all countries, particularly in under-represented disciplines such as epidemiology. It involves the mobilization of existing research capability from other fields and a predictable and adequate level of financial support for research. Progress will also depend on the rapid and discriminating communication of information relating to research methods and results.

28. ACMR emphasized the importance of distinguishing between problems which can be attacked by research and those which are of a nature which can only be resolved by policy decisions. Policies to check the deterioration of literacy in some countries, to increase domestic food production, and to revise the allocation of resources in the health sector - all of which will have a profound effect on health - require political decisions more than health research.

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